

What Determines the Success of Financial Inclusion? An Empirical Analysis of Demand Side Factors

Prof. *Smita Ramakrishna* (Correspondence author)
K. J. Somaiya Institute of Management Studies and Research
Vidyavihar (E), Mumbai – 400077, Maharashtra, INDIA
Tel: +91-9987549655 E-mail: smitaramakrishna@somaiya.edu

Prof., Dr. *Pankaj Trivedi*
K. J. Somaiya Institute of Management Studies and Research
Vidyavihar (E), Mumbai – 400077, Maharashtra, INDIA
Tel: +91-9820776639 E-mail: trivedi@somaiya.edu

Abstract: A financially well included society can have an extremely positive effect on the economy. Financial Inclusion is impacted by demand side and supply side factors. It is important to understand the factors affecting financial inclusion from the demand side which can be truly identified by conducting a survey. While extant literature highlights the importance of the supply side factors, there has been little study to appreciate the challenges that people in emerging economies face with respect to banking.

Given the backdrop of the new policies with respect to financial inclusion, we attempted to understand the demand side perception of respondents to identify the causes of inclusion/exclusion. The techniques used for analysis are Exploratory Factor Analysis and Confirmatory Factor Analysis. Some of the main factors that were found include technological factors, the benefits that bank accounts offer, banking outreach, and demographic factors. Banks need to focus on such dimensions more effectively to achieve the Government's target of making the economy completely inclusive.

Keywords: Banks; Demand side factors; Exploratory factor analysis (EFA); Supply side factors; Technological factors

JEL Classification: G18, G21, G28

1. Introduction

Globally, all economies attempt to ensure that they are able to achieve a healthy as well as sustainable growth. One way of achieving this target, is to focus on Financial Inclusion that would make growth very inclusive and balanced. Financial inclusion ensures access to various types of financial services to all sections of society, including the weak and disadvantaged groups. Financial Inclusion promotes the culture of savings, organically leading to economic development. Empirical evidence shows that countries with large proportion of population excluded from the formal financial system show higher poverty ratios and higher inequality.

In India, financial inclusion has always been a priority. The emphasis in the early phase was on increasing the number of credit and deposit accounts rather than focussing on issues such as promoting a savings culture, or extending the payment network. The initiative of Financial Inclusion has received further impetus recently with the launch of a plan, termed as the 'Jan Dhan

Yojana' in the year 2014. This program would be implemented by the commercial banks by providing new services such as Basic Savings Bank Deposit Accounts, remittances, insurance at subsidized cost and Direct Benefits Transfer (DBT) scheme. Also, technological issues from the supply side like poor connectivity and security of on-line transactions would be addressed.

In this study, a survey was conducted in Thane District of Maharashtra to understand the views of the respondents on financial inclusion. We investigated their perceptions about the determinants of financial inclusions, reasons for exclusion and how bank efforts may affect the extent of inclusion. The study specifically addresses the major research question, that is, what view do the respondents hold about the determinants of financial inclusion.

This study is important for two main reasons. First, using survey research to solicit peoples' views on financial inclusion can provide direct evidence that complements empirical research based on secondary data. Second, not much study has been carried out to understand the perception of people towards financial inclusion in Maharashtra.

The remainder of the paper is organized as follows: Section 2 provides a review of literature, Section 3 discusses the methodology, while Section 4 presents the results. Section 5 provides the conclusions.

2. Literature Review

Early studies focussed on the linkage between economic development and financial inclusion. Extensive study has also been done on the extent of financial inclusion achieved across countries, throwing light on the difference between the developed and developing economies. The emphasis for this study is on literature pertaining to factors for financial inclusion.

Barriers to financial inclusion are on account of both demand side and supply side factors. Demand side factors include gender of the respondents, age group, literacy, level of income, type of occupation and others. The main supply side factors for financial exclusion are distance from the branch, branch timings, lengthy documentation procedures, unsuitable products, *etc.* Thus obstacles such as identity requirements, the terms and conditions of bank accounts, bank charges, and physical access problems brought about by bank branch closures and psychological and cultural barriers are all important. (World Bank, 2008, Asian Development Bank, 2007; and Kempson *et al.*, 2004).

Chattopadhyay (2011) in his study found that supply side dimensions such as banking penetration, availability of banking services and usage can be utilized to indicate the degree of financial inclusion by constructing an index of measurement.. The study used both deposit account and credit account or loan account as the indicators of banking penetration. Though supply side dimensions were analysed, it was stated that only supply side factor is not responsible for the financial exclusion. Demand side dimension is also equally responsible.

According to Beck, *et al.* (2007), the common measures of financial inclusion are the geographic branch outreach, demographic branch outreach, geographic ATM distribution, demographic ATM distribution, Credit Deposit Ratio, *etc.*

Kundu (2015) identified the demand side drawbacks in the present model of financial inclusion and suggested ways and means to overcome them. Lower cost & scalability can be achieved when there is demand. In an attempt to address the demand side issues, he studied the Global Financial Inclusion Models like BRADESCO of Brazil, MPESA of Kenya, Rakyat Bank Indonesia, Mzansi accounts of South Africa, Grameen Bank of Bangladesh *etc.* to understand what

makes them successful in their business and found that though Government has put in all efforts towards banking penetration and access but the demand side has not been addressed resulting in very little usage of the financial products.

Swamy (2014) examined how the various financial inclusion initiatives impacted the household by comparing the impact on women vis-à-vis men. He employed the techniques of Panel Least Squares and Generalized Methods of Moments using standard errors. His analysis found that gender is definitely significant, in that the income growth was higher for women. The findings stated that women tend to make increased savings from increased income for the betterment of their households.

Devlin (2009) in his study investigates influences on total financial exclusion using a sample of over 15,000 UK households. The results of his study showed that the most important influences on total financial exclusion are educational attainment, employment status and the type of housing tenure of the household concerned. Other important influences include household income, employment status and age. Results also showed that gender is not significant in explaining total financial exclusion, and regional and ethnic variations are less pronounced.

Kempson and Whyley (1999) found that financial exclusion comprises a number of aspects. One reason for exclusion is restriction of access to financial services that may arise due to situations such as geographic access restriction or profile restriction. The next cause of exclusion is Condition exclusion which arises because banks attach numerous conditions to the offered products. The next is price exclusion is where certain individuals find the price of the products to be high..

Hogarth and O'Donnell (2000) argued that the increasingly technological orientation of mainstream financial services providers may also be adding to financial exclusion of the poor and disadvantaged, who are less likely to have access to such channels.

Demirgüç-kunt and Klapper (2013) summarized user-side data set of indicators that measure how adults in 148 countries save, borrow, make payments, and manage risk. They identified the key indicators as ownership of bank accounts, saving behavior and borrowing. The data they gathered showed wide gaps in account penetration between high income and developing countries and between the poor and the rich within countries.

Fisher (2011) provided a comprehensive description of the financial environment for households and small businesses in a defined geographical region. A new, functional approach to financial access surveys was developed, which involved asking detailed questions about how respondents meet their financial needs—from purchasing inventory to paying for large, medical expenses—rather than focus on a narrow set of financial products. Before any new survey efforts are initiated, they recommended analyzing all available data, both from supply-side and demand-side sources.

3. Methodology & Hypotheses Development

3.1 Research gap

Not much study has been carried out to understand the perception of people towards financial inclusion with respect to the factors of financial inclusion. A study of perception may aid, not only to understand the barriers to financial inclusion, but also help in the formulation of new strategies by banks and financial institutions. Having identified the gaps, the current study attempts to address these gaps.

The choice of location for the survey was based on two considerations. One was that the location had to be in proximal location to the researchers. Second, was an interesting report by the SLBC (State Level Bankers' Committee) which reported that the district of Thane had a total of 209 unbanked villages out of a total of 288 villages. This is extremely noteworthy, considering that the district is in close proximity to the city of Mumbai. This formed the motivation for the identifying the geographical location for administering the survey.

3.2 Survey design

The scope of the study was to understand the perception of the respondents in Thane, district of the state of Maharashtra, towards the factors of Financial Inclusion. It was decided to consider individuals who have Bank Accounts, since the study was regarding various parameters of banking. Therefore, individuals above 18 years were considered, as that is the minimum age requirement for opening a Bank Account. Age groups were identified as follows in the questionnaire – 18-25 years, 26-35 years, 36-45 years, 46-55 years and those above 55 years. Further the research focused on both males and females.

The method used for the data collection was a face-to-face interview, using a structured questionnaire, with closed-ended questions, conducted at the residence or place of work of the respondents.

The sampling technique that was chosen was Quota Sampling. Quota sampling is a nonprobability sampling technique that has two stages. The first stage consists of developing control categories of population elements. In the second stage, samples are selected based on convenience. The entire District is divided into 7 Talukas as per as per The Annual Credit Plan 2015-16. Samples were collected from these 7 talukas.

The sample size of the survey was a total of 750 respondents, which is considered adequate for data analysis using SEM. The acceptable number of 10 observations per item (Nunally, 1978) was considered and for a 36 item scale, a minimum sample of 750 was targeted.

To test the validity of the instrument, a pilot study was done on 150 respondents between the months of January to June 2015. Based on their responses, validity tests were done to check for the validity and usability of the instrument.

3.3 Questionnaire design

The questionnaire was intricately designed to gather the information on factors that affect the perception of people regarding financial inclusion. The questions were asked on five point Likert scale from 1= Strongly disagree to 5 = Strongly agree. Cronbach alpha was computed to assess the internal consistency and reliability of the instrument. The questionnaire is considered reliable and consistent if the value of Cronbach alpha is greater than 0.6. In this case, the value of Cronbach alpha was 0.834, thus, the instrument was considered reliable for the study.

Based on literature review, the following seven hypotheses were considered for this study:

H₁: Technological Factors have a positive influence on Financial Inclusion.

H₂: The Benefits of having a Bank account have a positive influence on Financial Inclusion.

H₃: Financial Inclusion in Thane district of Maharashtra is dependent on the Usage of Bank accounts.

H₄: Financial Inclusion in Thane district of Maharashtra is dependent on the Difficulties of having a Bank account.

H₅: Financial Inclusion in Thane district of Maharashtra is dependent on the perception of respondents towards demographic characteristics.

H₆: Financial Inclusion in Thane district of Maharashtra is dependent on the Efforts taken by Banks.

H₇: Financial Inclusion in Thane district of Maharashtra is dependent on the Banking Outreach.

4. Results

4.1 Multivariate analysis and hypothesis testing

Exploratory Factor Analysis was conducted in order to explain the original data more meaningfully. This was followed by establishing a proper fit through Confirmatory Factor Analysis (CFA). The summary of the results is detailed below.

4.2 Exploratory factor analysis

The 36 items were subject to a Principal Component Analysis, which identifies the number of factors that can be extracted from the data. The Kaiser-Meyer-Olkin measure is 0.834 and indicated that our sample size was adequate while the Bartlett's test indicated that the variables being considered had a significant correlation between themselves and hence could be grouped (p-value was 0.00 which was less than level of significance 0.05).

The Eigen-value for a given factor measures the variance in all the variables which is accounted for by that factor. The ratio of Eigen-values is the ratio of explanatory importance of the factors with respect to the variables. If it is above 60 %, the factors can be combined.

The following table displays the total variance explained at eight stages for factors that affect Financial Inclusion among the respondents in Thane district. Eight factors were extracted because their eigenvalues are greater than 1. The eight factors extracted, explained more than 64% of the variance.

Table 1. Total Variance Explained

Factor	Rotation Sums of Squared Loadings		
	Total	Percentage of variance	Cumulative percentage
1st	4.657	12.936	12.936
2nd	3.082	8.562	21.498
3rd	3.025	8.402	29.901
4th	2.965	8.236	38.136
5th	2.810	7.804	45.940
6th	2.694	7.484	53.425
7th	2.309	6.414	59.839
8th	1.501	4.170	64.009

So for the 8 factors extracted, the cumulative percentage is 64.009% which is fairly good.

Rotated Factor Matrix gives the correlation coefficients between the measures and the factors for which they mapped to. The following Table 2 shows the Rotated Factor Matrix.

Table 2. Rotated Component Matrix

Factors under consideration	Key components							
	1	2	3	4	5	6	7	8
Online banking saves efforts of going to bank	0.827	0.13	0.149	0.091	-0.047	0.022	-0.043	0.225
Online banking saves time	0.809	0.114	0.153	0.12	-0.029	0.024	-0.002	0.163
Mobile banking is convenient	0.793	0.215	0.055	0.076	-0.1	-0.052	0.088	0.03
Bill payment facility is useful	0.781	0.1	0.199	0.126	-0.057	-0.023	0.043	0.046
Online tax payment is useful	0.777	-0.068	0.13	0.099	0.033	0.08	-0.022	0.048
Online PPF facility is useful	0.741	0.101	-0.016	0.201	0.067	0.105	0.053	-0.024
Bio metric machines are useful	0.628	0.154	0.013	0.09	-0.066	0.021	0.224	-0.081
Banks are more helpful compared to MFIs	0.13	0.823	0.049	0.035	-0.133	0.064	0.092	0.113
Banks are more helpful compared to SHGs	-0.007	0.756	0.09	0.122	-0.042	0.109	0.147	0.103
Banks are more reliable than moneylenders	0.183	0.749	0.156	0.048	-0.09	-0.041	0.034	0.06
Money is safe and secure in banks	0.149	0.683	0.023	0.166	-0.029	-0.04	0.138	0.032
Bank procedures are easy to understand	0.227	0.571	0.125	0.275	0.054	-0.156	0.089	0.049
I use ATM at least once a month	0.131	0.054	0.836	0	0.036	0.019	0.14	0
I use my Savings A/c at least once a month	0.074	0.079	0.774	0.137	-0.026	0.089	0.196	-0.048
ATMs are convenient to use	0.172	0.093	0.714	-0.089	0.037	-0.111	-0.089	0.016
Timings of the branch was convenient	0.111	0.144	0.636	0.44	-0.111	0.017	-0.004	0.001
Taking loans from bank is easy	0.068	0.217	-0.022	0.742	-0.064	0.10	0.235	-0.056
Operating an Account in a bank is easy	0.093	0.123	0.012	0.67	-0.137	0.079	0.135	0.188
Opening an Account in a bank is easy	0.122	0.193	0.526	0.587	-0.137	-0.008	-0.014	-0.055
Distance of the branch location was an important factor	0.265	0.079	0.293	0.58	-0.071	0.05	0.199	-0.011
I use my Debit card at least once a month	0.21	0.099	0.455	0.563	-0.129	-0.079	-0.059	0.192

I use my Credit card for purchases at least once a month	0.307	0.048	-0.059	0.543	0.022	-0.031	-0.092	0.116
Too many documents are required to open a Bank A/c	-0.066	-0.089	-0.018	-0.085	0.936	0.025	-0.086	-0.025
Lack of permanent address is a barrier	-0.068	-0.074	-0.018	-0.142	0.933	-0.017	-0.115	-0.005
The interest rate on Savings Bank A/c is low	0.006	-0.068	-0.036	-0.06	0.90	0.019	0.062	-0.055
Gender of the person effects having a Bank Account	0.001	0.004	-0.082	0.109	-0.056	0.779	0.075	0.011
Earning regular income is necessary for having a Bank Account	0.121	-0.062	-0.006	0.059	0.017	0.74	0.025	-0.014
Having a Bank Account depends on a person's occupation	0.053	0.049	-0.118	-0.031	-0.05	0.698	0.226	0.045
Being educated is important to be able to do banking activities	0.015	-0.072	0.125	0.036	-0.029	0.683	0.105	-0.03
Ability to save money effects having a Bank Account	-0.077	0.121	0.07	-0.114	0.222	0.646	-0.197	0.154
Banks offer loans at low rate of interest	0.119	0.14	0.179	0.066	-0.156	0.142	0.791	0.019
Banks have taken efforts to make people aware of the various deposits and schemes	0.084	0.06	0.033	0.099	-0.071	0.139	0.752	0.217
Bank employees are helpful	0.012	0.271	0.019	0.126	0.076	0.036	0.733	0.052
Financial literacy programs are quite informative about banks	0.135	0.122	-0.055	0.18	0.038	0.07	-0.053	0.768
Business correspondents (Bank Mitras) help in understanding banking services	0.04	0.069	0.006	-0.05	-0.128	0.056	0.184	0.588
Time taken for each activity in the bank was minimum	0.184	0.197	0.055	0.321	0.077	-0.076	0.312	0.52

Notes: Extraction method: Principal Component Analysis.

Rotation method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

From the above Rotated Component Matrix, the following eight factors were identified.

Table 3. Name of the New Factors

Factor	Name of the new factors
1st	Technological Factors
2nd	Benefits of Bank Account
3rd	Usage of Bank Account
4th	Financial Inclusion
5th	Difficulties of Bank Account
6th	Perception about Demographic factors
7th	Efforts taken by Banks
8th	Banking Outreach

Factor 1 comprised of 7 items with factor loadings ranging from 0.628 to 0.827. These items are:

Online banking saves efforts of going to bank

Online banking saves time

Mobile banking is convenient

Bill payment facility is useful

Online tax payment is useful

Online PPF facility is useful

Bio metric machines are useful

Therefore this factor was labelled as Technological Factors.

Factor 2 comprised of 5 items with factor loadings ranging from .573 to .822. These are:

Banks are more helpful compared to MFIs

Banks are more helpful compared to SHGs

Banks are more reliable than moneylenders

Money is safe and secure in banks

Bank procedures are easy to understand

Therefore this factor was labelled as Benefits of Bank Account.

Factor 3 comprised of 4 items with factor loadings ranging from .635 to .836. These are:

I use ATM at least once a month

I use my Savings A/c at least once a month

ATMs are convenient to use

Timings of the branch was convenient

Therefore this factor was labelled as Usage of Bank Account.

Factor 4 comprised of 6 items with factor loadings ranging from .539 to .744. These are:

Taking loans from bank is easy

Operating an Account in a bank is easy

Opening an Account in a bank is easy

Distance of the branch location was an important factor

I use my Debit card at least once a month

I use my Credit card for purchases at least once a month

Therefore this factor was labelled as Financial Inclusion.

Factor 5 comprised of 3 items with factor loadings ranging from .899 to .936. These are:

Too many documents are required to open a Bank A/c

Lack of permanent address is a barrier

The interest rate on Savings Bank A/c is low

Therefore this factor was labelled as Difficulties of Bank Account.

Factor 6 comprised of 5 items with factor loadings ranging from .646 to .779. These are:

Gender of the person effects having a Bank Account

Earning regular income is necessary for having a Bank Account

Having a Bank Account depends on a person's occupation

Being educated is important to be able to do banking activities

Ability to save money effects having a Bank Account

Therefore this factor was labelled as Perception about Demographic factors.

Factor 7 comprised of 3 items with factor loadings ranging from .733 to .792. These are:

Banks offer loans at low rate of interest

Banks have taken efforts to make people aware of the various deposits and schemes

Bank employees are helpful

Therefore this factor was labelled as Efforts taken by Banks.

Factor 8 comprised of 3 items with factor loadings ranging from .526 to .768 . These items are:

Financial literacy programs are quite informative about banks

Business correspondents (Bank Mitras) help in understanding banking services

Time taken for each activity in the bank was minimum.

Therefore this factor was labelled as Banking Outreach.

The Reliability Statistics for all these dimensions is stated in the following Table 4.

Table 4. Reliability Statistics

Factor	Cronbach's Alpha
Technological Factors	.900
Benefits of Bank Account	.806
Usage of Bank Account	.790
Financial Inclusion	.797
Difficulties of Bank Account	.935
Perception about Demographic factors	.759
Efforts taken by Banks	.773
Banking Outreach	.537

The Cronbach's Alpha was above 0.5 for all the multi-item scales which indicated that the factor analysis conducted was reliable.

4.3 Confirmatory factor analysis

Confirmatory Factor Analysis (CFA) approach was employed for scale validation. Structural Equation Modelling (SEM) including Confirmatory factor analysis (CFA) was done, using AMOS (Analysis of Moment Structures). SEM consists of two components: a measurement model linking a set of observed variables to a usually smaller set of latent variables, and a structural model linking the latent variables through a series of recursive and non-recursive relationships. CFA was performed using the maximum likelihood as the model estimation technique. The Structural Model (Path Analysis) gives the interrelation between variables (Malhotra).

CFA was conducted in 3 steps, i.e. Goodness of Fit, Convergent Validity, and Discriminant Validity.

4.3.1 Goodness of fit

Goodness of Fit indices indicate how well the specified model fits the observed or sample data, and so higher values of these measures are desirable.

The fit measures included in this study are:

i) Absolute fit indices: Chi-square (χ^2), degrees of freedom (DF), probability level (p-value), chi-square/df (CMIN/DF), goodness-of-fit index (GFI), adjusted goodness-of-fit (AGFI), root means square error of approximation (RMSEA). The recommended value for CMIN/DF is between 2 and 5, which indicates that the model is fit. For GFI and AGFI, higher values in the range of 0.90 are considered acceptable. An RMSEA value of ≤ 0.08 is considered conservative. Lower RMSEA values indicate better model fit.

ii) Incremental fit indices: Normal fit index (NFI) and Comparative Fit Index (CFI). For NFI and CFI, values of ≥ 0.90 are considered acceptable.

iii) Parsimony fit indices: Parsimony goodness-of-fit index (PGFI), parsimony normal fit index (PNFI). The values of both range between 0 and 1. Higher values of ≥ 0.50 indicate better models in terms of fit and parsimony.

The Measurement Model (Figure 1) and Goodness of fit indices are given below. As shown in Table 5, the recommended values are satisfied and hence the model fits the data quite well.

Table 5. Measurement Model-Goodness of fit indices

Measure	Measurement Model-Fit Values	Recommended Values	Observation
CMIN/DF	4.360	<5.00	SATISFIED
GFI	.848*	≥ 0.90	MODERATELY SATISFIED
PGFI	.685	≥ 0.50	SATISFIED
NFI	.837*	≥ 0.90	MODERATELY SATISFIED
CFI	.869*	≥ 0.90	MODERATELY SATISFIED
PNFI	.715	Between 0 and 1	SATISFIED
PCFI	.742	Between 0 and 1	SATISFIED
RMSEA	.067	≤ 0.08	SATISFIED

* indicates significance at the 10 % level.

The Chi-square (χ^2) value is 2345.9. Degrees of Freedom(DF) were 538. The Probability Level (p-value) is 0.000 which is <0.05 and therefore, satisfied.

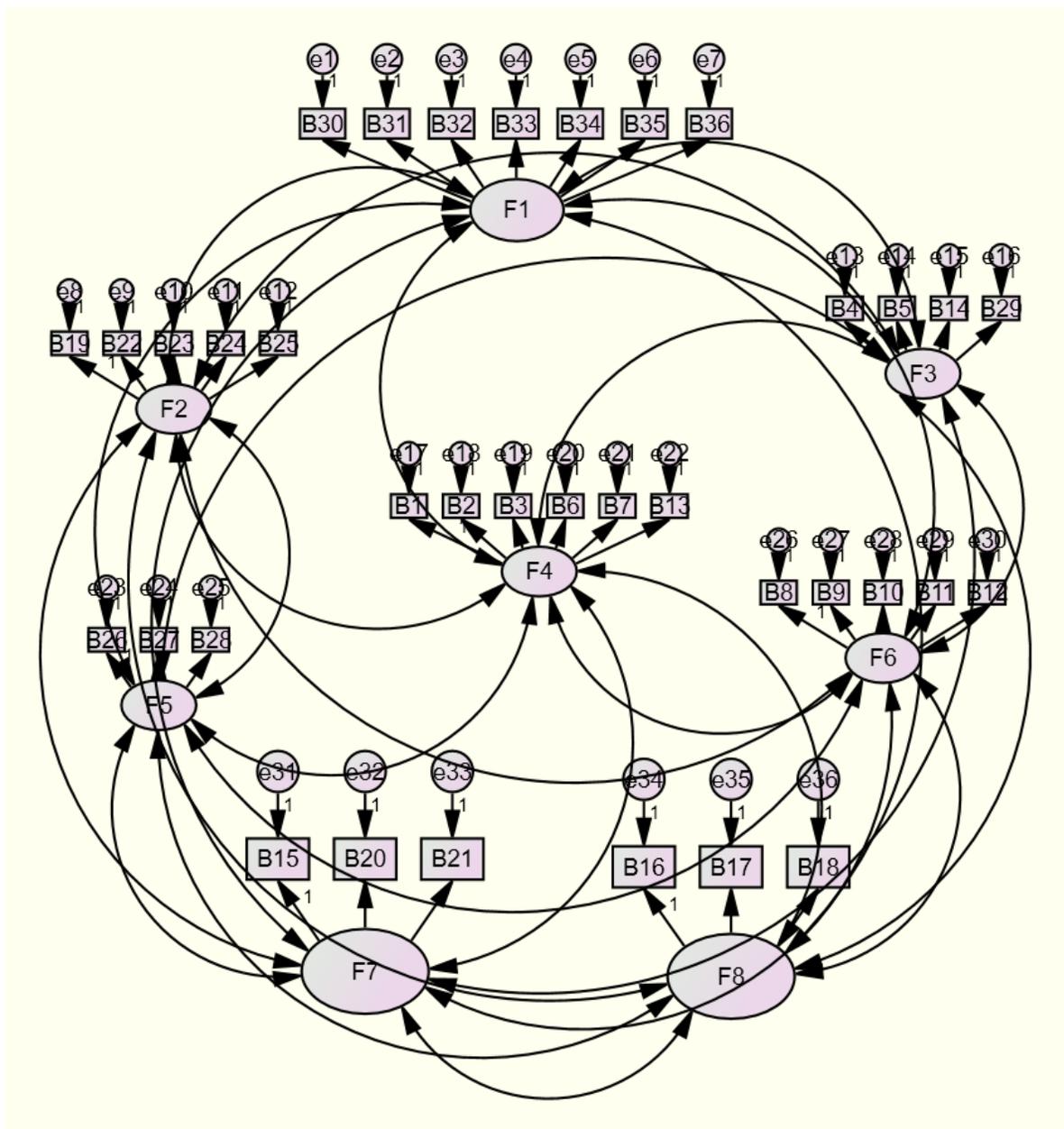
4.3.2 Convergent validity

A measure that is used to assess Convergent Validity is the Average Variance Extracted (AVE), which is defined as the variance in the indicators or observed variables that is explained by the latent construct. AVE varies from 0 to 1. An AVE of 0.50 or more indicates satisfactory Convergent Validity. In the Table 6, it is found that AVE is more than or close to 0.50. Additionally, the Construct Reliability (CR) should be 0.7 or higher. From the table, it can be observed that CR is more than 0.7.

Table 6. Convergent Validity

Variable/Factor	AVE	CR
Technological Factors	0.559358	0.896144
Benefits of Bank Account	0.550618	0.858487
Usage of Bank Account	0.483587	0.69795
Financial Inclusion	0.471481	0.77351
Difficulties of Bank Account	0.83459	0.937788
Perception about Demographic factors	0.422673	0.75317
Efforts taken by Banks	0.538641	0.776363
Banking Outreach	0.428831	0.542177

Hence, this provides empirical support for the Convergent Validity of the scales.



Source: Authors' own elaborators

Figure 1. Measurement Model

4.3.3 Discriminant validity

A construct should explain its observed variables better than it explains any other construct. This test is conducted by showing that AVE is greater than the square of the correlations. The other condition is $MSV(\text{maximum shared variance}) < AVE$ (average variance extracted) and ASV (average shared variance) $< AVE$.

In the following Table 7, it is seen that $MSV(\text{maximum shared variance}) < AVE$. At the same time $ASV(\text{average shared variance}) < AVE$.

Table 7. ASV, MSV, and AVE

Factor	ASV	MSV	AVE
Technological Factors	0.000988	0.003481	0.559358
Benefits of Bank Account	0.002398	0.008281	0.550618
Usage of Bank Account	0.013905	0.083521	0.483587
Financial Inclusion	0.017842	0.083521	0.471481
Difficulties of Bank Account	0.003648	0.013924	0.834590
Perception about Demographic factors	0.000652	0.004096	0.422673
Efforts taken by Banks	0.004829	0.006561	0.538641
Banking Outreach	0.001143	0.003364	0.428831

Table 8. Discriminant Validity

	F1	F2	F3	F4	F5	F6	F7	F8
F1	0.55935							
F2	0.12744	0.55061						
F3	0.12110	0.13249	0.48358					
F4	0.16080	0.19980	0.7569	0.47148				
F5	0.02016	0.02433	0.03422	0.07452	0.83459			
F6	0.00739	0.00067	0.00078	0.0025	0.000676	0.42267		
F7	0.04452	0.12602	0.07728	0.103041	0.059049	0.075076	0.53864	
F8	0.179776	0.2209	0.07398	0.1764	0.007744	0.006241	0.217156	0.42883

From the above Table 8, it can be seen that AVE is greater than the square of the correlations.

Overall, it is observed that the measurement model is satisfactory and is appropriate given the evidence of good model fit, reliability, convergent validity and discriminant validity.

4.4 Structural model (Path diagram)

Assessing the validity of the structural model involves: (1) examining the fit, (2) comparing the proposed structural model with competing models, (3) testing the structural relationships and hypotheses. The Structural Model (Path Analysis) gives the interrelation between variables.

Assessing Fit: The fit of a structural model is examined in the same way as the measurement model. The results are stated in Table 9.

Table 9. Structural Model-Goodness of fit indices

Measure	Measurement Model-Fit Values	Recommended Values	Observation
CMIN/DF	4.305	<5.00	SATISFIED
GFI	.851	≥ 0.90	MODERATELY SATISFIED
PGFI	.684	≥ 0.50	SATISFIED
NFI	.840	≥ 0.90	MODERATELY SATISFIED
CFI	.872	≥ 0.90	MODERATELY SATISFIED
PNFI	.714	Between 0 and 1	SATISFIED
PCFI	.740	Between 0 and 1	SATISFIED
RMSEA	.066	≤ 0.08	SATISFIED

The Chi-square (χ^2) value is 2303. Degree of Freedom(d.f.) is 535. The Probability Level (p-value) is 0.000 which is < 0.05 and therefore, satisfied. It is seen that the proposed model is found to fit the data satisfactorily as the fit values were well within acceptable ranges.

The establishment of an identified path model then allows for testing of the hypothesized relationships of the constructs. Table 9 indicates the results of the Path Analysis .

Table 10. Results of Path Analysis

	Standard β	P value	Result
Technological Factors \rightarrow Financial Inclusion	0.081	0.469 >0.05	Insignificant
Benefits of Bank Account \rightarrow Financial Inclusion	0.138	0.029 <0.05	Significant
Usage of Bank Account \rightarrow Financial Inclusion	1.037	0.000 <0.001	Significant
Difficulties of Bank Account \rightarrow Financial Inclusion	-0.127	0.000 <0.001	Significant
Perception about Demographic factors \rightarrow Financial Inclusion	0.027	0.571 >0.05	Insignificant
Efforts taken by Banks \rightarrow Financial Inclusion	-0.076	0.165 >0.05	Insignificant
Banking Outreach \rightarrow Financial Inclusion	0.677	0.000 <0.001	Significant

H₁ states that Technological Factors have a positive influence on Financial Inclusion. As indicated in Table 10, the effect of Technological Factors is in hypothesized direction but it was not statistically significant (Standardized $\beta = 0.081$; $p > 0.05$).

In H₂, it was hypothesized that the Benefits of having a Bank account have a positive influence on Financial Inclusion. As indicated in Table 10, the effect is in hypothesized direction and it was statistically significant (Standardized $\beta = 0.138$; $p < 0.05$).

H₃ predicted that Financial Inclusion in Thane district of Maharashtra is dependent on the Usage of Bank accounts. As indicated in Table 10, the effect of Usage of Bank accounts is in hypothesized direction and it was statistically significant (Standardized $\beta = 1.037$; $p < 0.001$).

H₄ predicted that Financial Inclusion in Thane district of Maharashtra is dependent on the Difficulties of having a Bank account. As indicated in Table 10, the effect of Difficulties of having a Bank account is not in hypothesized direction and it was statistically significant (Standardized $\beta = 0.127$; $p < 0.001$).

In H₅, it was hypothesized that Financial Inclusion in Thane district of Maharashtra is dependent on the Perception of respondents towards demographic characteristics. As indicated in Table 10, the effect of the perception of respondents towards demographic characteristics is in hypothesized direction and it was not statistically significant (Standardized $\beta = 0.027$; $p > 0.05$).

H₆ stated that Financial Inclusion in Thane district of Maharashtra is dependent on the Efforts taken by Banks. As indicated in Table 10, the effect of the Efforts taken by Banks is not in hypothesized direction and it was not statistically significant (Standardized $\beta = 0.076$; $p > 0.05$).

H₇ states that Financial Inclusion in Thane district of Maharashtra is dependent on the Banking Outreach. As indicated in Table 10, the effect of Banking Outreach is in hypothesized direction and it was statistically significant (Standardized $\beta = 0.677$; $p < 0.001$).

The empirical findings of this study confirm that financial inclusion is dependent on the constructs mentioned above.

5. Conclusions

Studies by Chattopadhyay (2011), Kundu (2015), and Kempson, *et al.* (2004) indicated that demand side factors influence the extent of financial inclusion as much or more than the supply side factors. Therefore, this study made an attempt to empirically test, the relative contribution, of demand side factors on Financial Inclusion. The results obtained by the Exploratory factor analysis indicated the factors that affect financial inclusion. The results of the Path Analysis (Confirmatory Factor Analysis) show that three factors, which are, 'Benefits of having a Bank Account', the 'Usage of Bank Accounts' and 'Banking Outreach' have a significant effect on the extent of Financial Inclusion. From this finding, it can be concluded that, when people perceive the various advantages associated with having a Bank Account, they increasingly opt for becoming financially included. Similarly, when people use the banking facilities with greater frequency, it indicates the efficiency of the banking system. It also means that if banks take extra measures to impart financial literacy, it will result in greater financial inclusion.

The results of the Path Analysis also show that the factor 'Difficulties of Bank Account' has a significant negative effect on financial inclusion. This is in consonance with a study by Kempson & Whyley (1999). Banks need to simplify procedures and documentation requirements in order to reduce financial exclusion.

Though literature studies state that the dimensions 'Technological Factors' and 'Efforts by banks' result in greater access to banking, it was found that, in this study, they were not found to be very significant. This finding is similar to the study by Hogarth and O'Donnell who contended that the disadvantaged sections do not have much access to advanced technological products and increasing efforts of banks for using technologies, end up excluding such segments even more.

The various measures which the banking sector along with the government of India should implement or which are under implementation but should be executed in a more effective manner are: to strengthen agency banking which includes micro finance institutions, business facilitators and business correspondents, increase synergies between the technology providers and banking channels, increase coverage under mobile banking and to specify interest rate ceilings for NGO/MFIs.

Increasing educational levels means more financial inclusion; therefore, a literate population must be created in order to create a meaningful financially included population. It is becoming increasingly apparent that addressing financial exclusion will require a holistic approach on the part of the banks in creating awareness about financial products, education, and advice on money management, debt counseling, savings and affordable credit. The banks would have to evolve specific strategies to expand the outreach of their services in order to promote financial inclusion. It is believed that with renewed efforts being made by banks, growth of information technology and allied services, if financial literacy in the region is properly addressed, financial inclusion drive in India would definitely progress and show results.

References

- [1] Basu, P. (2005). "A financial system for India's poor", *Economic and Political Weekly*, 40(37): 4008-4012.
- [2] Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). "Access to financial services: Measurement, impact, and policies", *The World Bank Research Observer*, 24(1): 119-145.
- [3] Beck, T., Demirgüç-Kunt, A., & Levine, R. (2000). "A new database on the structure and development of the financial sector", *The World Bank Economic Review*, 14(3): 597-605.

- [4] Beck, T., Demirguc-Kunt, A., & Peria, M. S. M. (2007). "Reaching out: Access to and use of banking services across countries", *Journal of Financial Economics*, 85(1): 234-266.
- [5] Chakrabarty, K.C.(2009, August). "Banking : The Key driver for Inclusive Growth", In speech delivered at Mint's ' Clarity through Debate' series , Chennai, August, 2009.
- [6] Chattopadhyay, S. K. (2011). "Financial inclusion in India: A case-study of West Bengal", [Online] Available at <http://mpra.ub.uni-muenchen.de/34269/>.
- [7] Demirgüç-Kunt, A., Beck, T., & Honohan, P. (2008). *Finance for all? Policies and pitfalls in expanding access*, Washington, DC: World Bank.
- [8] Demirgüç-Kunt, A., & Klapper, L. (2013). "Measuring financial inclusion: Explaining variation in use of financial services across and within countries", *Brookings Papers on Economic Activity*, 44(1): 279-340.
- [9] Devlin, J. F. (2009). "An analysis of influences on total financial exclusion", *The Service Industries Journal*, 29(8): 1021-1036.
- [10] Fischer, F. (2011). "Access to Finance: A Functional Approach to Supply and Demand", *Asia Research Centre Working Paper No. 42*.
- [11] Hogarth, J. M., & O'Donnell, K. H. (2000). "If you build it, will they come? A simulation of financial product holdings among low-to-moderate income households", *Journal of Consumer Policy*, 23(4): 409-444.
- [12] Honohan, P. (2008). "Cross-country variation in household access to financial services", *Journal of Banking & Finance*, 32(11): 2493-2500.
- [13] Kempson, E., Atkinson, A., & Pilley, O. (2004). "Policy level response to financial exclusion in developed economies: lessons for developing countries", *Report of Personal Finance Research Centre, University of Bristol, UK*.
- [14] Kempson, E., & Whyley, C. (1999). *Kept out or Opted out? Understanding and combating financial exclusion*, Bristol: The Policy Press.
- [15] Kumar, B., & Mohanty, B. (2011). "Financial Inclusion and Inclusive Development in SAARC Countries with Special Reference to India", *The XIMB Journal of Management*, 8(2): 13-22.
- [16] Kumar, N. (2013). "Financial inclusion and its determinants: evidence from India", *Journal of Financial Economic Policy*, 5(1): 4-19.
- [17] Kundu, D. (2015). "Addressing the demand side factors of financial inclusion", *Journal of Commerce and Management Thought*, 6(3): 397-417.
- [18] Malhotra, N. K. (2008). *Marketing research: An applied orientation*, (5th/Ed.). Pearson Education, India.
- [19] Rajan, R., & Zingales, L. (2003). *Saving Capitalism from the Capitalists*, Vol. 2121, New York: Crown Business.
- [20] Ramakrishna, S., & Trivedi, P. "Financial Inclusion: A Study Of The Demand Side Perception: Evidence From Maharashtra: A Pilot Study", *International Journal of Applied Business and Economic Research*, 14 (6): 4149-4157.
- [21] Swamy, V. (2014). "Financial inclusion, gender dimension, and economic impact on poor households", *World Development*, 56(1): 1-15.