EXAMINING THE FACTORS DETERMINING FINANCIAL INCLUSION: A CASE STUDY OF JAMMU AND KASHMIR

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Abstract: Financial inclusion is a means affordable financial service which is easily accessible. Many initiatives have been taken by government of India in this regard to provide easy and formal banking services to the population. Measuring financial inclusion becomes important to know the progress of initiatives taken till now. Measuring financial inclusion is a tedious task as it involves identifying the factors that affect financial inclusion. World Bank has majorly defined access, quality and usage as broad indicators of financial inclusion. This paper tries to identify the factors beyond these defined factors that that actually defies financial inclusion.

Keywords: Financial Inclusion, Financial exclusion, Index of Financial Inclusion, Banking

INTRODUCTION

Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs-transactions, payments, savings, credit and insurance-delivered in a responsible and sustainable way (World Bank). Financial inclusion is a major issue around the world. Nearly a billion and a half people living in emerging economies don't have access to formal savings and credit (McKinsey).

Financial inclusion has been identified as an enabler for 7 of the 17 Sustainable Development Goals. Financial inclusion is not just opening a bank account it has broader aspects like providing access to financial services at an affordable cost. The World Bank Group considers financial inclusion a key enabler to reduce extreme poverty and boost shared prosperity. There are studies that have been done by different researches across globe that prove that financial inclusion leads to economic welfare. It inculcates the habit of savings. People at the bottom of social pyramid who are financially excluded can be brought under the umbrella of formal financial services at an affordable cost through financial inclusion.

Abrol & Kaur (2018) have defined the parameters on which financial inclusion can be judged as access, quality, usage and welfare. Just providing access does not solve the purpose of financial inclusion. Serrao *et. al.* (2012) developed a methodology to measure the accessibility and impact of financial services. Access, quality, usage and welfare components of financial inclusion have been used for the purpose of the study. Providing quality of banking services at an affordable cost will lead to increased usage of formal banking services. Tusteda *et. al.* (2014) gave a multi-dimensional index for measuring financial inclusion in across 82 countries of the world.

Authors have used 3 dimensions of Financial Inclusion for measurement for financial inclusion. Usage, Barriers and Access to Financial Inclusion have been used for the purpose of the study. Gupte *et. al.* (2012) studied the determinants that measure the

extent of financial inclusion and focused on computation of financial inclusion index for India. Author has discussed the variables used and compared different methodology used by different authors in computation of financial inclusion index and has constructed a new model for measuring financial inclusion in India using all the variables which other authors have not used. Author has further discussed the initiatives taken so far for financial inclusion and the future ahead.

For computation of FII (Financial Inclusion Index) author has used geometric mean of 4 dimensions namely outreach (penetration and accessibility), usage, ease of transactions and cost of transactions. Sarma (2012) tried to find out a comprehensive measure that can be used to measure financial inclusion across countries. The proposed index of financial inclusion (IFI) captures information on various dimensions of financial inclusion in a single number lying between 0 and 1, where 0 donates complete financial exclusion and 1 indicates complete financial inclusion.

A multidimensional approach while constructing the index of financial inclusion was used similar to that used by United Nations development programme (UNDP) for computation of development indexes like human development index (HDI). Basic dimensions of an inclusive financial system namely banking penetration, availability of banking services and usage of banking system were used for making the index. Financial literacy plays an important role in increasing the usage of financial services.

There are studies that prove that there is a positive correlation between financial inclusion and financial literacy. Governments with the help of banks and other financial institutions are educating people about the benefits of using formal banking services and the various schemes launched for people to use. Measuring Financial Literacy essentially involves measuring a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial well-being (NCFE).

According to a report by National Council. For financial education only 27 per cent of Indian population is financially literate. Measuring financial inclusion is a tedious task there are many parameters that are to

be considered while constructing a measure of financial inclusion. World bank defines access, quality and usage as major indicators on which financial inclusion can be measured. Measuring Financial Inclusion is also important as it is linked with socio-economic welfare of the people. Ghosh (2012) studied effect of financial outreach on economic growth using available data from period 1973-2004 and found that outreach seems to exert a salutary effect on economic growth; the results also suggested that technological outreach have a positive effect on state per capita income. Laha (2015) in a cross country analysis found association between financial inclusion and human development in south Asia.

In India's context author found a positive correlation between financial inclusion and human development as states with high level of financial inclusion also had high level of financial inclusion. Author concluded that the ranking of level of financial inclusion in South Asian countries followed same pattern as ranking of human development.

Sarma (2016) studied relationship between financial inclusion and economic growth. The findings suggest that financial inclusion is a driver of economic growth. Empirical evidences from the study suggest that banking penetration, availability of banking services, usage of banking services in terms of deposit leads to higher economic growth.

Bhaskar (2013) found that cheaper access to financial services leads to financial stability of the economy. Sherawat & Giri (2015) highlight the importance of financial development in economic growth. results reveal that bank based and market based indicators of financial development have a positive impact on economic development in India. The findings indicate that bank centric financial sector throng credit availability has a potential for economic growth.

Uddain *et. al.* (2012) using Cobb-Douglas production function found relationship between financial development and economic growth, results confirmed a positive impact of financial development on economic growth. Adu *et. al.* (2013) studied relation between financial development and economic growth in Ghana, results revel a close nexus between economic growth and certain indicators of financial development in the country.

OBJECTIVES AND RESEARCH METHODOLOGY

The present paper tries to identify the factors that affect the indicators of financial inclusion in Jammu and Kashmir State. For the purpose of this paper, indicators taken are access to financial services, quality of services provided by the banks, utilization of financial services, socio-economic welfare, service availability through business correspondents and credit availability through banks.

The study is based on primary data, collected from 400 respondents belonged to 4 districts of Jammu division by using multi-stage sampling technique. In the first stage, 4 districts, viz. Jammu, Kathua, Udhampur, and Doda were selected on the criteria of stratified random sampling. The selected districts represent the geographical length and breadth of the province.

Out of 4 selected districts, 2 districts are hilly area and 2 districts belong to plain areas of the province. In the second stage, 4 blocks from each district were selected on the same criteria. In the third stage, 25 households were selected from each block using convenience sampling. Thus, the primary data were collected from a total of 400 respondents.

The primary data were collected through a well-structured questionnaire. Various statistical tools have been used to test the correlation between the two dimensions. Descriptive as well as inferential statistics have been used as research methods in the study. The data thus collected have been analysed using ANOVA and Factor Analysis.

RESULTS AND DISCUSSION

Initially in order to explore the factors EFA was conducted on 39 items out of which only 23 loadings were retained which had threshold level above (0.50) loading and KMO .60 (Kaiser,1974) were retained. In the first round of EFA many items below threshold (0.50) were dropped. A total of 16 items were dropped. A second round of EFA analysis was conducted to confirm the underlying structure of the 23 item scale.

Table below shows final round of EFA analysis which classified 23 items into 6 factors which are Socio-Economic Welfare, Access to Financial Services, Service availability through Business Correspondents, Credit availability through banks, Quality of services provided by the banks and utilization of financial services.

Table 1: Rotated Component Matrix[a]

Factor	Component				
	Loadings	Alpha	Communalities	KMO	V. E
Socio-economic Welfare		0.932		**0.707**	
W2: Your savings increased after availing financial services?	.951		.669		18.81
W3: Your income increase after availing financial services?	.916		.447		
W5: You are able to afford quality food after availing financial services?	.899		.483		
W1: You are able to provide better education to children after availing financial services?	.888		.586		
Access to Financial Services		0.782			
A2: Bank Branch are in Convenient location?	.807		.623		15.97
A4: Sufficient NO of ATM's are located in your area?	.753		.755		
A5: ATM'S are conveniently located?	.753		.739		
A1: Bank branches are available in your area?	.699		.513		
A6: ATM'S have user friendly system?	.550		.695		
Service availability through Business Correspondents		0.527			5.1
BC9: Assistance in Transactions provided by Business Correspondents	.848		.612		
BC7: Assistance in availing loans provided by Business Correspondents	.829		.561		
BC6: Business Correspondent services are easily available	.748		.589		

BC8:Assistance in opening accounts is provided by Business Correspondents	.590		.513		
Credit Availability Through Banks		0.641			13.11
Q1: Loans are easily available?	.807		.591		
Q4: Competitive interest rates are provided	.713		.623		
Q2: Variety of Borrowing options is available	.651		.568		
Q3: Fee for service is acceptable	.607		.793		
Quality of services provided by banks		0.77			8.57
Q6: Reasonable time for operation is taken by the bank	.846		.910		
Q7: Prompt service is rendered by the employees	.835		.854		
Q5: information regarding types of deposit accounts is provided	.755		.819		
Utilization of financial services		0.557			7.92
U3: How often do you visit Business Correspondent	.728		.498		
U2: How often do you visit ATM?	.715		.538		
U1: How often do you visit bank branch	.687		.533		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

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Out of 6 factors, 2 factors represent quality of banking services, 1 factor represents access to the banking services, 1 factor represents socio-economic welfare of people and 1 factor represents usage of banking services and 1 factor represents business correspondents as medium of banking services.

CONFIRMATORY FACTOR ANALYSIS (CFA)

Convergent Validity

In order to further evaluate the dimensionality of the scale that was obtained by conducting EFA, Convergent validity was carried as suggested by (Hair et al. 2014), (Byrne, 2010). Specifically, Convergent validity indicates the degree of confidence we have that a construct is well measured by its indicators, (Campbell & Fiske, 1959). In convergent validity, the items that define a particular construct should converge or share a high proportion of variance in common, (Hair *et. al.,* 2014) .Convergent validity was assessed based on the factor loading, composite reliability (CR), and average variance extracted (AVE), (Hair *et. al.,* 2014).

Table 2 shows the various estimates of the results of internal reliability and convergent validity for the six constructs of determinator factors of Financial Inclusion. The factor loading for all items in this study exceeded the recommended level of 0.50 (Hair *et. al.,* 2014).

The AVE (average variance extracted) which reflects the overall amount of variance in the indicators accounted for by the latent construct estimated to be 0.508 , exceeding the recommended level of 0.5 as suggested by (Pallant, 2010) , (Hair *et. al.*, 2014). Composite Reliability which is considered to be less biased estimate of reliability than Chronbach Alpha measures to be .920 which indicates above the acceptable threshold of 0.70, (Hair e*t. al.,* 2014) ,(Gefen *et. al.,* 2000) . Hence, the analysis provides support for convergent validity.

Table 2: Composite reliability and average variance extracted

Factor	CR	AVE
Socio-economic Welfare	0.938	0.792
Access to Financial Services	0.771	0.628
Credit Availability	0.790	0.573

Services Offered	0.778	0.543
Service availability through Business Correspondents	0.811	0.582
Usage	0.759	0.611

Discriminant Validity

Discriminant validity is the extent to which the construct is different from other constructs. According to the (Fornell-Larcker, 1981) testing system, discriminant validity can be measured by comparing the amount of the variance captured by the construct (AVE) and the shared variance with the other constructs. Table 3 illustrates that the correlations for each construct was less than the square root of the AVE by the indicators measuring that construct depicting that the measure had adequate discriminant validity. In summary, the measurement model demonstrated adequate reliability, convergent validity, and discriminant validity.

Table 3: Discriminant analysis

Factor	1	2	3	4	5	6
Socio-economic Welfare	0.89					
Access to Financial Services	0.042	0.646				
Credit Availability	-0.067	-0.210**	0.594			
Services Offered	0.061	0.292***	0.207**	0.737		
Service availability through Business Correspondents	-0.029	-0.027	0.129*	0.140*	0.634	
Usage	0.188**	0.107	0.170*	0.08	-0.021	0.549

Note: a) Diagonals (in bold) represent the square root of the average variance extracted, while the other entries represent the correlations.

b) Discriminant table extracted from Validity Master (Statwiki, 2016), Diagonals represents the square root of the average variance extracted

FIRST ORDER AND SECOND ORDER IPI MEASUREMENT MODEL

With the help of AMOS 23 software the measurement models were drawn. Figure 2 shows the first order measurement model with good fit of CFI = 0.888, GFI = 0. 887, AGFI .855, RMSEA = 0.067, and the CMIN/DF = 2.801.
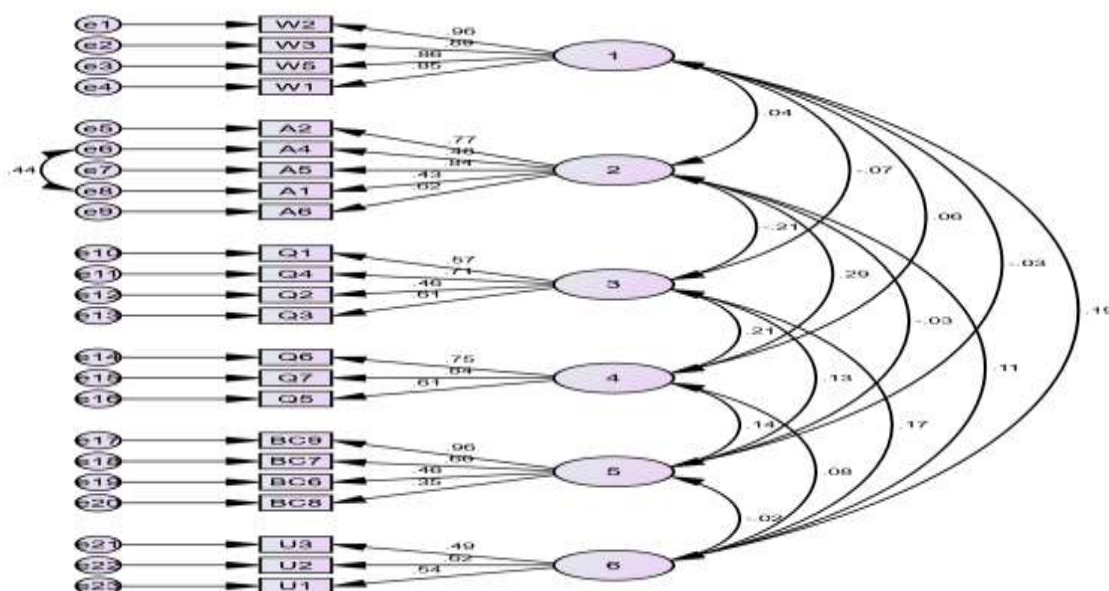
Figure 1: First order CFA model

Note: 1= Socio-economic welfare 2= access to financial services 3= credit availability through banks 4= quality of services provided by the bank 5= service availability through business correspondents 6= utilization of financial services

The second order measurement model (Figure 1) also demonstrated good fit with CFI = 0.877, GFI = 0.900, AGFI=.854, RMSEA = 0.068, and the CMIN/DF = 2.870.

The model fit indicates for both first order CFA and 2nd order which confirm with the standard estimates as suggested by (Byrne, 2010), (Hair et al. 2014) and (Schumacker & Lomax, 2004).
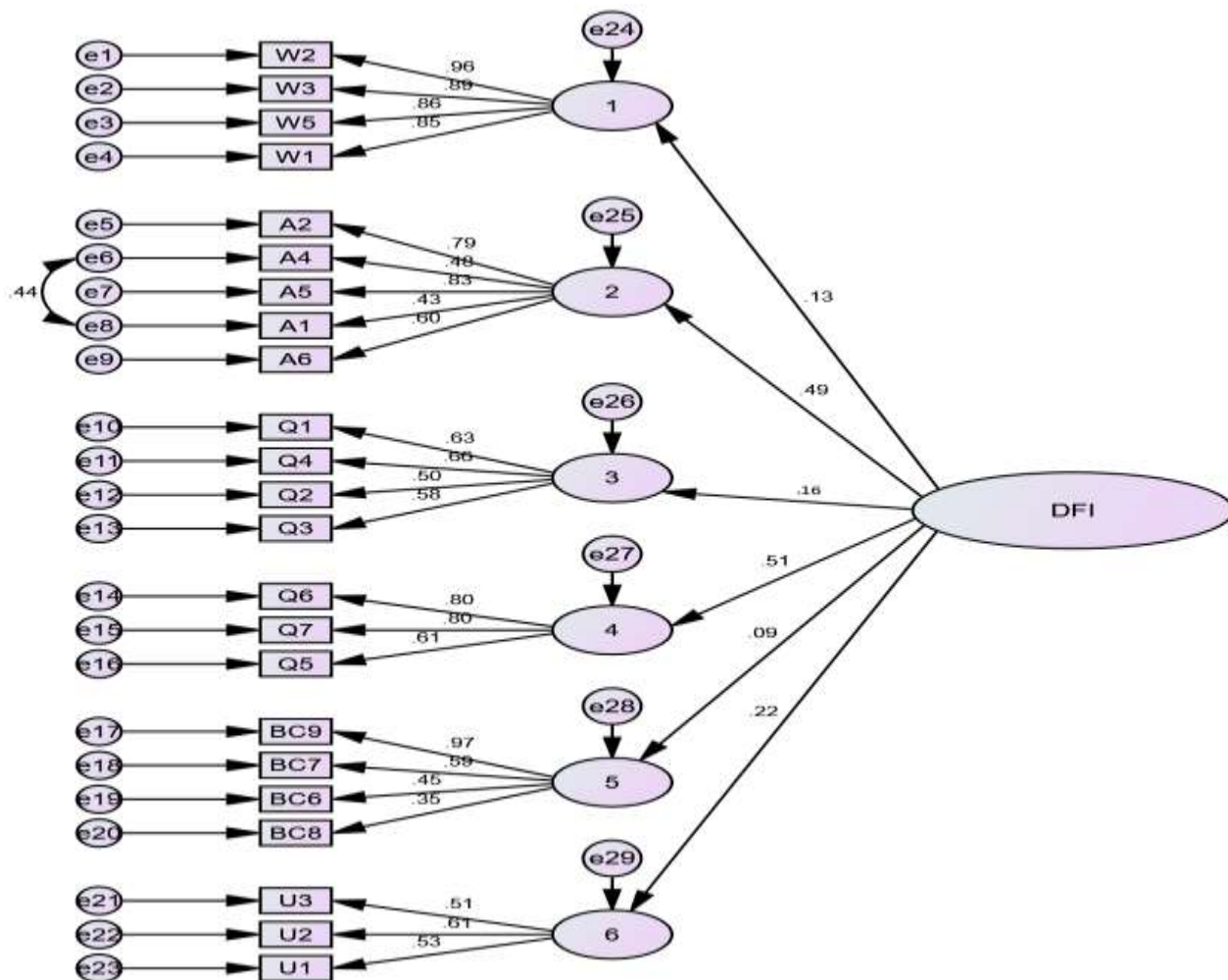

Figure 2: Second order CFA model

Table 4: Index of confirmatory factor analysis

External fit indicators (First Order)	Value of threshold	Value of estimation	Result	External fit indicators (2nd Order)	Value of threshold	Value of estimation	Result
CMIN/DF	<5.00	2.801	Supported	CMIN/DF	<5.00	2.870	Supported
GFI	>0.90	0.887=0.9	Supported	GFI	>0.90	0.881=0.9	Supported
AGFI	>0.90	0.855=0.9	Supported	AGFI	>0.90	0.854=0.9	Supported
CFI	>0.90	0.888=0.9	Supported	CFI	>0.90	0.877=0.9	Supported
RMSEA	<0.08	0.067	Supported	RMSEA	<0.08	0.068	Supported

Model fit statistics comparing both factor models are shown in Table 4. The results indicated that the 2 measurements models for Determinants of Financial Inclusion met the criteria for good fitting models. The second order reproduced similar results to the earlier first order factor. These overall estimates suggest the possible implication of

determinants of financial inclusion in the state of Jammu and Kashmir and the major dimension of the scale as well. The index of confirmatory factor analysis indicates qualified results. However, AGFI and CFI values reach the (.9) using the rounding-off method (Hsiao & Chang, 2011).

CONCLUSION

Initially in order to explore the factors EFA was conducted on 39 items out of which only 23 loadings were retained which had threshold level above (0.50) loading and KMO .60 (Kaiser,1974) were retained. In the first round of EFA many items below threshold (0.50) were dropped. A total of 16 items were dropped. A second round of EFA analysis was conducted to confirm the underlying structure of the 24 item scale. Out of 6 factors, 2 factors represent quality of banking services, 1 factor represents access to the banking services, 1 factor represents socio-economic welfare of people and 1 factor represents usage of banking services and 1 factor represents business correspondents as medium of banking services.

Thus, the overall analysis of EFA indicated 4 items under factor socio-economic welfare, 5 items under Access to financial services, 4 items corresponding to service availability through business correspondents, 4 items to Credit availability through banks, 3 items for quality of services provided by the bank and 3 items to utilization of financial services. The above discussion highlights that quality of service availability is a determinant of financial inclusion. Service availability through business correspondent is also an important determinant of financial inclusion in rural areas. Credit availability through banks is also an important determinant of financial inclusion as people in rural areas has an option to get finance from a formal source.

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