Chapter 2

Review of Literature

Financial inclusion policy is an international phenomenon for which, the global financial institutions like World Bank and International Monetary Fund strive to direct all the financial activities of the people through formal financial institutions. Globally this policy considers three major elements as its goals such as access, usage and quality of financial products and services. This chapter consists of literatures relevant to the first two elements. In addition, the literatures on obstacles pertain to demand side and indices to financial inclusion are reviewed. By reviewing the existing literatures, the research gap was identified and the objectives required for this study were framed.

2.1 DEFINITIONS OF FINANCIAL INCLUSION

Various authors and institutions defined financial inclusion at different point of time, which are excerpted and defined below:-

i. Credit Rating Information Services of India Limited (CRISIL) 2013, defines financial inclusion as “the extent of access by all sections of society to formal financial services, such as credit, deposit, insurance, and pension services”.

ii. Gardeva and Rhyne (2011), refers the Centre for Financial Inclusion (CFI) definition of financial inclusion as “a state in which everyone who can use them has access to a range of quality financial services at affordable prices, with convenience, dignity, and consumer protection, delivered by a range of providers in a stable, competitive market to financially capable clients”.

iii. The Consultative Group to Assist the Poor (CGAP) 2010, defines financial inclusion as "a state in which all working age adults, including those currently excluded by the financial system, have effective access to the following financial services provided by formal institutions: credit, savings (defined broadly to include current accounts), payments, and insurance”.

iv. The Committee on Financial Sector Reforms (2009), chaired by Dr. Raguram G. Rajan, broadly defines financial Inclusion as “universal access to a wide range of financial services at a reasonable cost. These include not only
banking products but also other financial services such as insurance and equity products”.

v. Rangarajan (2008), Chairman of the Committee on Financial Inclusion defines financial inclusion as “the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost”.

vi. Financial Services Authority (FSA) 2006, in its House of Commons Treasury Committee report defines financial inclusion as “ability of individuals to access appropriate financial products and services”.

2.2 DESCRIPTION OF KEY TERMS IN DEFINITIONS

Each definition has key terms, which differentiates it from the other definitions. Below are the core key terms that are identified and described from the definitions:-

i. ACCESS: Access is consent to use a product or a service. In the context of financial inclusion, access means an authority to use financial products and services.

ii. USE: Use is putting a plan into action. In the perception of financial inclusion, use means using financial products and services, which are endorsed by formal financial institutions to access.

iii. FINANCIAL PRODUCTS: Financial products comprises of small savings scheme such as savings account, public provident fund, national savings certificate (five years and ten years), senior citizens’ securities scheme, monthly income scheme, recurring deposit and time deposit (from one to five years); deposits, retirement benefit plans, arrangements of credit, insurance contracts, securities and contracts on foreign currencies.

iv. FINANCIAL SERVICES: According to Foreign Exchange Management (International Financial Services Centre) Regulations, 2015, financial services is “activities a financial institution is allowed to carry out as specified in the respective Act of the Parliament or by the Government of India or by any Regulatory Authority empowered to regulate the concerned financial institution”.

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v. VULNERABLE GROUPS: In India, vulnerable groups are weaker and low-income groups that comprises of marginal farmers, tenant farmers, landless laborers, urban slum occupants, ethnic minorities, migrants, unorganised sector enterprises, socially excluded people, women, senior citizens and children. These vulnerable groups are mostly unbanked.

vi. WORKING AGE ADULTS: According to Organisation for Economic Cooperation and Development (OECD), the working age adults range between 15 and 64.

2.3 ACCESS OF FINANCIAL PRODUCTS AND SERVICES

Arun et al., (2016) focused on financial behaviour of women in access to high order financial services in Ghana and South Africa. The purpose of the study was to reconstruct financial behaviour. There was high gender difference found in Ghana as women used less services in related to investments. The gender differences were identified due to behavioural pattern that was taken from non-financial activities of people and to find how social relations will drive the decision of women to prioritise the financial services access. The results were contributed to the deliberation on feminisation finance and the women were given importance and considered as financial subjects so that they were given preference equal to men.

Kim (2016) studied financial inclusion effect through the correlation between inequalities of income with the growth of economy. An attempt was made to estimate whether access to finance has a positive effect to increase equality in income. A negative correlation was found between income inequality and Gross Domestic Product (GDP) growth effect and this negativity was very strong in low-income economies. It was also found that lack of equality in income would bring down the economic growth in weaker nations. Overcoming this situation was possible through financial inclusion, which will transform the inverse relationship between inequality of income and economic growth into positive relationship.

Kitilit et al., (2016) conducted a study to find out the effect of financial access through agency banking in Kenya among low-income people of that society. The study was used descriptive research with qualitative and quantitative research as well.
The study revealed that the number of agency banking should be increased through which, the number of access points will be increased and the financial services access will be accessible by vulnerable. The regulators were recommended to persuade banks by utilising agency banking and maximising financial access.

Lee et al., (2015) addressed the issues of financial access through rise of new Small and Medium-sized Enterprises (SMEs) after financial crisis in the United Kingdom. The study considered the dataset of nearly 10,000 employers of SMEs. It was addressed that the provision of credit to new firms were very low and for existing firms, it were worse after crisis. Two problems were identified in the system of finance in providing credit. The first problem was the structure that restricted financial access to new firms and the second problem was the cyclical problem faced by existing firms in access to credit. It was suggested to frame a system that supports new firms that requires credit.

Fletschner and Kenney (2014) reviewed financial service access amongst rural women. It was mentioned that the design of financial products should be appropriate according to the requirements of women by means of savings, borrowings and insurance. The access of married women should not mediate through their husbands and it should be a direct access. By this individuality to financial access, they gain power by allocation of resources in an efficient manner, which will enhance all the aspects connected to finance such as nutrition, education and other long-term productivities. Authors built a model for women that address constraints confront to technological mode of access and suggested to improve in access by tailored products for women as per their preferences.

Amlanbrata and Roy (2013) assessed the challenges and opportunities of financial inclusion in Tripura. It was said that financial inclusion was facilitation to access financial system by all the people without any discrimination. The access to finance was to improve the status of finance, which was a difficult task especially in developing countries like India where people undermined the services provided by banks. People also considered the disbursement of loans as philanthropic activity as they were disbursed through political campaign, which created an impossibility of collecting loan in Tripura. It was suggested the people to act reciprocally and said that
banks do not serve free. It was found to be a very risky task for financial institutions to lend for vulnerable because mostly it was not returned back.

Ghosh (2013) reviewed literature relevant to microfinance to identify its effectiveness in developing nations. The study examined on one hand, India, which was considered as one of the largest sectors of microfinance worldwide and on other hand was about the crisis on microfinance found in Andhra Pradesh. Microfinance institutions were started to distribute small loans to vulnerable for entrepreneurship, which was failed as a non-profit organisation and became problematic when it was profit-oriented. The microfinance institutions were still required to regulate and subsidise so that the vulnerable especially farmers and small producers could have access to financial products and services at lower cost.

Wachira and Kihiu (2012) conducted research on secondary data excerpted from FinAccess to identify the impact of financial literacy on financial services access in Kenya. Authors used multinomial logit model to explain the level of access through variables such as formal and informal institutions. They found that the level of financial awareness towards access was low in Kenya. The results portrayed that the financial access was based on socioeconomic variables like age and income levels and not on the financial literacy levels. It was recommended to develop a curriculum in secondary and higher education on finance and to increase investments on financial education to increase formal financial access.

Beck et al., (2009) cited that access to financial services was very less in Africa, where only one-fifth of the households have access. In most of the developing countries, more than half of the population never accessed to financial products and services. The authors said that lack to financial access is a most critical phenomenon that creates an inequality in income and a weakened economic growth. The implications of government policies were not so effective, it remains a challenge worldwide, and it was counterproductive in some cases. The research came out with a set of principles to broaden access and make government policies effective.
Beck and Torre (2007) argued that lack of financial access was often criticised as a difficulty in developing nations. The difficulty in the developing nations could be analysed by identifying various constraints exist on demand and supply side. A complex model was developed by them to identify the reason for lack of access to finance. From the analysis, the constraint was identified that created a gap between banked and bankable population and suggested the feasibility to spread out the banked population. This study was designed to help government for policy decisions on expansion of financial access.

Claessens (2006) reviewed the significance of finance for economic wellbeing. The data was collected across select countries to find out the desirability to financial access. The obstacles faced by the people in access to financial services were because of macroeconomic, regulatory and legal aspects. It was identified that achieving universal access to services of finance is not so easy; however, the financial institutions can facilitate such access by strengthening their infrastructure, simplifying competition in the markets and enhancing new technological innovation.

Kumar (2005), in his book had evaluated the impact on financial access in Brazil. The possibilities of future access in Brazil were explored. It was identified that the access should be made by the vulnerable so that it leads to economic growth and social inclusion. However, if the regulations get failed that were framed by the government then it would create difficulty for the poor to access. It was suggested that the government should frame policies according to the requirements of the poor and the policies should review on the incentives to be provided and not towards provision of public finance to special programs. The results written by the author were shared in Delhi and a comparison was made between India and Brazil with respect to financial access.

Peppard (2000) highlighted the intense of financial access on implementation of Customer Relationship Management (CRM) software in organisations. It was referred that CRM was viewed in a narrow manner thus, it fetched limited benefits. The enterprise edition of CRM, so-called second generation CRM can uplift the organisation completely but it was not used in efficient manner. The research came out with a development of Electronic CRM model based on concepts such as e-
business, channel management, relationship management and total enterprise management. It was concluded that implementation of information technology in banks will connect people anywhere anytime. However, the research did not highlight the low-income people on access to this sort of technological system.

Leyshon and Thrift (1994) published their research article during recession by British service industries in finance on early nineties. The issues faced by people to access financial services in retail sector were highlighted. The financial access strategy will be a consequence for retreat among vulnerable to access. It was found on one hand, the banking sector was declining and on the other hand, insurance sector was growing. The financial access strategies will have crucial implications to develop Britain economy. The similar case was found in United States, which shows a relationship between rollback of financial intermediaries and the problems to excluded communities from the financial system.

2.4 USE OF FINANCIAL PRODUCTS AND SERVICES

Al-Jabri (2016) examined the difference of perception between genders on mobile banking. The distribution of technological innovation was used as a basic theory to identify the use of mobile banking services along with innovation attributes. There was a difference found between the men and women on usage of mobile banking based on relative advantage, observation, complexity, trials, compatibility and risks. It was found from the literature that banks should develop mobile banking technologies, which should be tailored and made compatible to the users. The results of study were to design a model for mobile banking differently for men and women.

Allen et al., (2016) explored the characteristics of individuals in 123 economies to find out the factors that strengthen financial inclusion. This study was conducted among people who were likely to be financially excluded to understand the use of accounts with factors that influence financial inclusion. It was identified that there was more possibility for financial inclusion if the banks reduces transaction costs and open more number of branches that reduce the proximity. It was further found that the existing banking policies does not effectively encourage women and youth population so the financial inclusion is getting delayed in developing nations. It
was suggested that frequent savings and use of accounts would increase the financial inclusion.

Gašević et al., (2016) examined the clients' satisfaction towards usage of e-banking services. Through survey method, the data was collected. It was resulted that there was a significant impact obtained through satisfaction by the means of key elements such as ease-of use, security and responsibility to access the intense on banking services and the other factors such as website information, empathy on financial products and services and reliability has no significance on satisfaction with e-banking usage. Authors said that their results were an alert to reduce the upcoming risk, increase the trustworthiness, provide training to the employees and upgrade in the layout of website.

Harvey (2016) studied an impact on people who were not financially knowledgeable on use of alternative financial services, especially rural poor vulnerable households and customers with credit constraints. Alternative service channels that provide finance such as pawnshops and payday loans were provided loan in fast pace but with high rate of interest and lack of security to the assets pledged, the author said. A model called difference in difference was used to identify the usage pattern and age was taken as core factor. It was found that people in same age were not have major change of usage pattern of alternative financial services channels and it was recommended to the government to insist people on using formal financial system and add financial education in education curricula.

Al-Ajam and Nor (2015) examined the challenges faced by the bank customers on adoption and use of internet banking in Yemen. Primary data were collected from bank customers. The study resulted that there was an influence on intention to adopt technology with the factors such as attitude and technology readiness. The findings of the study were found useful for banks that provided internet usage and it was more useful to the banks that were planned to provide such services. It was recommended the bank managers to plan for providing internet banking to all the bank customers.

Dauda and Lee (2015) studied the importance of usage and adoption of technology on delivery of financial services in Nigeria. Most of the research were
conducted in online banking but only few were focused on consumers preference and there was no study conducted on future banking with relevant to online banking. Conjoint analysis were used to analyse the future of bank customers in online banking. It was found that the promotion of self-services should be increased to fortify competitiveness such as video banking, ATMs-Smartphone integration, biometric services, tailored websites and digital currency, which will increase adoption and usage of online services in banking industry.

Jain and Dhagat (2015) studied perception of customers on usage of electronic banking services in Jabalpur region. The difference between private and public bank customers in usage of e-banking were researched and core factors that influence customers in e-banking used were identified and it was found that the usage of e-banking was found higher in case of private banks than public banks. The influenced factors behind this result were innovative products, minimised risk and security, cost effectiveness, user-friendly, convenience, time-saver and trustworthy.

Joshua and Koshy (2015) examined different stages of usage patterns followed by customers in India. Bank customers were selected from the lead banks in urban and metro areas and a survey was conducted. It was found that ATMs were the most adopted technology to use banking services and the other banking services such as internet banking, mobile banking and telephone banking were not used like ATMs. It was also stated that other banking services were still in its initial stage of usage and to be put to more usage. It was recommended that banks required focus on computer users and promote usage through internet.

Lu et al., (2015) explored the intentional usage of banking services through mobile devices using a decision making model. The study was conducted to identify the satisfaction level of mobile banking users based on their behaviour in using banking services. It was identified through a new model that there was an increase in use of banking services by means of mobile devices, the model was designed according to the behaviour of the customer, and change in the satisfaction level was positive.

Mattila and Hanin (2015) argued that internet made a revolution on retail banking business. The study aimed at creating a new value pertains to usage of e-
banking. Being created a new value, the perception of e-banking was tested among bank account holders. Both the users and non-users of internet banking were tested, which was related to the change in the behaviour of banking. It was resulted that e-banking created a new significance to bank customers and it was also said as a influential marketing tool that has a capability of extraction and provision of information to customers. The change of transaction-based banking to information based will shift the retail banking to higher level.

Mbrokoh (2015) studied factors influenced internet banking in Ghana. Technology model was used with usage and behaviour variables to find out the expectancy of performance and social influencing factors to use internet banking in the study area. It was found that there was a relationship between internet banking and usage behaviour. There was no relationship found between user behaviour and intentional behaviour. It was requested for banks to provide education to the customers to know the importance on use of internet banking.

Ranjani and Bapat (2015) studied the intense of financial inclusion beyond opening a bank account in Maharashtra state in India. The effective usage of bank accounts was identified in the study albeit other credit source access was available. Respondents were vulnerable and marginalised in the society and they have had borrowed in microfinance institutions. It was found that people considered flexibility in other institutions, which were missing in banks. Time was another factor found flexible in other financial institutions, where banks were closed before these institutions.

Singh and Arora (2015) conducted a study on extension on usage of bank customers through information technology-based services in public, private and foreign banks at Delhi. Multi-stage in random sampling technique was used to select the sample. The usage along with its problems was focused in the study, for which, ATMs were selected as mode of technological service as they were found to be a renowned mode in the study area. The demographic variables were studied along with information technology based banking and it was found that there was positive impact on demographic profile of the bank account holders, when the services such as ATMs, credit cards and internet banking were used.
Turegano and Herrero (2015) assessed the contribution of financial inclusion by means of usage of financial system to reduce inequality of income by controlling the factors such as fiscal policy and economic development. It was noted that the level of contribution made by financial inclusion to reduce inequality of income has more level of significance than what financial sectors do. It showed that financial inclusion has become a core plan for the policy decisions were made by the government by means of income equality, which has facilitated the credit usage among poor low-income households and small and medium enterprises as well.

Varaprasad et al., (2015) created a research model on internet banking and studied the customers' adoption in Indian private sector banks. The model majorly focused on customers' intention on usage of internet banking into various aspects such as perceived usage, actual usage and perceived ease of usage. It was found that internet banking was not widely used by Indians though the technology was readily available. In private sector banks, the schemes were not usable to all the customers and the requirement to use technology was found tough than conventional banking. Bank managers were requested to identify the factors to facilitate the users of internet banking.

Pandey et al., (2015) developed a dimension on usage of internet banking in private banks in India to identify the use of banking determinants. From the study, it was that internet banking is a best alternative for conventional banking. A new factor called conspicuousness was added to the existing technology model, which was not found in Indian study with relevant to this area. It was resulted that there was a positive significant relationship found between internet banking and conspicuousness. Perceived risk resulted in a negative effect on use of internet banking.

Honohan (2008) presented the estimates of usage of financial intermediaries in formal institutions. The study was conducted in 160 countries and more. The estimates were constructed through household surveys in smaller countries by correlating number of account holders with microfinance institutions, which included GDP and depth of banking as well. There was a correlation identified and not a causal relationship between poverty and financial access.
2.5 PROBLEMS CONFRONTED TO ATTAIN FINANCIAL INCLUSION

Mary (2016) conducted a study on problems confronted by the bank customers on usage of e-banking in Coimbatore city of Tamil Nadu. The study was conducted among 120 respondents and to analyse the data, chi-square and percentage analysis method were used. Maximum number of respondents said that they have security fear when transacted online. Most of the respondents said that the cash depositing and withdrawing machines were found to be dormant. Some respondents felt that they were charged high for online transaction. It was found that author that customers should be careful when they transact online because of the chance of losing money when unsecured.

Roy et al., (2016) predicted the risk element on adoption of internet banking in India. The constraints faced geographically to access were said to be overcome through cost minimisation. Relevance and time were considered as factors that influenced internet-banking adoption among customers. The internal and external risk were categorised from which, the beliefs of customers on adoption of internet banking were studied. "Structural Equation Modeling, Predictive analysis and neural network analysis" were used to examine the context. It was identified that the intense of acceptance of internet banking by the customers were found through risk and use factors.

Zimmerman and Baur (2016) briefed on the risk of bank customers using digital banking. The problems or risks found were five such as lack of conducting transaction because of lack of network or unreliable network services, the availability of agents were limited and lack of liquidity in ATMs, complexity in usage of online user account for remittance, lack of recourse mechanism and fraudulent target towards bank customers. It was recommended that there were three solutions to come out of risk in digital banking that bring down financial inclusion and they were creation of reliability in transaction, improvement in communication to customers and tailored monitoring of online transactions.
Agarwal et al., (2015) reported their findings on financial literacy and planning based on an advisory program conducted in India. Problems faced by poor to make financial decisions in India were studied. To measure financial literacy, a survey was conducted with three questions and the data were segregated as demographic profile and socioeconomic status. Investment behaviour, usage of insurance, choice of liability and risk tolerance were examined. It was found that participants had sound financial knowledge about interest rates, risk and inflation. The literacy on finance had correlation with education, gender and aggression of investors. There was an association found between financial literacy and financial planning.

Chopra et al., (2015) studied the importance of technology in promoting financial inclusion in India. Urban population found accessibility at ease with variety of options in financial products whereas the vulnerable were forced to access informal and risky sources of financial needs, which was an un-rectified problem so far. Because of difference in demand and supply between urban rich and vulnerable, there was an imbalance found in the economy. The possibility to repair imbalance problem vested in the hands of information technology, which were found cost effective for both banks and customers as well. By increase in automation, the risk and cost will get reduced.

Kiely et al., (2015) examined the long-term relationship between financial hardship and problem in mental health for which, 11, 134 samples were studied for nine years in Australia. It was reported that scarcity and problems in cash flow were resulted in more mental health constraint, whereas the problem were not revealed by vulnerable at the time of hardship. It was recommended that people could come out of problem if they were assisted through social programmes and educate to not believe unscrupulous lenders though they provide money whenever required.

Mustapha (2015) explored the problems faced by Nigerian bank customers in using internet banking. This paper was focused on customer transaction rather than difficulties faced by him. The variables such as customer requirements, convenience to use and cost effectiveness were considered as issues. The key variables were security in transactions, charges levied by the banks for accessing websites and cost of using internet. Rasch analysis was used to measure the problem. Reinvigoration was
identified on internet banking usage, which pulled down the business dealings and service charges.

Saidi (2015) studied the problems in mobile commerce among customers in Malawi. As the transitions of e-commerce on mobile were conducted through bank, the problems to implement e-commerce were studied. The main stakeholders considered in the study were banks, telecom operators and central bank, which played a vital role to initiate e-commerce in Malawi. Mobile applications that supported e-commerce in Malawi were m-banking, m-health and m-shopping. It was found that Malawi joined the race to remit through mobile.

Stephen and Tom (2015) researched cooperative banks’ role to promote financial inclusion in India. As known, half a population does not have access to institutional or any other fund sources. It was stated that merely one-fourth of Indian population get service from banks, which means major population were found to be excluded and need to be included into banking fold. Most vulnerable group were farmers for whom financial literacy and counseling must be provided by the banks to make them come out of distress and protect from suicides. Banks was also requested to take part in corporate social responsibility.

2.6 INDICES IN MEASURING FINANCIAL INCLUSION

Ambarkhane et al., (2016) measured financial inclusion level in 21 states of India, for which, they constructed an index. The index not only focused on banking initiatives, it also considered other services like insurance, pension, remittances and financial literacy. A calculation was developed using indicators of major dimensions such as demand, supply and infrastructure of financial system. The index considered both positive and negative factors to identify financial inclusion level. This index was suitable to alter according to the area where the study can be done and it can be used for allocation of resources to improve financial situations as a whole.

Bose et al., (2016) examined the disclosure practices of banks in Bangladesh on financial inclusion for the period of 2008 and 2013. An index was developed to explore the potential factors to test the financial inclusion level in the study area. The study revealed a significant increase in the level of financial inclusion subsequent to
the release of directive. The study also helped to identify that there was an influence on high financial inclusion with firm size of banks, growth rate of banking industry, investments in industrial sectors, size of audit committees and banking operations based on religions. There was a negative association identified between financial inclusion level and age of the firm.

Nandru et al., (2016) contrived an index and examined the factors of financial inclusion in south Indian states using multiple-regression analysis. The study contained secondary data sources excerpted from RBI and statistics handbook of Indian economy for the period between 2010 and 2012. The study had significance in the result that had a possibility to enhance financial inclusion in south India through variables such as population, gender, penetration of branch, credit and deposit.

Sanjaya and Nursechafia (2016) computed the financial inclusion degree and its growth level in Indonesia. Financial inclusion index was calculated from provincial secondary data based on access, avail and use of financial services. Inclusive growth index was also developed to identify the opportunities for the three-mentioned basis. It was found that accessibility scored high in Indonesia whereas availability and usage scored less than accessibility. It was also found that the usage is less among poor group and social opportunity had a positive direct relationship with financial inclusion.

Sarma (2016) noted that the lack of financial inclusion was a problem for both developing and developed nations. An index called "Index of Financial Inclusion" was developed in the year 2008, which was multidimensional and it fulfilled core math properties that were useful to compare financial inclusion levels viz. low, medium and high. The index was then upgraded and survey was conducted on 110 countries and found that Chad was the lowest financially included nation and Switzerland ranked high among all the countries where the study was conducted. There was an upward shift in financial inclusion identified for the past decade but the usage of data is a constraint because lack of availability.
Sharma (2016) studied the relationship between financial inclusion and the economic growth in India through his index. The model of Sarma and Pais (2008) was compiled along with World Bank and IMF data and it was focused on banks role to promote financial inclusion. The study focused on existing dimensions such as access, penetration and usage of banking products and services in India. "Vector Auto-Regression" model was used to identify the relationship. Additionally, "Granger causality" analysis was also used. There was a positive increase in economic growth when financial inclusion acted as a driver.

Yadav and Sharma (2016) created a composite index by combining critical parameters such as availability, penetration and usage of banking services. Multiple regression analysis were used to identify the significance of scores computed through index. The status of financial inclusion was studied in all the Indian states and Union Territories for the period between 2011 and 2014. The data were extracted from the published sources of Reserve Bank of India and Central Statistics Office. There was an increase of financial inclusion score by 0.045 points. The factors that affected financial inclusion were infrastructural facilities, suicides of farmers, literacy ratio, GDP through agriculture and the density of population. The uniqueness in this study was a usage of single index with multiple factors to determine the level of financial inclusion.

Adalessossi and Kaya (2015) conducted a study to find out the financial inclusion level in 41 African regions. Variables such as mortgage outstanding and formal account usage were taken for study. With these variables, a discriminant index model was developed and analysed. The data were excerpted from secondary sources. The study depicted that 27 out of 41 regions were found to be low in financial inclusion and only 14 regions scored high in financial inclusion analysis. This model would help in measuring financial inclusion because of its appropriateness and efficiency as its rate of accuracy was 92.7 per cent.

Ahamed and Mallick (2015) constructed an index for financial inclusion and the study was conducted in 87 countries. Data from FinAccess Survey were studied between the period 2004 and 2012. This study tested 2,913 banks to know whether they were an increase in stability due to global financial inclusion policy. It was found
that increase in financial inclusion lead to increase in bank stability. From the industrial data, there was an extreme growth identified through financial inclusion on small firms that rely on external source of finance. It was put forward that financial inclusion should be given prime importance by the banks to increase and sustain stability.

Dabla-Norris et al., (2015) developed an index and measured financial inclusion level in Latin America for the benefit of policymakers. The index comprised three different angles excerpted from Findex, Enterprise Survey and FinAccess Survey. The dimensions used were financial services usage by households, financial services usage by Small Medium sized Enterprises and access. The financial inclusion status of SMEs was analysed, which was a new idea from other indices. Countries such as Barbados, Brazil, Chile and some countries of Caribbean showed high financial inclusion status.

Gopalan and Rajan (2015) had conducted study the effect on entry of foreign banks in developing nations to enhance financial inclusion. The authors took 57 developing nations to identify the relationship between financial inclusion and entry of foreign banks. "Financial Access Survey" was used as a model to draw an index. The study was empirical and the data was secondary between the period 2004 and 2009. It was found that there was a modest positive impact through foreign banks to increase the level of financial inclusion. However, the relationship was found to be negative when the banks were highly concentrated towards the entry of foreign banks.

Park and Mercado (2015) conducted a study on financial inclusion, along with economic evils such as poverty and inequality of income among developing countries in Asia. The index was computed to mention the level of financial inclusion of 188 countries. The study followed the existing index model, from which, financial inclusion status was calculated and ranked the countries. Spain ranked top and Congo scored last rank in financial inclusion level. India secured the rank 104, which implied low financial inclusion level in Asia whereas World Bank said that India is in the state of medium financial inclusion in the world.
Pathania et al., (2015) discussed on the steps taken by four banks in Jammu and Kashmir for financial inclusion. They concentrated on quality parameters and studied the rural population. Quality was the dimension added to an existing index formulated by Sarma and Pais (2008) to obtain accuracy in analysis. It was found that index with multi-dimension will always fetch output without any restriction, which lead to financial inclusion on using various indicators into group and segmented as dimensions. It was found that the usage of ATMs has dropped in percentage when it was computed in monthly basis. There were no ATMs for Regional Rural Banks (RRBs), whereas it was a mandate for rural people and farmers to access and use ATMs. It was reported that business correspondents were not engaged for banking transactions even their importance was well known by banks.

Sahay et al., (2015) discussed on macroeconomic effects of financial inclusion from the available evidences. Factors connected with financial inclusion such as economic growth, economic stability, economic inequality and financial stability were examined. Their index named "Financial Institution Access" analysed the factors such as economic growth, volatility on economic growth and financial stability whereas the existing indices like enterprise survey and global findex were not focused on all the factors. A possibility on attainment of higher economic growth was found through increase in the access of financial products and services by firms, households and women.

Siddik et al., (2015) used an index with multi-dimension factors to study the level of access to financial system in Bangladesh. An index to measure human development was also constructed. The formula called Euclidean distance for normalization was used. It was found that Dhaka was the only district that achieved high level of financial inclusion by means of access. There were 5 districts that recorded medium level of financial inclusion level and 58 districts with low level. The factors for low financial inclusion were population over-size in rural households, high illiteracy rate, poor infrastructure and network. It was suggested to develop a viable index for Bangladesh that provides solution to achieve financial inclusion.
Sriram and Sundaram (2015) formulated a customised index to study financial inclusion level in four districts of Tamil Nadu, which are economically most backward districts. Probability sampling was used for data selection and stratification was made to identify the respondents. Among four districts, three resulted in lowest level of financial inclusion and one district was low in rank. There was no district with high or medium level. The reasons for non-improvement of financial inclusion in study area were lack of income, lack of financial knowledge, complex documents and lack of help desk.

Amidzic et al., (2014) leveraged the existing index of financial inclusion developed by International Monetary Fund called FinAccess Survey. Factor analysis was used to measure financial inclusion, which included the factors that were unused. Proxies were used for various dimensions such as ATMs, deposits, borrowings and number of branches available per 1,000 adults in different countries. Four indices were used to determine financial inclusion, human development, poverty and gender development. The result was the development of new index, which found useful to compute many avenues and by adding new factors, possibility of expansion in index was found.

Camara and Tuesta (2014) assumed that dimensions viz. use, access and barriers determine financial inclusion degree or level. The weights were appropriately assigned along with dimensions and they were determined using a two-stage component analysis technique. This model is an index originated by the authors. They stated that their index was very easy to compute and understand which was comprehensively designed to measure the level of financial inclusion by assigning appropriate weights for factors and dimensions.

Kumar (2013) studied financial inclusion status through index and submitted the evidence of factors. Factory and employees proportion was core factors for index penetration. The study resulted that branch network had greater impact on financial inclusion. Additionally, the association between socioeconomic status and the environment had a positive influence on streamlining banking practices in India. Expansion of branch network was a suggestion, which would lead to more financial inclusion in India.
Demirgüç-Kunt and Klapper (2012) provided the analysis of financial inclusion globally. The study was conducted in 148 countries using Global Findex, which is an index that measured the indicators such as savings, borrowings, remittances and risk management. It was resulted that half of the adults in the world have savings account in formal financial institution although there was a variation in characteristics of individuals by means of income and regions. The savings for a year was 22 per cent adult population worldwide and 9 per cent took loan from formal financial institutions like bank or credit union or microfinance institution. It was quoted that half of the adult population was unbanked due to barriers they face to access.

From the lights of review with respect to financial inclusion indices, it was found that indices framed by Bose et al., (2016), Sanjaya and Nursechafia (2016), Adalessossi and Kaya (2015), Kumar (2013), Amidzic et al., (2014) and Demirgüç-Kunt and Klapper (2012) were suitable to national level of study and comparison between two nations. There are many studies conducted in India such as Ambarkhane et al., (2016), Nandru et al., (2016), Sharma (2016), Yadav and Sharma (2016) and Pathania et al., (2015), which were focused on state level studies. This study require an index that has a scope of select districts to identify the level of financial inclusion in this study area, thus the aforesaid literatures were reviewed.