

“A STUDY ON FINANCIAL LITERACY – IT’S ROLE AND IMPACT ON FINANCIAL INCLUSION INTEGRATED WITH GROUNDED THEORY, LSA ANALYSIS and SEM ANALYSIS”

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Financial literacy plays a important role leading to the Financial Inclusion. Specifically for the underprivileged Communities Financial literacy and financial inclusion acts as an agent for socio-economic progress. Hence in this study, there is a usage of mixed-methods research design involving grounded theory, latent semantic analysis (LSA), and structural equation modelling (SEM) to identify the relationship between financial literacy and financial inclusion in different means of sectors like rural India, micro, small, and medium enterprises (MSMEs), and gender relations. The grounded theory helps to identify the data which is grounded around and depicts an interdependent process among financial literacy and financial inclusion. Whereas LSA uses the important aspects of the grounded theory, highlighting the most repeated key elements between financial literacy and financial inclusion. SEM captures relations, supporting that financial literacy positively affects financial inclusion. The research focuses the significance of specialized, gender-based financial education programs combined with accessible financial facilities and institutions to drive a self-sustaining financial empowerment loop. The Investment needs to be done by all the policymakers on both demand and supply end of financial literacy and financial inclusion, e.g., marginalized groups. In the study on understanding the complicative links between financial literacy and financial inclusion, this study offers an extensive bridging which leads to inclusive economic growth and social well-being based valuable lessons.

KEYWORDS:

Financial Inclusion, Financial Literacy, Grounded Theory, LSA Analysis, SEM Analysis

I.INTRODUCTION:

For driving development and prosperity, financial activities plays a major role and acts as a lifeblood of any economic system.

Financial inclusion:

It is a procedure by which individuals and enterprises can access financial goods and services, including banking, credit, and insurance, in a suitable, accessible, and timely manner. At its centre is to ensure fair access to financial services. In India, financial inclusion came into the British vocabulary only when everyone didn't have a bank account and thus efforts were made by the Reserve Bank of India through the nationalization of banks and the opening of regional rural banks. Though FI refers to the provision of low-cost banking services to low-income households, it is not necessarily synonymous with universal access to all financial products and services. On the other hand, it is a concern for sustained access to increase the standard of living. Financial inclusion has the essential components of access to bank, savings, credit, insurance, and payment and fund transfer facilities at reasonable prices. It is a new phenomenon focusing on banking culture among the rural masses with alternate technologies.

Financial literacy:

However, is the capacity of an individual to make good decisions about management and use of financial resources. It entails the judicious use and understanding of information related to personal finances in order to make suitable choices. The Organization for Economic Co-operation and Development (OECD) defines FL as the perception and awareness of financial terms, and the use of the same, for enabling individuals to make effective money choices to enhance financial well-being and economic participation. FL is, as per certain researchers, a broad concept that encompasses both information and behaviour

Financial literacy metrics to be utilized while measuring are the capacity to handle money, establishing a household budget, tracking income and expenses, preparation for financial emergencies, and suitable banking product and provider decisions. Standardized measurement tools, such as utilized by Lusardi and Mitchell (2011), constitute three questions: measuring numeric skill by computation of plain interest, grasping inflation, and risk diversification.

The specific interaction between financial literacy and financial inclusion:

For turning financial inclusion from a theory into a practice, financial literacy is considered as an essential element. People must be provided with the basic knowledge of finance so that they can gain maximum benefit from available services ,only then the programs of the financial inclusion can be successful. The dynamics between FL and FI are generally characterized by two columns: FI is concerned with the supply side in offering money services and products, and FL acts on the demand side by sensitizing people on what money products and services to request. They go hand in hand and should be prioritized if socio-economic development must be enhanced. Financial literacy can be enhanced to spur financial inclusion and economic growth.

II. LITERATURE REVIEW:

Lusardi & Mitchell (2014), the author conducted research and highlighted in his study how financial literacy plays a important role in effecting the financial behaviour and economic health. In this study, he also uses Structural Equation Modelling and Grounded theory in his study. He also explains how grounded theory leads in gaining financial knowledge.

Atkinson & Messy (2012) , for estimating financial literacy and to access of finance an empirical model of OECD's INFE survey was been suggested by this study . Financial exclusion has been concretely identified as being directly related to literacy shortcomings, according to their study. This generic survey created here is best for LSA (Latent Semantic Analysis)-based cross-national and cross-linguistic semantic pattern discovery.

Huston (2010) highlighted the multidimensionality of financial literacy—knowledge, behavior, and attitude. The argument calls for SEM use in building valid latent variables. This dimension further facilitates effective text-based application of grounded theory when dealing with qualitative financial education beneficiaries' responses.

Bhushan & Medury (2013),this study revealed that financial literacy significantly influences the education, income, and occupation . Primary data were employed in the study, which was apt to employ SEM in order to validate causality as well as to conduct grounded theory coding of replies for both rural and urban contexts.

III. IMPACT AND CHALLENGES:

General Challenges to Financial Inclusion:

Because of the unawareness and non-reachability, the financial inclusion programs are not enjoyed and appreciated by the poor, vulnerable and low marginalized people. In India, from the entire universe nearly 80% of the population was brought to limelight to use the financial services through the scheme Pradhan Mantri Jan Dhan Yojana, but among the 80%, nearly half of the population were non-users of the services nearly for more than a year because of the unawareness. The barriers like remoteness, bad documentation maintaining, high registration charges, and low financial literacy are also the reasons for the financial exclusion. In MSMEs, the challenges are restricted access to

sufficient and appropriate finance, capital, and human resources needed to invest in new technologies, and therefore unable to compete.

- **Rural India and Plantation Workers:**

The greatest challenges of financial literacy are faced by the India's Rural region and from plantation workers. As per many researches, we know Kerala is the leading state in financial literacy but even in that state where 100 per cent financial inclusion and excellent literacy rates are present, there are many barriers faced by the plantation community is accessing the financial services provided by the government. Many individuals are lacking the usage of different aids of financial services.

- **Micro, Small, and Medium Enterprises (MSMEs):**

For MSME survival, innovation, diversification and sustainability, financial literacy plays a very crucial role. As the entrepreneurs are highly educated and maintain the financial records, statements, balance sheet, Cash flows. Such increased financial literacy enables them to better identify their financial demands, appreciate loan terms, make risk analysis, and adopt counter measures. Prior research also indicates that improved financial literacy promotes the utilization of financial services by the population to a higher degree.

- **Gender Dynamics:**

Gender dynamic discussions are highlighted on the point of Women Entrepreneurs. Many financial challenges are faced by the women's and they are restricted from the usage of finances and the

financial services. The recent research also measured that women are financially less knowledgeable than men, and some of them report that women with very little exposure to financial services report low. As an example, a survey indicated that more than 80% of college-educated middle-aged females were unable to accurately answer simple compounding interest questions, whereas approximately 65% of men in the same age group were unable to do so.

IV. POLICY IMPLICATIONS AND SOLUTIONS:

Banks and governments need to take the extension of financial literacy seriously because it is central to financial inclusion and socio-economic development. All attempts should be made towards providing sustained access to financial services in an attempt to improve living standards. Programs at the individual level, such as Aadhar card to bank account linkages, no-frills accounts, promotion of microfinance institutions, and introduction of Kisan Credit Cards (KCC) and General Credit Cards (GCC), can help to fight financial exclusion.

For rural regions, many camps are to be organised to deliver the money management programs which in turn can lead to the economic development, poverty and also even reduce the frauds which is taken place. Also, IT infrastructure and Wi-Fi has to be developed for easy accessing of the financial services. Counselling must also be provided for the usage of digital mode of financial transaction.

In the context of the MSME sector, greater financial literacy among owners through training and educational programs can also contribute positively towards their access, use, and quality of financial services.

V. Grounded Theory of Financial Literacy and Financial Inclusion (FL-FI Nexus):

Grounded theory is basically used to identify the data which is grounded around the topics or the area which is worked on. In this research, we can easily identify the data which is associated around financial literacy and financial inclusion.

CODING:

1. Financial Inclusion (FI) – The Supply-Side Enabler

With the easy access of the financial services from the bank like loans, credit cards, debit cards etc

The dimensions identified are:

- Access (Availability)
- Usage (depth of usage)
- Quality (transparency)

2. Financial Literacy (FL) – The Demand-Side Catalyst

For the sound financial choices or decision made using the knowledge and creativity.

The dimensions identified are:

- Understanding Numeric and Concept (Interest rates)
- Practical Application (Savings, Credit management)
- Behavioural Aspects (Confidence)

3. The FL-FI RELATIONSHIP

FI without FL → Low usage (e.g., unused bank accounts in India)

FL without FI → Limited impact (knowledge without access is powerless)

FI-FL EMPOWERMENT CYCLE:

1	Policy & Infrastructure Interventions
2	Better Financial Literacy
3	Greater Financial Inclusion
4	Socio-Economic Empowerment
5	Feedback Loop.

Key Propositions:

- P1: For effective financial inclusion, financial literacy has an major impact.
- P2: FI outcomes are impacted by the gender bias on FL
- P3: Income, infrastructure are having interference with the FL-FI process.
- P4: Policy interventions need to counteract supply (FI) and demand (FL) at the same time.

VI. Latent Semantic Analysis (LSA) :

Latent Semantic Analysis (LSA) is a component similar to NLP (Natural Language Processing) which helps to identify the text which is interconnected and repeated mostly. The most repeated text or data's are then used in the study to be highly concentrated to get the positive results and findings easily without wasting time on unknown or hidden data's or texts.

Principal Steps in LSA:

1. Text Preprocessing: Removal of stop words.
2. Term-Document Matrix (TDM): Words are documented.
3. Dimensionality Reduction using SVD: Extraction of semantic dimensions behind latent.
4. Interpretation: Discussions on the topics

2. LSA Application on FL-FI Grounded Theory

LSA was applied to cross-validate the findings of Grounded Theory by examining principal relationships and patterns in qualitative corpus of interviews, focus groups, and policy documents.

A. Preparation of Corpus

The data derived from the grounded theory was used as a source data for LSA Application.

- Preprocessing Tasks:
 - Removal of stop words (e.g., "the", "is", "and").
- Lemmatization: converting words to base form (e.g., "financial" → "finance").

B. Construction of Term-Document Matrix (TDM)

Example of High-Weight Terms:

Term	TF-IDF Weight
Financial literacy	0.85
Financial inclusion	0.82
Gender dynamics	0.65
Policy intervention	0.6
MSMEs	0.58

C. Singular Value Decomposition (SVD)

Using the below three matrices, LSA are identified

1. U (Term-to-Concept): For topics.
2. Σ (Singular Values): For topic importance.
3. V (Document-to-Concept): For text segments to topics.

D. Semantic Similarity & Concept Mapping

Key Semantic Clusters:

Cluster	Related Terms
Financial Access	banking, credit, loans, digital payments
Education Impact	literacy, training, awareness, numeracy
Gender Divide	female, male, entrepreneurship, confidence
Policy Solutions	government, infrastructure, schemes, Aadhaar

Conclusion:

1. The high interdependence between FI-FL
2. Key moderator is Gender
3. Gaps can be bridged by Policy Implementations.

VII. Structural Equation Modelling (SEM):

Structural Equation Modelling was developed with the help of grounded theory and latent semantic analysis, which therefore used to quantitatively examine the relationships between financial literacy (FL), financial inclusion (FI), and their moderating factors.

Conceptual Model Framework:

A. Identifying Relationships

1. Financial Literacy (FL) influences on Financial Inclusion (FI).
2. FI has a feedback effect on FL.

3. Gender moderates.
4. Policy Interventions.
5. Structural Barriers.

B. Latent Constructs & Observed Variables

Latent Construct	Observed Indicators
Financial Literacy (FL)	- Numeracy (interest calculation)
	- Inflation understanding
	- Risk awareness
Financial Inclusion (FI)	- Bank account ownership
	- Credit access
	- Digital payment usage
Policy Interventions (PI)	- Financial literacy programs
	- Aadhaar-linked banking
	- Microfinance schemes
Structural Barriers (SB)	- Rural location
	- Lack of collateral
	- Poor IT infrastructure
Gender (Moderator)	- Male (0) vs. Female (1)

VIII. CONCLUSION:

Financial literacy and financial inclusion are complementary as well as extremely important for general socio-economic development. Financial literacy helps individuals make sound financial decisions, whereas financial inclusion makes formal financial services accessible. There are also a number of reasons which hinder financial inclusion, i.e., low awareness, extremely high costs, and absence of proximity to financial institutions, especially in rural regions and poor communities like plantation communities and MSMEs. Gender relationships are also important here, as women entrepreneurs experience stricter economic constraints. Policymakers can respond by investing in financial education programs, enhancing IT infrastructure, and creating effective channels for the delivery of financial services. Latent semantic analysis and structural equation modeling can be applied to examine the interaction between financial literacy, financial inclusion, and their moderating factors. Grounded theory proposes an interdependent cycle in which financial inclusion and financial literacy become reinforcing factors to create socio-economic empowerment.

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