
Research Methodology

Research methodology assists and gives legitimacy to research and helps to give scientifically sound results. The purpose of research is to answer to questions through the application of tools and techniques (Patel and Patel, 2019). The methodology provides a well-detailed plan that helps to execute research in a smooth manageable and effective way. The researcher in the study can comprehend the techniques and strategies to utilize and arrive at conclusions by using a research methodology.

There are numerous dimensions to research methodology and methods of research form part of the research methodology. The target of research methodology is broader than that of research methods (Kothari & Garg, 2019). Thus the study of research is a methodical framework of investigation that involves gathering, recording primary information and, using appropriate procedures for analysis and interpretation. This chapter discusses the methodology adopted in the study in the following heads;

- 3.1 Nature of Research
- 3.2 Selection of the Study Area
- 3.3 Selection of the Population
- 3.4 Determination of Sample Unit
- 3.5 Data Collection
- 3.6 Period of the Study
- 3.7 Pilot Study
- 3.8 Tools Used for the Data Analysis
- 3.9 Operational Definition
- 3.10 Ethical Consideration

3.1 Nature of Research

A research design is a methodical plan that describes how a study is carried out, including procedures, data collection techniques, and analysis tools (Creswell and Creswell, 2018). The design adopted in the study is descriptive and analytical in nature. The study is descriptive in analysing NBFC-MFIs sustainability and outreach from the borrowers context

by considering various aspects such as awareness of loan terms, utilization of funds business, social, and financial growth. The managers of NBFC-MFIs provide qualitative data for assessing sustainability linked with borrowers behaviour and attitude. Methodical strategy to addressing the research problems, research objectives are fulfilled in nature of research in a systematic way.

The study also analyse quantitative aspects to measure the sustainability and outreach of NBFC-MFIs. Financial statements and annual reports are examined to know the operating performance of NBFC-MFIs.

3.2 Selection of the Study Area

Microfinance Industry Network (MFIN) has been considered as a major focal point of the study. MFIN is the industry association of microfinance providers in India established in December 2009 under the Andhra Pradesh Societies Registration Act 2001. MFIN became the first industry association to be recognized as a Self-Regulatory Organization (SRO) in 2014 when the Reserve Bank of India (RBI) set up it to act as SRO for the NBFC-MFI (MFIN 2024).

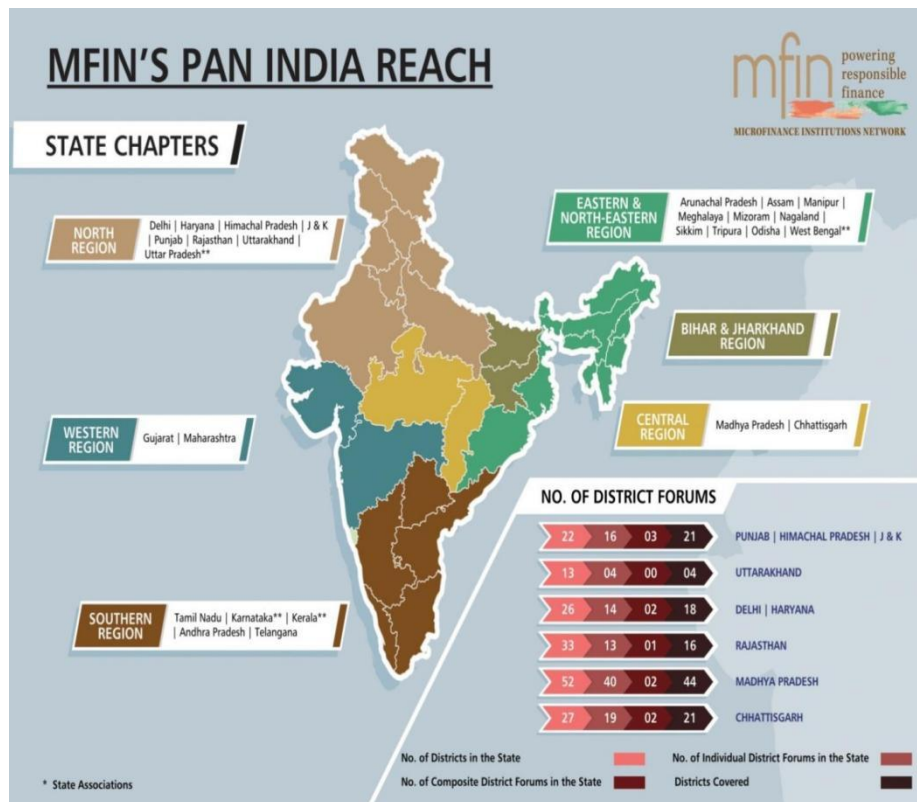
The main aim of MFIN is to assist and support NBFC-MFIs in policy framework and ensuring standards. MFIN represents RBI regulated microcredit lenders including NBFC-MFIs, Banks, Small Finance Banks, NBFCs, and others. As of March 2024, about 381 different entities were active in the microfinance space. NBFC-MFIs hold the largest share of the portfolio with total loan outstanding of ₹1,70,903 Crores (MFIN 2024). By upholding moral principles, knowledge of compliance, client protection, and market integrity, MFIN plays a vital part in the microfinance sector. Therefore, the study has been confined to NBFC-MFIs.

Table 3.1 Microfinance Lending Institutions

S.No.	MFIs	Number of Institution	Loan Outstanding (in crore)	Active loan Accounts (in crore)
1	NBFC-MFIs	87	1,70.903	6.0
2	NBFCs	104	40,469	1.3
3	Banks	14	1,44,022	5.2
3	SFBs	10	74,278	2.4
4	Other MFIs	166	4,026	0.1

Source: India Microfinance Review FY 2023-24

The Pan-India presence of NBFC-MFIs in region-wise terms of portfolio distribution under (Assest under Management), reveals that, East and North east account for 32 percent of the total NBFC MFI portfolio, 27 percent from South, 16 percent from North and West and 9 percent contributed by Central. The five top states in terms of loan amount outstanding are Bihar, Uttar Pradesh, Tamil Nadu, Karnataka and Maharastra. The top 10 States (based on universe data) constitute 84.4 percent in terms of Gross Loan Portfolio (GLP). Bihar continues to be the largest state in terms of portfolio outstanding followed by Tamil Nadu and Uttar Pradesh (MFIN, 2024). Among the various microfinance institutions, NBFC-MFIs occupy a high position in promoting micro entrepreneurs which ultimately leads to empowerment of the society.



Source: MFIN Report 2023-2024

Figure 3.1 GEOGRAPHICAL EXPANSION OF MFIs Institution

3.2.1 Locale of the study

In India, Tamil Nadu is the leading state in terms of Portfolio Outstanding (POS), with a 15 percent pan-India share. Tamil Nadu also has the highest loan outstanding per account (average) of ₹31,382 Crore. The Average Ticket Size (ATS) of Tamil Nadu as of December 2019 was 0.95 times the industry ATS of ₹34,880. NBFCs have the highest ATS

at ₹36,970 in Tamil Nadu, which is 11 percent higher than the state ATS of ₹33,262 (MFIN, 2024).

The in Tamil Nadu Coimbatore district has been confined as the study area. Coimbatore is the third largest city in the state, and one of the most industrialized city in Tamil Nadu. Coimbatore has become a major industrial hub in Tamil Nadu, providing a favourable atmosphere for micro entrepreneurs to flourish. The city, which is well known for its diverse industrial base that includes food processing, textile, farming, engineering, small-scale and cottage units and other micro businesses, has witnessed an increase in women-led businesses in both urban and rural regions. Coimbatore district has 14 percent, MFI Loan taking population which is highest across the top 10 districts of Tamil Nadu (MFIN,2020). Hence Coimbatore is the right place to study the impact of microcredit support from microfinance institutions. Coimbatore also has more of microenterprises run by women with sound financial growth.

3.3 Selection of the Population

Women microcredit borrowers who have availed loans from NBFC-MFIs in the Coimbatore district are represented as population of the study. Five NBFC-MFIs in the Coimbatore district having registered in MFIN in the south (MFIN 2023) as limited companies functioning in the Coimbatore district are selected for the study. The selected NBFC-MFIs are Asirvad Microfinance Limited, Belstar Microfinance Limited, IIFL Samasta, MSM Microfinance Limited and Muthoot MicroFin. The research study is confined to the borrowers of NBFC-MFIs whose business operations are functioning Coimbatore district.

3.4 Determination of Sample Unit

The total number of borrowers in selected NBFC-MFIs of Coimbatore district consists of borrowers from five NBFC-MFIs listed above. The total number borrowers of the selected NBFCs including all the branches in Coimbatore district is estimated to be 80,384. The ideal sample size for a study is determined using Cochran's formula to ensure that results are reliable and statistically valid. Cochran, W. G. (1977) formula was applicable particularly with large populations. The sample size for finite population.,

$$n_0 = \frac{z^2 pq}{e^2}$$

where,

n_o - Sample Size	The values are applied in the formula
Z^2 = 95% confidence level	$z = 1.96$ (table value at 95 percent confidence level)
$z = 1.96$ table value	
p =Estimated proportion of the population	$p= 0.5$ (maximum variability 50 percent)
$q= 1 - p$	$q= 1 - 0.5 = 0.5$
e = Margin of error	$e= \pm 5$ percent = 0.050

$$n_o = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2}$$

= 384.16 Samples rounded off 384 samples

When the population is finite, where $N=80384$

$$n = \frac{n_o}{1 + \left[\frac{n_o - 1}{N} \right]}$$

$$n = \frac{384}{1 + \frac{[384 - 1]}{80384}}$$

$$n = \frac{384}{1.00477}$$

$n = 382.17$, **382 samples**

For arithmetic purpose it has been rounded off to 400. Proportionate Stratified Random sampling was used to take proportionate sample from each NBFC-MFIs. Totally 400 respondents were interviewed, among fourteen of the respondents are not willing to answered all the questions in the interview schedule. Finally, 386 responses were taken into consideration for final sample size for the study. The table 3.2 and table 3.3 shows the sample distribution of the study.

Table 3.2 Distribution of the Sample Units

S.no.	Name of NBFC-MFIs	Total Borrowers	Proportionate sample based on a resulted sample
1	ASIRVAD MICRO FINANCE LIMITED	17,796	88
2	BELSTAR MICROFINANCE LIMITED	9,658	48
3	IIFL SAMASTHA	24,539	122
4	MSM MICROFINANCE LIMITED	6,941	35
5	MUTHOOT MICROFIN	21,450	107
	Total sample	80,384	400

Source: Computed data

Table 3.3 Are-wise Distribution of Sample Units

S.NO	Company Name	Branch locations	Borrowers	Estimated Sample Size
1	ASIRVAD MICRO FINANCE LIMITED	1.Singanallur	3560	18
		2.Mettupalayam	3624	18
		3.NSN Palayam	2135	10
		4.Thondamuthur	1950	10
		5.Pollachi	3105	15
		6.Valparai	3422	17
		Total	17796	88
2	BELSTAR MICROFINANCE LIMITED	1.Sungam	2542	13
		2.Thondamuthur	1712	8
		3.Karamadai	2203	11
		4.SS. kulam	1763	9
		5.Sulur	1438	7
		Total	9658	48
3	IIFL SAMASTHA	1.Ganapathy	3583	18
		2.Mettupalayam	4520	22
		3.Thudiyalur	3960	20
		4.Ramanathapuram	3210	16
		5.Kinathukadvu	2265	11
		6.Negamam	1563	8
		7.Vadavalli	1620	8
		8.Perur	2226	11
		9.Madukkarai	1592	8
		Total	24539	122
4	MSM MICROFINANCE LIMITED	1.Vadavalli	2735	14
		2.Pollachi	2311	11
		3.Sundarapuram	1895	10
		Total	6941	35
5	MUTHOOT MICROFIN	1.Annur	3250	16
		2.Mettupalayam	3820	19
		3.Pollachi	2530	13
		4.Avarampalayam	3642	18
		5.Kovaipudhur	2236	11
		6.Kinathukadvu	1563	8
		7.Karumathampatty	2241	11
		8.Thondamuthur	2168	11
		Total	21450	107
		Total population	80384	400
		Required Sample Size	382	
		Final sample size	386	

Source: Computed data

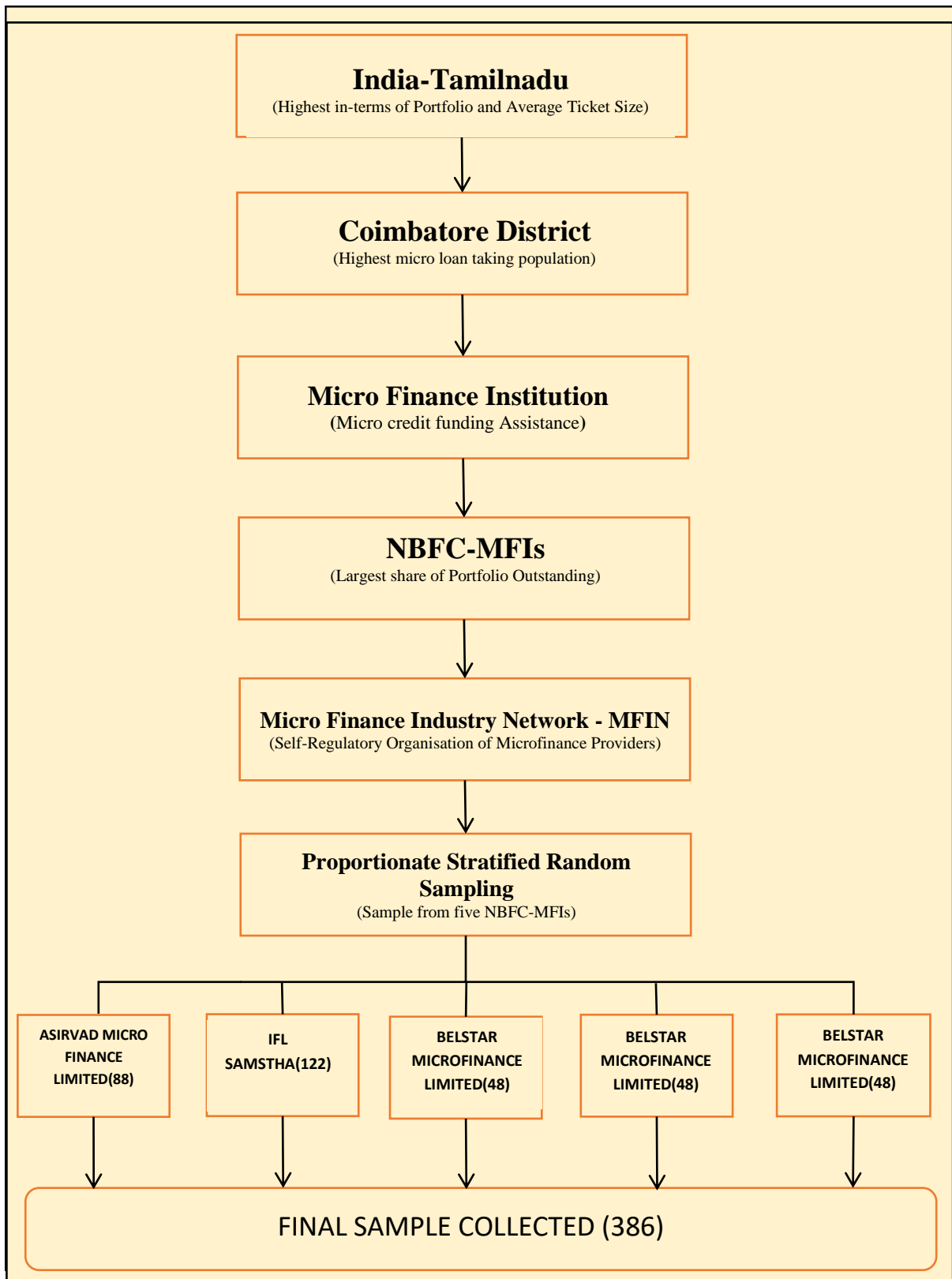


Figure 3.2 Semantic presentation of selection of Sample Units

3.5 Data Collection

The present study consists of primary and secondary data, sourced through well structured and designed interview schedule from NBFC-MFIs women borrowers in Coimbatore District. A structured questionnaire was employed to collect the data from managerial level employees from the selected NBFC-MFIs. Hence, 30 managers from NBFC-MFIs were considered in the study as per the Central Limit Theorem (Roscoe, 1975).

The secondary data were collected from MFIN Reports, RBI Bulletin, Microfinance exchange, Journals, Books, and web sources etc.,

3.5.1 Interview Schedule and Questionnaire Scale

A planned list of questions that a researcher prepares ahead of time to direct an interview is known as an interview schedule in research (Creswell, 2014). It acts as a tool that ensures as all pertinent topic of discussion is addressed methodically and uniformly throughout various interviews. Interview schedule was validated by 2 NBFC-MFIs managers, 3 academic experts and 1 statistician.

The interview schedule contains different sections (Table 3.4) to know about the sustainability and outreach of NBFC-MFIs from borrowers perspective.

Table 3.5 presents the sections of the structured questionnaire to get data from the NBFC-MFIs managers from the selected institutions in the study to be concerned about their perspective on the sustainability of NBFC-MFIs.

The following are the different sections in the Interview schedule and Questionnaire

Table 3.4 Sections in Interview Schedule

Sections	Variables
Section I	Socio-Economic Profile of Women Micro Entrepreneurs
Section II	Business Profile of Women Micro Entrepreneurs
Section III	Loan profile Women Micro Entrepreneurs
Section IV	Awareness on terms of loan of NBFC-MFIs
Section V	Usage of Borrowed Funds
Section VI	Business Development, Social Status and Financial Status of Women Micro Entrepreneurs
Section VII	Sustainability of NBFC-MFIs
Section VIII	Customer Perception on Outreach of NBFC-MFIs

Source: Compiled Data

Table 3.5 Sections in Questionnaire (NBFC-MFIs Managers)

Section	Variables
Section I	Lending Framework of NBFC-MFIs
Section II	Perspective of NBFC-MFIs Managers about Women Micro Entrepreneurs
Section III	Risk Factors of NBFC-MFIs
Section IV	Relationship with the Women Micro Entrepreneurs
Section V	Competitive Factors

Source :Compiled Data

Table 3.6 Research Construct and Source

Variables	Author & Year
Awareness on terms of loans and Usage of Funds	Budampati et al. (2022)
	Mali & Sayankar (2022)
	Tunio et al. (2020)
Business development of Micro Entrepreneurs	Kabeer (2001)
	Haquoe et al. (2020)
Social status of Micro Entrepreneurs	Miles et al. (2024)
	Mayoux (2000)
Sustainability of MFIs	Ledgerwood (1999)
	Morduch (1999)
	Hossain (2017)
Outreach of MFIs	Rahman (2000)
	Rosenberg (2010)
	Banerjee et al. (2015)
Sustainability and outreach of MFIs	Zeller and Meyer (2002)
	Bharadwaj and Kiran (2018)
	Schreiner and Colombet (2001)

Source: Compiled Data

3.6 Study Period

The period of the study is January 2020 to July 2025. The data collection period was between July 2022 and December 2022.

3.7 Pilot Study

Pilot study is a study in preliminary before planning a research project. It helps to study the feasibility of the sample size for data collection. The pilot study test the proposed the study design and process. Pilot studies are a basic stage of the research process. They can help in design identification issues, and understand the feasibility, practical applicability, cost and time involved before the main research. Issues in the pilot study, helps the researchers to reduce in the risk in research study and lead to better reliability and validity.

Pilot study was conducted among 50 women borrowers selected in NBFC-MFIs functioning in the Coimbatore district using a preliminary interview schedule. The responses were collected on Likert's five-point scale. Reliability analysis was done on the data collected by using Cronbach's Alpha. No major modification was to be carried out as per the analysis report of the pilot study and as per expert opinion few questions were reframed.

3.7.1 Reliability Test

Table 3.7 Reliability Coefficient

Variables	Number of Items	Range	Alpha Value
Awareness of Loan terms	09	1-5	0.828
Usage of borrowed funds	05	1-5	0.702
Business Development of Women Micro Entrepreneurs	08	1-5	0.834
Social Status of Women Micro Entrepreneurs	08	1-5	0.798
Sustainability of NBFC-MFIs	11	1-5	0.684
Outreach of NBFC-MFIs	17	1-5	0.804

Source: Computed data

Reliability provides dependability, stability, and consistency in the gathering and processing of data. Reliability tests, yield consistent results in regular settings in both qualitative and quantitative research. Reliability and internal consistency assessment make certain that each component pertains to the same fundamental idea. 'Cronbach's' Alpha coefficient is applied metric to assess the test of reliability and internal consistency. The dependability of the factor increases with the degree of correlation between the components. Both the quantity of items and their average correlations are reflected in Cronbach's Alpha. The scaled data internal coherence was comparable to the standard value of 0.7. As a result, it has been demonstrated that the scale's overall internal consistency is high and that the interview schedule is acceptable and reliable.

3.8 Tools Used for the Data Analysis

The tools was applied for data analysis on interview schedule and questionnaire as well as secondary data. Finding and analyzing connections and insights from data to support decision-making in research findings is made easier with the use of these research tools.

3.8.1 Tools Used for Primary Data Analysis

➤ Descriptive Statistics

Simple Percentage analysis was used to study the sample respondent's socio-economic, business and loan profiles. Further it was applied to know the various variables percentages like awareness of loan terms by women micro entrepreneurs, usage of borrowed funds, business development, social status and to understand the managers opinion about the borrowers and finally general performance of the NBFC-MFIs.

Mean and standard deviation was calculated for the socio-economic, business and loan profile and the various variables studied in the research like awareness of loan terms by women micro entrepreneurs, usage of borrowed funds, business development, social status also. The lending framework, perspective of manager's about micro entrepreneurs and opinions to maintain a regular relationship with the customers are studied by using mean and standard deviation.

➤ Analysis of Variance (ANOVA)

ANOVA is applied to find the deviation and difference among mean variables. In this study ANOVA is used to determine whether the awareness of loan terms by the women micro entrepreneurs, usage of borrowed funds, business development and social status, are significant and associated with the socio-economic profile, business profile and loan profile of the respondents.

➤ Test of Proportion (Z test)

The overall percentages (proportions) of a characteristic (like asset ownership) in a population at two different times are compared using a test of proportions. It evaluates whether the percentage of the sample displaying a characteristic has changed significantly, but it does not monitor changes at the individual level. The test of proportions was applied to understand the proportion of respondents who owned different forms of assets before and after starting the business.

➤ Factor Analysis

Factor analysis is applicable to identify a way to compress the data from several original variables into a smaller set of new dimensions with the least amount of data loss. The correlation matrix relating the variables, was analysed initially for possible inclusion in factor analysis. The validity of the model was tested using two tests, namely, “KMO test and Bartlett’s test of sphericity”. In the current study sustainability of NBFC-MFIs and perception of outreach of NBFC-MFIs are studied by using factor analysis.

➤ Kendall’s Rank test

Kendall’s rank test is used to ascertain whether the ranking order is similar or not. It is applied to find the factor that influenced borrowing funds from NBC-MFIs. The risk factors of NBFC-MFIs also studied through Kendall's Coefficient of Concordance.

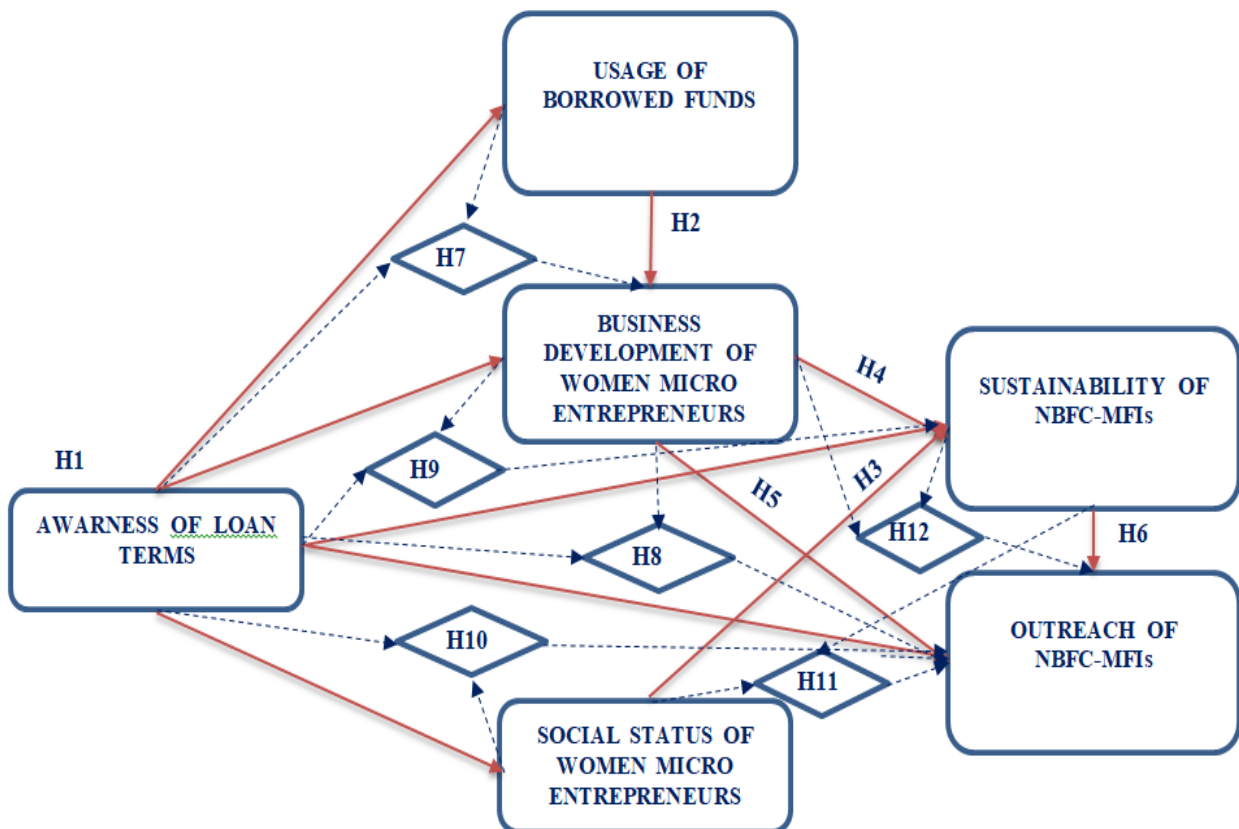
➤ Path Analysis

In Path analysis, multiple regression statistical analysis, is applied to assess causal hypotheses by analyse the connections between a dependent and independent variables. It allows to estimate the strength and importance of causal relationships between variables. A Path model was constituted to find out the impact of sustainability on the outreach of NBFC-MFIs. The Path model explains the causal relationships of factors relating to customer awareness of loan terms of offered by NBFC-MFI, usage of borrowed funds, business development, social status of the women micro entrepreneurs, sustainability of the NBFC-MFIs and finally the outreach of the NBFC-MFIs as perceived by the customer's perception.

3.8.1.1 Conceptual Framework of the Study

If MFIs aim for more financial sustainability the lower will be the impact on poverty reduction and hence there is a trade-off between outreach to the poor and financial sustainability (Zerai and Rani, 2012). MFIs should properly use capital funds like debt and equity to attain sustainability and Profitability (Parvinetal., 2020). MFI sustainability and loan performance are positively correlated with standardized reporting and performance monitoring. Loan disbursement has an impact on the sustainability of MFIs (Mbah and Wasum , 2019). The dual objectives of MFIs are to maintain economic and social ideals. MFIs tend to accept modest profitability and make every effort to reach the impoverished because they operate on social welfare (Im and Sun, 2015). The independent variable in this

study is awareness of loan terms. It affects both dependent and mediating variables. The variables that are mediating are the usage of borrowed funds, business development, social status and sustainability. The dependent variable is the outreach of NBFC-MFIs. The independent and mediating variables' combined impacts shape and have an impact on outreach of NBFC-MFIs. Awareness of loan terms significantly influences the usage of funds, which in turn contributes to the business development of women micro entrepreneurs while factors such as social status moderate these effects, ultimately impacting the sustainability and outreach of NBFC-MFIs.



Source: Compiled by Author

Figure 3.3 Proposed Model on Determinants of Sustainability and Outreach of NBFC-MFIs

3.8.1.2 Variables Defined

❖ Independent Variable

Awareness of loan terms by women micro entrepreneurs is the independent variable it influences the usage of borrowed funds, business development of women micro entrepreneurs, social status of women micro entrepreneurs, sustainability and outreach of NBFC-MFIs. Awareness significantly contributes to creating an informed borrower base, which is critical for improving the accessibility and reliability of microfinance services.

❖ Mediating Variables

Mediating variables influence the direction of the independent and dependent variables relationship. Usage of borrowed funds, Business development, social status of women micro entrepreneurs and Sustainability of NBFC-MFIs are all mediating variables.

❖ Dependent Variable

Outreach of NBFC-MFIs appears to be a dependent variable in this context because it connects to sustainability and is influenced by the effects of awareness of loan terms, usage of borrowed funds, business development and social status of women micro entrepreneurs and it might play a role in determining how sustainability impacts outreach.

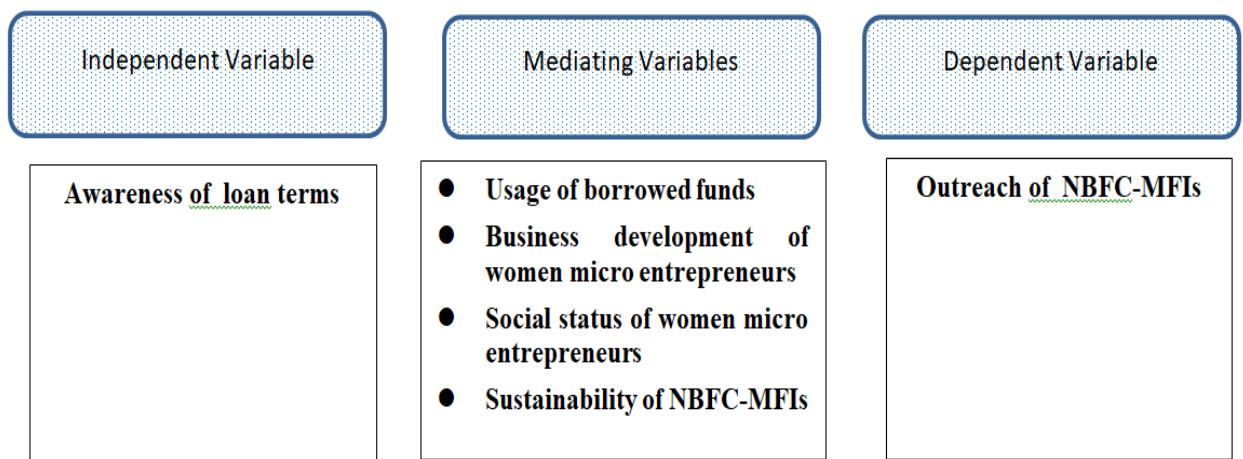


Figure 3.4 Variables defined

3.8.1.3. Relationship Defined

The relationship between the variables in the diagram revolves around the process of by creating awareness, usage of borrowed funds, leads growth and development of micro entrepreneurs in business, social and financial status and achieving long-term sustainability of NBFC-MFIs through better outreach. The following points shows how each variable connected and influenced each other.

➤ Awareness of loan terms → Usage of borrowed funds

An entrepreneurs become more aware of financial opportunities, loan services, or resources, they are more likely to utilize them. Awareness helps individuals to understand available financial tools, benefits, and access methods, leading to their adoption and usage.

Individuals lack awareness, and they may not use financial services even if they are accessible. Awareness and usage relationship is strong when people have access, financial knowledge, and trust in the loan procedure.

➤ **Awareness of loan terms → Business development of women micro entrepreneurs**

If entrepreneurs are informed about the availability of microloans, they can develop themselves to establish or grow their businesses, in improving economic outcomes for themselves and their communities. Awareness also empowers entrepreneurs by development them with knowledge about available financial opportunities and to start or expand their businesses by applying suitable business strategy.

➤ **Awareness of loan terms → Social status of women micro entrepreneurs**

Social status is fostered by awareness. When borrowers are aware about the schemes, services, loan procedural aspects and opportunities available for raising funds from NBFC-MFIs, they become more informed and motivated to participate in doing business that promote social change. As a result, they gain social status, which encourages active involvement and raises their social standing.

➤ **Usage of borrowed funds → Business development of women micro entrepreneurs**

Usage of borrowed funds strengthens business development. Aware of financial services is not enough when actual usage is necessary for business development. When businesses actively use the fund in various operational, expansion, and business activities that experience financial growth and stability in business.

➤ **Business development of women micro entrepreneurs → Sustainability of the NBFC-MFIs**

A critical component of the economic sustainability of the institution is the business empowerment of the entrepreneurs who borrowed funds. Empowered businesses adopt more responsible practices shows in the profitability of the institution. Empowered businesses often engage in practices that focus on the long-term economic and social outcomes of the institution. Business development includes improved market access, better customer relationships, access to funding, business innovation, and better financial management, all of which contribute to the long-term sustainability of the MFIs

➤ **Social status of women micro entrepreneurs → Sustainability of the NBFC-MFIs**

Social status of the borrowers can promote activities that support the NBFC-MFIs long-term sustainability. Borrowers whose are empowered are more likely to make ensure they pay back their loans on time, use them responsibly, and stay in touch with the institution leads to sustainability

➤ **Awareness of loan terms → Sustainability of NBFC-MFIs (via business development and social status)**

This is an indirect relationship, meaning that awareness influences sustainability through social and business development as mediating variables. Instead of directly impacting sustainability, awareness first enhances social and business empowerment, which in turn lead to sustainability of MFIs. Empowerment through business growth and social status contribute to the MFIs sustainability.

➤ **Awareness of loan terms → Outreach of NBFC-MFIs**

Outreach of NBFC-MFIs refers to the potential ability to serve a large number of borrowers, particularly the groups in underserved. The results indicate that understanding loan procedural elements has both direct and indirect effects on outreach, which are mediated by social empowerment, business empowerment, and sustainability. When borrowers are well-informed, empowered, and committed to sustainable practices, the outreach of NBFC-MFIs improves significantly.

➤ **Business development of women micro entrepreneurs → Outreach of NBFC-MFIs**

Empowered businesses increase engagement with NBFC-MFIs, further strengthening outreach and financial accessibility. Business development impact outreach by promoting sustainability of NBFC-MFIs. This improves the financial health of NBFC-MFIs, allowing them to offer services to additional clients and regions. Developed business entities may spread knowledge about NBFC-MFI services, attracting other entrepreneurs and expanding the reach of these institutions.

➤ **Sustainability of NBFC-MFIs → Outreach of NBFC-MFIs**

Sustainability has a direct relationship with outreach. Sustainable practices ensure that NBFC-MFIs can operate effectively over the long term, keeping their financial stability, trust, and impact. This enables them to expand their services to more communities

and regions. Sustainability ensures that NBFC-MFIs maintain their operations and credibility, allowing them to expand their services and improve outreach.

3.8.2 Tools used to measure the Operating Performance of NBFC-MFIs

I. Growth Rate

In the study the Annual Growth Rate measure year on year growth in Gross Loan Portfolio, Microcredit Portfolio, Client Growth, Loan amount disbursement, Loan Accounts and Loan disbursement of NBFC-MFIs. The mean annual growth rate over a year is determined using the Compound Annual Growth Rate (CAGR). The average of annual percentage growth rates over a given time period is determined by the Linear Average Growth Rate (LAGR)

$$\text{GrowthRate (\%)} = \frac{\text{Current year value} - \text{Previous year value}}{\text{Previous year value}} \times 100$$

II. Ratio Analysis

➤ Microcredit Portfolio to Gross Loan Portfolio Ratio

This ratio reveals how much the overall loan portfolio is dedicated to microfinance. It determines the percentage of microcredit loans in a financial institution's overall loan portfolio.

$$\text{Microcredit Portfolio to Gross Loan Portfolio Ratio} = \frac{\text{Microcredit Portfolio}}{\text{Gross Loan Portfolio}} \times 100$$

➤ Loan Per Client

Loan per client is a key performance indicator used in microfinance institutions for financial inclusion analysis. It calculates the average loan balance owed or disbursed to each borrower.

$$\text{Loan Per Client} = \frac{\text{Gross Loan Portfolio}}{\text{Clients}}$$

➤ Clients per Branch

In microfinance institutions, the number of clients per branch is a frequently used operational efficiency statistic. It calculates the average number of active loan clients (borrowers) that each financial institution branch serves.

$$\text{Clients Per Branch} = \frac{\text{Total Clients}}{\text{Total Branches}}$$

➤ **Loan to Asset Ratio**

The percentage of total assets used for loans and advances is measured by the loan to asset ratio. The ratio shows how well the NBFC-MFI turns its assets into loans that generate income.

$$\text{Loans to Asset Ratio} = \frac{\text{Loans and Advances}}{\text{Total Assets}} \times 100$$

➤ **Debt to Equity Ratio**

Financial leverage is shown in this ratio. By preventing NBFC-MFIs from being overly dependent on debt, controlled leverage lowers the risk of insolvency and boosts investor confidence in sustainability.

$$\text{Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

➤ **Borrowing to Asset Ratio**

The financial leverage ratio called the borrowing to asset ratio calculates the proportion of an institution's assets that are financed by borrowings, or debt. It indicates the percentage of total assets that are borrowed.

$$\text{Borrowing to Asset Ratio} = \frac{\text{Borrowing}}{\text{Total Assets}} \times 100$$

3.9 Operational Definitions

- ❖ **Awareness:** Awareness indicates the borrowers knowledge and understanding about the NBFC-MFIs services offered, loan procedural aspects, repayment shedule etc. The level of awareness leads to the success functioning of the NBFC-MFIs.
- ❖ **Borrowers:** Those persons borrowed funds from NBFC-MFIs as microcredit funding assistance.
- ❖ **Usage of Borrowed funds:** The borrowed funds from NBFC-MFIs, are used in a way that promote business. The funds are used for business startup, growth, operational activities, and business development.

- ❖ **Social Status:** Social status refers to the status derived from by women as a entrepreneurs in society. Social status also point out women entrepreneurs improvements in quality of life and social standing.
- ❖ **Business Development: Business development** relates to the ability of entrepreneurs to manage, or expand their business from the financial support from NBFC-MFIs. It refers to the development of business enhancing productivity and developing entrepreneurial abilities.
- ❖ **Perception:** Perception is the belief, decision, identification opinion and interpretation about the various factors of the microfinance institutions. Perception is a observation by the borrowers about the institution and managers about the borrowers.
- ❖ **Sustainability:** Sustainability refers to the NBFC-MFIs ability to maintain profitability, manage risks, and remain operational in the long run. It includes the management of loan portfolios, customer service, and the scalability of services, trustworthiness, adherence to regulations, and ethical practices in lending.
- ❖ **Outreach:** Outreach refers to expanding the reach and impact of microfinance institutions. Outreach is perceived by the client outreach, accessibility of service, awareness programmes and creditability. It means the effort put by MFIs in extending loans and financial services.
- ❖ **Microcredit:** Microcredit is a small loan given to the individual or group who need financial support for doing small business. Microcredit schemes do not require collateral, making them to accessable those without assets. These loans encourage self-employment among the women.
- ❖ **Microfinance:** Microfinance means providing small value loans together with other financial services, to households, micro businesses, and entrepreneurs.
- ❖ **Women Micro Entrepreneurs:** Women Micro entrepreneurs are those who are all doing small business or entrepreneurial activity from the microcredit funding assistance from the NBFC-MFIs.
- ❖ **Micro Finance Institutions (MFIs):** MFIs are financial companies that provide microcredit and other financial services to the people.

- ❖ **Portfolio Outstanding:** Portfolio outstanding refers to the total amount of loans, advances or credit facilities extended by a MFIs to its customers.
- ❖ **Micro Credit Portfolio:** Microcredit portfolio refers to a collection of small loans extended to lower- income women micro entrepreneurs.
- ❖ **Growth Rate:** Growth rates refer to the percentage change in a variable over a specific period. Growth rate can be a positive or a negative trend, depends on whether the size of the variable is increasing or decreasing over time.
- ❖ **Client:** Women Micro entrepreneurs, borrowers those who borrowed funds from NBFC-MFIs
- ❖ **Gross loan Portfolio (GLP): GLP** refers to the total outstanding balance of all loans disbursed by NBFC-MFIs before accounting for any provisions, reserves, or write-offs for bad or doubtful debts.
- ❖ **Loan Account:** The total number of active loan accounts at the end of the year is referred to as loan accounts. This usually indicates the number of distinct borrowers who still have loans, even if they took them in previously.
- ❖ **Loan Amount Disbursed:** Total amount of all loan disbursed to the borrowers. Loan disbursement is the final stage of the loan approval process, enabling the borrower to access the funds for the intended purpose.
- ❖ **Institutional Sustainability:** A collection of operational metrics known as institutional sustainability evaluates the long-term sustainability and independence of microfinance institutions (MFIs) in lending. It indicates how well an institution has succeeded in loan aspects to borrowers.
- ❖ **Financial Sustainability:** Financial sustainability evaluates the financial structure, leverage, and asset use of NBFC-M FIs, as these factors are all directly related to financial sustainability.
- ❖ **Customer Attitude: Customer Attitude** refers to the mindset, perceptions, and emotional disposition of customers toward NBFC-MFIs. Products, service quality and awareness that lead factor to assess the customer attitude.

- ❖ **Active live borrowers:** Active live borrowers refer to the total number of borrowers who currently have outstanding loans with NBFC-MFIs and are actively making repayments or whose accounts are not yet closed.
- ❖ **Portfolio:** Portfolio refers to a collection or group of financial assets, products, or accounts managed by a NBFC-MFIs. It gives an overview of the financial holdings and operations in a specific category.
- ❖ **Average Ticket Size:** Average ticket size represents the average loan amount that a microfinance institution (MFI) disburses to each borrower.
- ❖ **Risk Factor:** Risk factors in banks refer to the various uncertainties and challenges that can impact a NBFC-MFIs financial performance, stability, and operations. These risks arise from internal and external factors.
- ❖ **Disbursement Trend:** Disbursement trend refers to loan disbursement by a NBFC-MFIs over a specific period. It reflects how the volume and value of loans issued to borrowers are changing, typically analysed monthly, quarterly, or annually.

3.10 Ethical Consideration

Research ethics guarantee scientific integrity, human rights and dignity, and the voluntary, private, confidential, informed, and safe participation of research participants. Ethical issues also take into account the research's moral and social values and ethical evaluation. It supports mutual trust, cooperation, and trust, while preserving scientific integrity, advancing the validity of research, and defending participant rights. Prior authorization from the NBFC-MFIs was obtained for the collection of data from borrowers. Data confidentiality was strictly upheld and confirmed. The information gathered was only to be used for research purpose.

The research was based on human subjects, so ethical permission was received from the Institutional Human Ethical Committee (IHEC) by submitting a report based on the research study titled Sustainability and Outreach of NBFC-MFIs in Promoting Micro Entrepreneurs in Coimbatore district. Ethical consideration is obtained from *Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, is AUW/IHEC/COM-21-22/XPD-06 dated 8th July 2022*.