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The Role of SHG's in Promoting Entrepreneurship Among Tribal Women in Kerala

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Abstract

Self Help Group plays a significant role for promoting entrepreneurship and economic empowerment among marginalized population of tribal women. This study investigates the impact of SHG in fostering entrepreneurial activities among tribal women in Kerala. The study also examines how SHGs contribute to economic inclusion, skill development programs and market accessibility during addressing socio-economic challenges. SHG can evaluate their influence on entrepreneurial success by analyzing key dimensions such as awareness and training, challenges of SHG, Performance evolution, marketing issues, health & wellbeing, microfinance effect and digital transformation. The study also explores the significant role of government policies, private sectors (non-governmental organizations) and community participation in increasing SHG based initiatives. These findings shows that SHGs offers financial support, act as a platform for social empowerment, capacity development and enhancements of sustainable business. However, challenges like insufficient funding, minimal market linkages and digital literacy gaps remains a major obstacle. The study recommends that policy measures and strategic measures to improve the effectiveness of SHGs in promoting sustainable entrepreneurship among tribal women. The research provides insights that can support policymakers, development agencies and stakeholders in designing inclusive program. These will empower tribal women and promotes socio-economic developments in Kerala. Moreover, the analytical framework utilizes both primary and secondary data sources to enhance strength of analytical framework and guarantee reliability of the results. The analysis of SHG participation in terms of quantitative data with the help of statistical methods (regression and correlation) indicates that SHG membership positively affects entrepreneurial activity and the income level in a quantifiable way. The results also highlight that the continuous training, enhanced market connection, and digital literacy programs are necessary to increase long-term sustainability. In general, the research offers a piece of empirical evidence proving the impact of SHGs as a driver of inclusive development and socio-economic change between tribal women in the Kerala region.

Keywords: Tribal Women, Self Help Groups, Economic Empowerment, Financial Inclusion, Entrepreneurship, Skill Development.

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Introduction

Self Help Groups have become a foundation for socio-economic growth in rural and tribal regions. They provide a collaborative approach to defeat financial and social challenges, therefore empowering marginalized groups for women. SHG has become a successful tool for fostering entrepreneurship among tribal women, promoting self-supporting and contributing to the economic developments of these communities in Kerala. Nowadays SHG are increasing across all the regions and being instrumental in increasing women's access to resource, financial services and business opportunities. This will enable SHG to become prominent contributors to the domestic economy. The Kudumbashree program is one of the most important example of SHG based empowerment in Kerala (Jena & Swain, 2022; Kulkarni et al., 2022; Bhaskar & Yadav, 2025). The program has significantly boosted involvement of women in entrepreneurship, creating a strong foundation for women's social and economic empowerment. Tribal women can access microfinance, develop essential entrepreneurial skills through collective action which they can apply in various business initiatives. SHGs can help tribal women to overcome the restrictions placed by gender traditionalism, promoting economic involvements and leadership in their communities (Raj & Vaish, 2023). The author's highlights that whenever women can go down in socio-economic domain and find a new way for their growth and development through SHGs.

SHGs act as a foundation to pass the gap between Convolutional occupations and modern entrepreneurial practices. The tribal women participation in SHGs in the Nilgris region and improved their lives (Ranjithkumar & Dimitrov, 2023). Tribal women have gained access to training, financial resources and a network support through SHGs (Sahu et al., 2024; Rafi et al., 2024). According to tribal women gets financial support through SHG, apart from that they have also perceived critical social empowerment and they actively participate in the decision-making processes within their family members and communities (Rasheed, 2025; Lakhawat et al., 2024). SHGs have also introduced the way for women to become leaders within their communities and overcoming challenges that historically confirmed them to household responsibilities (Aggarwal et al., 2021; Pazhoor & John, 2024). SHG succeeded in empowering tribal women but still several challenges are being continued (Tripathi et al., 2025). Key hurdles such as limited market access, insufficient training in entrepreneurship and limited knowledge of digital literacy, which blocks the growth of SHG-led enterprises (Pandhare et al., 2024; Prasanth & Balasubramaniam, 2024). These challenges stop tribal women from developing their businesses and achieving sustainable economic success. The research recommends the needs such as enhanced support system in the market linkages, business membership and digital literacy programs while SHGs offers significant financial and social capital. The full potential of SHGs in fostering entrepreneurship among tribal women can't be realized without these interventions (Amritha et al., 2024; Mahato et al., 2023).

This study aims to examine the role of SHG in fostering entrepreneurship among tribal women in Kerala (Arjun & Subramanian, 2025). It focuses on the success achieved by SHG and challenges that need to be addressed. It will also explore the diverse nature of SHG-led entrepreneurship such as social, financial and skill-based empowerment of tribal women (Alka et al., 2023). This study seeks to offer awareness into how these groups can be further strengthen to promote sustainable entrepreneurial ventures by examining the experiences of SHGs in Kerala (Yadav et al., 2024; Reddy & Naik, 2025). This research provides findings that could inform policy recommendations and contribute to the development of strategies for enhancing the impact SHGs on tribal women's entrepreneurship.

The remainder of this study is organized as follows. The second section 2 includes the review of the related literature on Self Help Groups, women empowerment, and entrepreneurial development. Section 3 explains the research methodology, which comprises of the research design, data collection methods and the tools that will be used in the analysis of data. Section 4 gives the results and discussion derived as a result of the empirical analysis. Lastly, Section 5 is the final part of the study, where key findings, implications, and future research suggestions have been made.

Need for the Study

To critically analyze the level to which self-help programs have contributed to the advancement of entrepreneurship among tribal women in Kerala. To determine the effect of SHG-managers entrepreneurship to economic independence and social mobility of tribal women living in marginalized societies. To find best practices and main issues that tribal women entrepreneurs have to deal with in SHG structures. To deliver empirical data which can be used to inform policy interventions, program designs, and capacity-building interventions aiming at tribal development and empowering women. To put forward the academic debate on inclusive development with the help of foregrounding the voices and experiences of tribal women in the great story of rural entrepreneurship.

Statement of the Problem

Tribal women in Kerala are grappling with socio-economic hindrances in their own business and independence even after a number of government and non-government programs. Kerala has a wider spread of tribal communities which are rich in traditional knowledge and resources, but they are economically marginalized due to the limited access to quality education, markets and financial institutions. SHGs have the potential to be a very transformative platform for instilling and nurturing the entrepreneurship among the tribal women but the same has not been experimented or documented in a systematic manner in Kerala. While there are many studies on SHGs in the context of rural development, there is a lack of literature on their economic and social empowerment of tribal women specifically, indicating a research gap. With limited availability of the data, we do not know how far SHGs have helped tribal women in the skill development, income generation, and sustainable livelihood opportunities in the diverse tribal belts of Kerala.

Objectives of the Research

The Primary objective of the research is to examine and evaluate the role of SHGs is increasing the entrepreneurship and encouraging socio-economic improvement in the Kerala tribal women.

The Secondary objectives of the study are listed one by one,

1. To analyze the effect of SHGs on the Health and wellbeing of the tribal community peoples.
2. To find and analyzing the Challenges, Performance, Marketing issues faced by SHGs to support the tribal women entrepreneurial activities.
3. To decide the level of awareness and training by SHGs members for their entrepreneurial and financial illiteracies.
4. To evaluate the impact of the micro initiatives and examine the roles of digital transformation in SHGs.
5. To evaluate the Skills earned by the tribal women by participating in the Self-Help Group activities and to access the contribution of SHGs in development of the tribal women economic empowerment.

Hypothesis

$H_{1.1}$: Health and well-being have no impact on entrepreneurial activities

$H_{1.2}$: Challenges of SHG have no impact on entrepreneurial activities

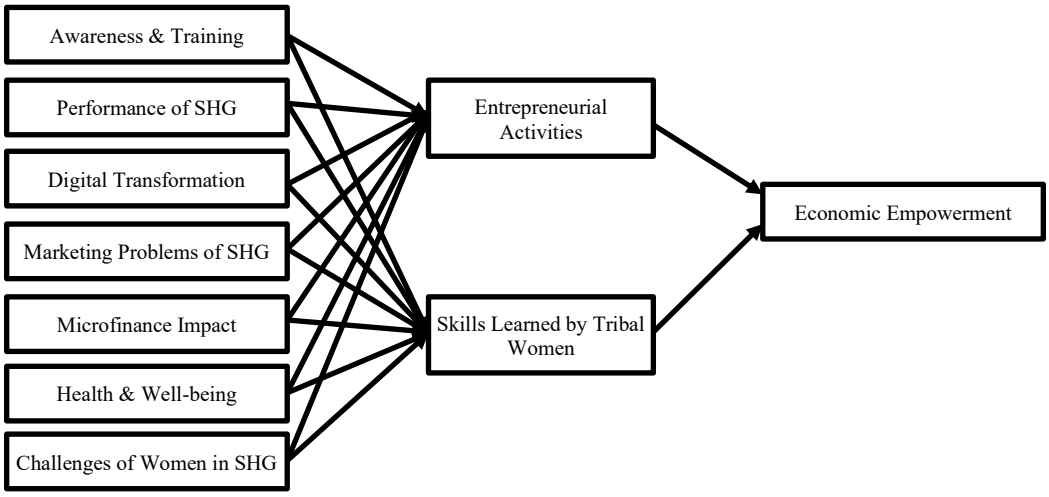
$H_{1.3}$: Performance of SHG has no impact on entrepreneurial activities

$H_{1.4}$: Marketing Issues has no impact on entrepreneurial activities

$H_{1.5}$: Microfinance Impact has no impact on entrepreneurial activities

$H_{1.6}$: Awareness and training have no impact on entrepreneurial activities

$H_{1.7}$: Digital Transformation has no impact on entrepreneurial activities



Research Methodology

The current study will take the form of a structured research design that incorporates exploratory research design, descriptive research design, and causal research design in order to carry out a thorough study on the role of Self Help initiatives in entrepreneurship and tribal women on the state of Kerala.

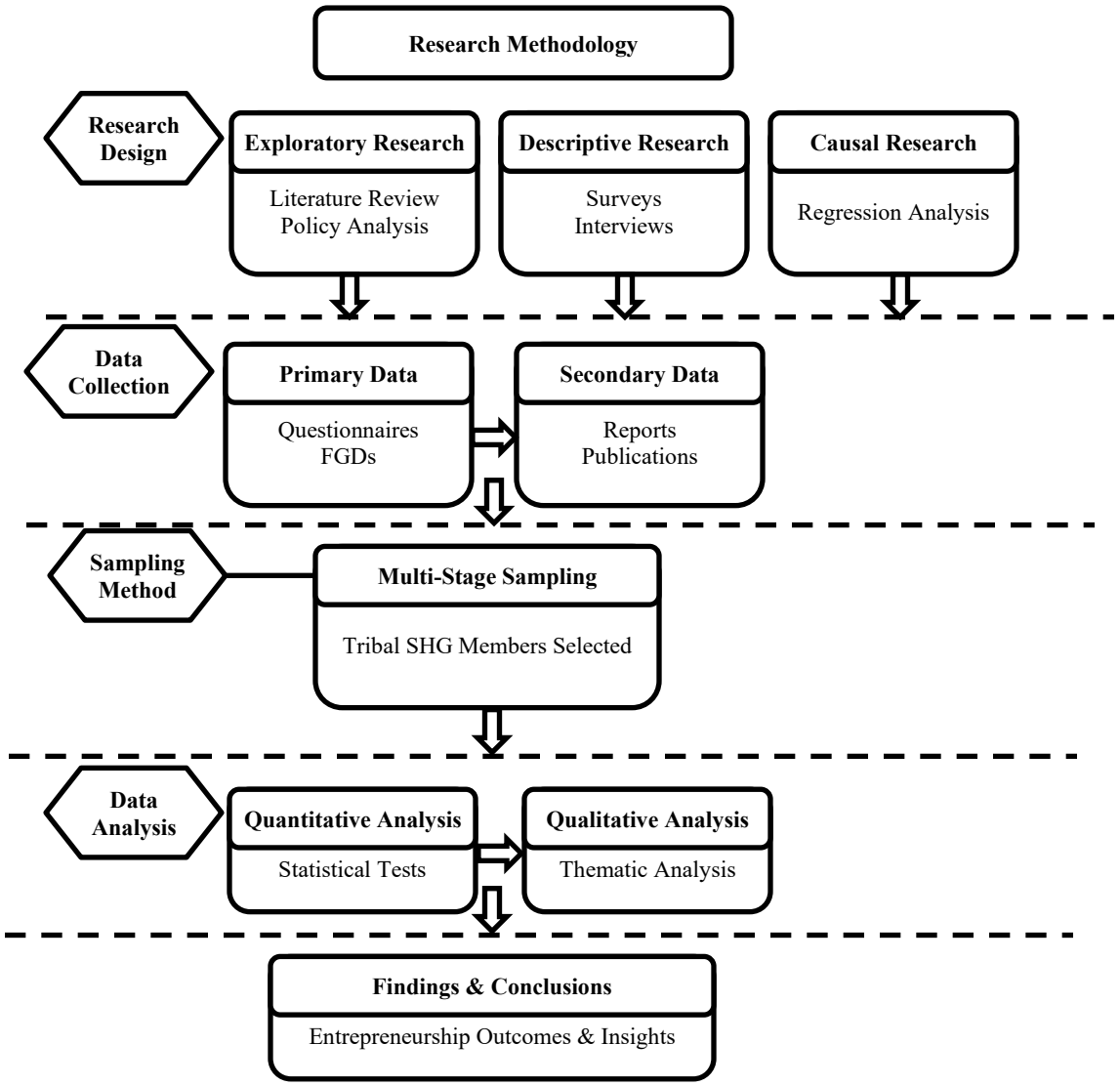


Fig. 1: Research Methodology Flowchart

Fig. 1 shows the general research process to be used in the current study to determine the role of Self-Help Groups (SHGs) in encouraging entrepreneurship in tribal women in Kerala. The study starts with research design which is an combination of exploratory, descriptive and causal research design aimed at offering a holistic view over the topic. The exploratory phase entails a comprehensive literature and policy review in order to determine important constructs and research variables. The descriptive phase is aimed at gathering the primary data by the use of structured questionnaires, interviews, and focus group discussions with tribal women belonging to SHGs and secondary data are collected in the reports, journals and institutional publications. To sample the respondents, a multi-stage sampling is applied to various tribal settlements. The collected data is then analyzed using both quantitative techniques such as statistical tests and qualitative methods such as thematic analysis. Finally, the results lead to findings and conclusions that explain the influence of SHGs on entrepreneurial development, economic empowerment, and social inclusion among tribal women.

1. Research Design and its Applications

a) Exploratory Research

- Carried out in the form of an extensive literature review based on the literature on Self Help Groups (SHGs), the present-day policy documents, and reports concerning the knowledge of the Self-Help Groups in the context of women entrepreneurship and tribal development in Kerala.
- The objective was to discover the main aspects that affect the participation of tribal women in entrepreneurship and how SHGs contribute to making it possible.
- Helped to formulate applicable constructs to be used in the future of empirical research.

b) Descriptive Research

- Involved the development of a systematic research tool (questionnaire/interview schedule) to gather primary data among tribal women that belong to SHGs.
- Concentrated on the measurement of socio-economic background, SHG participation, and entrepreneurial activities, the availability of the resources, and outcomes.
- Incorporated the development and research of hypotheses based on theoretical understanding and conceptual frameworks.
- Data analysis was done through the use of statistical tools to explain the trends, patterns, and relationship among the variables examined.

c) Causal Research

- Employed to test the conceptual framework developed to establish the causal relationship between SHG participation and entrepreneurial success among tribal women.
- Regression analysis and other relevant inferential statistical methods were used to determine the influence of SHG support on various entrepreneurial outcomes such as income generation, self-efficacy, and market access.

2. Data Collection Methods

Primary Data

Gathered through structured questionnaires and interviews that were conducted on the selected tribal women who are involved in SHG-led entrepreneurial activities in the selected districts in Kerala.

The data collection process was complemented by the focus group discussion (FGDs) and key informant interview (KIIs) conducted with the leaders of SHGs, NGO workers, and government officials.

Secondary Data

Obtained through the governmental reports, academical journals, and non-government-organization reports, databases concerning SHG activities, tribal welfare, and entrepreneurship development in Kerala.

3. Sampling Method

Multi-stage sampling method was used to choose the tribal women who are members of SHG in various tribal settlements.

The selection criteria were membership of SHGs, participation in income generating activities and geographical distribution in Kerala.

4. Tools for Analysis

Data analysis was done in both qualitative and quantitative methods.

Hypotheses were tested and the conceptual framework was proved through descriptive statistics (mean, percentage, standard deviation) and inferential statistics (chi-square tests, correlation and regression analysis).

Thematic analysis was used to interpret qualitative data from interviews and Focus Group Discussions.

Analysis and Discussion

The variables used in the statistical analysis were derived from the conceptual framework and mathematical model presented in the methodology section, which guided the examination of the relationship between SHG participation

and entrepreneurial activities among tribal women. Both quantitative and qualitative approaches are used for data analysis process in this study and also reflecting the mixed methods design. The purpose of this study is to identify trends, correlations and patterns from the survey and interview-based data to know the role of self-help group in promoting entrepreneurship among tribal women in kerala.

The current research on the topic of The Role of Self-Help Group in Promoting Entrepreneurship Among Tribal Women Particularly in Kerala is organized in the following dimensions. These are conceptually based factors emerging out of conceptual model and play a key role in the perception of SHGs impact on development of entrepreneurship and economic empowerment of women in the tribal setting.

- **Statistical Details and Hypothesis Testing**

Operating on the test of determining the impact of Self Help Group (SHG) related factors on entrepreneurial development in tribal women, the study has used multiple regression analysis and hypothesis testing. Such statistical methods are used to establish the intensity and the value of association between the independent variables and outcomes of entrepreneurship.

The following statistical indicators were used in the analysis:

1. **Regression Coefficients (β_1–β_8):** Establish how individual independent variables impact on entrepreneurship practices.
2. **Coefficient of Determination (R^2):** Indicates the proportion of variance in entrepreneurial activities explained by the independent variables.
3. **Adjusted R^2:** Adjusted R^2 gives a corrected value of model fit based on the number of predictors.
4. **F-test:** General tests the statistical significance of the regression model.
5. **t-test:** The statistical significance of every regression coefficient.
6. **p-values:** Test the probability of the relationship that has occurred as a result of chance.
7. **Standard Error (SE):** It is a parameter that describes the difference in the estimates of the coefficients.

Such statistical indicators make the obtained empirical results of the study reliable and reproducible.

- **Hypotheses Tested**

The study formulated the following null hypotheses to examine the relationship between Self Help Group (SHG) related factors and entrepreneurial activities among tribal women.

- **H01:** Awareness and Training have no significant impact on entrepreneurial activities.
- **H02:** Performance of SHGs has no significant impact on entrepreneurial activities.
- **H03:** Digital Transformation has no significant impact on entrepreneurial activities.
- **H04:** Marketing Issues have no significant impact on entrepreneurial activities.
- **H05:** Microfinance Impact has no significant impact on entrepreneurial activities.
- **H06:** Health and Well-being have no significant impact on entrepreneurial activities.
- **H07:** Challenges faced by women in SHGs have no significant impact on entrepreneurial activities.

To answer these hypotheses, a regression analysis was employed to establish whether SHGs participation and associated socio-economic variables are significant determinants of entrepreneurial development of tribal women.

- **Model Performance Metrics**

Other than the regression coefficients, a number of statistical indicators were used to determine the performance of the regression model. These comprise coefficient of determination (R^2) and Adjusted R^2 that estimate the per cent of the variance of activities of an entrepreneur that the independent variables explain. The F-statistics was applied in order to evaluate the general significance of the regression model with t-statistics and p-values applied to evaluate the statistical significance of each of the predictors. These statistical indicators will be a good assessment of the explanatory power of the model, but it ensures the strength and validity of the findings empirically.

1. Awareness & Training

This dimension alludes to the importance of awareness generations and skills-based training initiatives by the SHGs. These initiatives aim to develop entrepreneurial know-how for tribal women through capacity-building interventions like financial literacy, business planning and leadership development. The goal is to build confidence and knowledge in women so they can start and run microenterprises successful as shown in table 1.

Table 1: Awareness & Training

Variables	Mean	SD
Training program helps in building confidence of the group members.	4.37	0.738
Training program helps to improve active participation in group activities	4.15	0.743
Training programs help to maintain books of records of the groups	4.5	1.016
Training helps to improve saving habit of the group members.	4.5	0.715
Training helps to manage internal conflicts in the group	4.29	0.768
Training helps in better management of group funds	4.31	0.753

2. Performance of SHG

The entrepreneurial success of members strongly depends on how SHGs are performs and how efficient they are. This dimension evaluates factors like the cohesiveness of the group, transparency, leadership dynamics, and mobilization of resources. Table 2 illustrate the well-functioning SHGs play a role of enabling environment and enhancing the learning, mutual accountability, and sustainable business practices among the tribal women entrepreneurs.

Table 2: Performance of SHG

Variables	Mean	SD
This SHG manages group properly	4.07	0.87
Regular meetings are organized	4.05	0.921
Regular monitoring of the group and its activities is done.	3.92	0.945
SHG contribute to decision making	4.12	0.847
SHG helps in making repayment of loan on time	4.12	0.834
SHG maintains accounts record regularly	4.09	0.803
SHG helps in problem solving of group	4.12	0.867
SHG contribute in marketing activities of group	4.18	1.053
SHG sanction sufficient amount of loan for members	4.21	0.901
Sanction of loan to members by SHG is complicated	3.9	1.264
SHG provide sanctioning assistance	4.29	0.936
Lot of documents required at the time of loan sanction	4.05	1.133
SHG makes loan available on time for members	4.2	0.946
Interest charges from borrowings in the group by SHG	3.99	1.188
Recovery of loan by the SHG if any member is not paying on time	4.2	0.916

3. Digital Transformation

Digital transformation refers to how the members of the self-help group adopt and use the technology that facilitates digital literacy for mobile banking, digital payments, online marketing and e-commerce platforms. Table 3 highlights the digital literacy rates of tribal women and their ability to integrate technology in their processes and working. Adopting digital tools can improve outreach, efficiency, and competitiveness in today's markets.

Table 3: Digital Transformation

Variables	Mean	SD
Generation of various MIS (Management Information System) reports that can be perused by Financial Institutions for extending credit facilities.	4.28	0.908
Ensures transparency as there is digitally generated proofs for every decision to be made at both ends.	4.29	0.819
Permits linkage of SHGs with Government programs	4.09	1.058
Fulfillment of Financial inclusion agenda at macro level	4.44	0.814
Reliable and authentic information for quick decision making which nullifies the chances of turning the loan into a bad one.	4.25	0.831
Self Help Groups can plan for future activities readily when funds are available as and when required thus paving way for social progress and economic development.	4.28	0.79

4. Marketing Problems of SHG

SHG-led tribal enterprises face many marketing-related challenges which constrict its growth further. This aspect is to do with the challenges in terms of marketing the product, branding, pricing, and reaching larger markets offline and online. Undefined market linkages and low exposure further limits profitability leading to unsustainable growth that depends on a deeper understanding and need for strategic guidance shows in table 4.

Table 4: Marketing Problems of SHG

Variables	Mean	SD
Absense of distribution network	4.28	.910
Poor product training	4.27	.837
Poor product idea	4.11	1.021
Absense of quality inspection	4.35	.987
Logistics and transportation problem	4.22	.851
Unaware of social media platform	4.20	.940
Poor credit system	3.95	1.285
Non-specific pricing technique	4.18	.959
Absense of promotion	4.25	.873
Non-standardise product quality	4.21	.824

5. Microfinance Impact

One of the major features of SHGs is microfinance, which provides access to small, collateral-free loans. This dimension assesses how financial inclusion drives women's ability to start or expand business activities. Table 5 provides further assesses credit accessibility as a province towards decreasing economic dependency and promoting entrepreneurial independency for ST women.

Table 5: Microfinance Impact

Variables	Mean	SD
Microfinance has increased the Monthly income	4.20	.931
Microfinance has increased the Monthly saving	4.29	.994
Assets creation (Purchase of land, animals, jewelry etc)	4.17	1.004
Decision making power regarding economic matters of the family	4.01	.934
Improvement in standard of living	3.82	.994
Greater ability to go alone for marketing	4.04	.881
Decision making power regarding education, medical, marriages of the children	4.05	.876
Free to make decision regarding the general welfare of the family	3.96	1.011
Power to spend on self	3.78	.996

6. Health & Well-being

Tribal women empowerment is the key to capture the corporate towards entrepreneurship developments. In table 6 dimension looks into health awareness through access to services and social support. Well-being in overall also boosts productivity and keeps business activities running smoothly; therefore, it preserves business in an entrepreneurial journey.

Table 6: Health & Well-being

Variables	Mean	SD
Sending children (both girls and boys) to school more regularly,	3.54	.983
Improved nutrition in the household,	3.60	.984
Taking better care of health and hygiene of their children,	3.55	1.008
Taking care of other group members in time of health and psychological crisis.	3.76	.960
Helping in social functions like marriage.	3.89	.997

7. Challenges of Women in SHG

In this dimension, CBLP shows the socio–cultural, economical, and institutional constraints hinders the complete participation of tribal women in SHGs. Factors including mobility constraints, patriarchal norms, limited education and poor infrastructure are explored in table 7. Knowledge of these challenges is required to create inclusive strategies to strengthen the role of SHGs in the empowerment of tribal women entrepreneurs.

Table 7: Challenges of Women in SHG

Variables	Mean	SD
Lack of self – confidence	3.12	1.272
Society feels that the skill imparted to a girl is a waste	2.97	1.268
Lack of encouragement from family and society	2.92	1.295
Non-Co-Operative attitude of husband and family members	3.05	1.312
Lack of recognition and appreciation from the member of the family	3.10	1.341
Less chance of mobility for women	3.02	1.196
Lack of Sufficient time to look after children / husband	2.91	1.183
Lack of sufficient time to attend family / social functions	2.80	1.226
Lack of sufficient time to look after household activities	3.00	1.234

8. Skill Earned by Tribal Women

This includes technical training, soft skills training, product-making skills, financial management skills, communication skills, leadership skills, etc. Tribal women need to be trained to acquire skills in relation to their venture, which will enable them to begin with their business and help them manage and grow their businesses independently shows in table 8.

Table 8: Skill Earned by Tribal Women

Variables	Mean	SD
How has participation in SHGs enhanced the confidence of tribal women in making independent decisions?	4.02	.961
In what ways has SHG involvement improved tribal women's ability to speak in public gatherings?	4.05	.859
How have SHG activities contributed to the overall skill development and capacity building of tribal women?	4.08	.876
How do SHGs facilitate market linkages for tribal women to sell their products and services?	4.15	.865
How has SHG participation helped tribal women in understanding and performing banking transactions effectively?	4.07	.821

9. Mathematical Representation of the Model

The study assumes a quantitative analysis of multiple regression analysis to analyze the relationship between the participation of Self Help Group (SHG) and entrepreneurial development of tribal women. The mathematical input can be used to determine the level to which various SHG-related variables can determine entrepreneurial operations and economic empowerment.

Take the dependent variable to be Entrepreneurial Activities (EA) of tribal women in SHGs. The independent variables affecting the activities of the entrepreneurs are Awareness and Training, Performance of SHGs, Digital Transformation, Marketing Issues, Microfinance Impact, Health and Well-being, Challenges faced by women in SHGs, and Skills earned through SHG participation.

The regression model used in this study can be represented as follows:

$$EA = \beta_0 + \beta_1 AT + \beta_2 PS + \beta_3 DT + \beta_4 MP + \beta_5 MF + \beta_6 HW + \beta_7 CH + \beta_8 SK + \varepsilon$$

Where:

EA = Entrepreneurial Activities

AT = Awareness and Training

PS = Performance of Self Help Groups

DT = Digital Transformation

MP = Marketing Problems

MF = Microfinance Impact

HW = Health and Well-being

CH = Challenges faced by women in SHGs

SK = Skills earned by tribal women

β_0 = Intercept of the model

β_1–β_8 = Regression coefficients of the independent variables

ε = Error term

This model assesses the effect of various socio-economic aspects of SHG related to the development of entrepreneurship in tribal women. The regression parameters depict the strength and the degree of the relationship between each of the independent variables and the entrepreneurial results. The respective statistical tools were used to do the statistical tests on the hypotheses to determine how relevant these relationships were.

10. Behavioural Dimension of the Study

In addition to economic and institutional factors, the present study integrates behavioural dimensions associated with tribal women's participation in Self Help Groups (SHGs). Membership of SHGs usually affects behavioural norms like confidence development, ability to make decisions, leadership, monetary consciousness, and socialization. These behavioural characteristics are important in encouraging the tribal women to take up entrepreneurship activities and maintain micro-enterprise projects. Therefore, the study incorporates behavioural indicators within variables such as awareness and training, skills earned, health and well-being, and challenges faced by women in SHGs. The study of these dimensions of behaviour allows developing a more profound insight into the contribution of SHG participation to both the economic development and psychological empowerment and entrepreneurial motivation of tribal women.

11. Comparative Analysis with Prior Studies

To determine the relevance of findings, the present research findings were compared to the past research on Self Help Groups (SHGs), and the subject of female entrepreneurship in India. These findings are similar to those of the past literature which has concluded that SHGs play a critical role in enhancing economic empowerment, financial inclusion, and participation by women in entrepreneurial ventures. To illustrate, as Pandhare et al. (2024) and George and Karunakaran (2024) researchers claim, access to microfinance, training, and group activities is highly effective in promoting independence and the ability to make decisions in an economic context in women. Equally, Pazhoor and John (2024) show how SHG-led entrepreneurial programs can be used to facilitate sustainable livelihood opportunities especially in the form of community-based enterprises in Kerala. The need to embrace financial literacy, institutional support, and digital engagement are also emphasized by other studies as the means of enhancing the entrepreneurial potential of women in SHGs (Arjun and Subramanian, 2025; Alka et al., 2023). These findings fall in line with other more general systematic reviews that consider SHGs as a plausible intervention of increasing gender equity, rural development and social-economic empowerment in India (Tripathi et al., 2025; Yadav et al., 2024). Nevertheless, their scale might be different in different regions because of the differences in socio-economic factors, institutional support systems, and the degree of digital and financial inclusion of tribal communities.

Result and Discussion

Table 9: Multifaceted Impact of SHGs on Tribal Women

S.No	Variables	No. of Items	Cronbach's Alpha (α)
1	Health & Wellbeing	5	0.918
2	Challenges of SHG	9	0.970
3	Performance of SHG	15	0.827
4	Marketing Issues	10	0.844
5	Microfinance Impact	9	0.730
6	Awareness and training	6	0.855
7	Digital Transformation	6	0.808
8	entrepreneurial activities	7	0.907
9	skills earned by tribal women	5	0.822
10	Economic Empowerment	11	0.926

Table 9 used ten variables to determine the multifaceted effect of SHGs on tribal women where each shows high internal consistency with a Cronbach Alpha of between 0.730 and 0.970. The health, economic empowerment, digital transformation, and microfinance are some of the notable areas under the scope of study. Other variables with high

reliability were SHG challenges (0.970) and economic empowerment (0.926). This is a powerful scale design that qualifies the conceptual framework of the study to be conceptually valid.

- **Visual Validation of Results**

Graphic representations were employed to explain any relationship between the major variables under study to make the statistical results more readable and reproducible. Visual analysis assists in the more comprehensive interpretation of the distribution and relative meaning of the factors that affected the activities of entrepreneurship amongst tribal women.

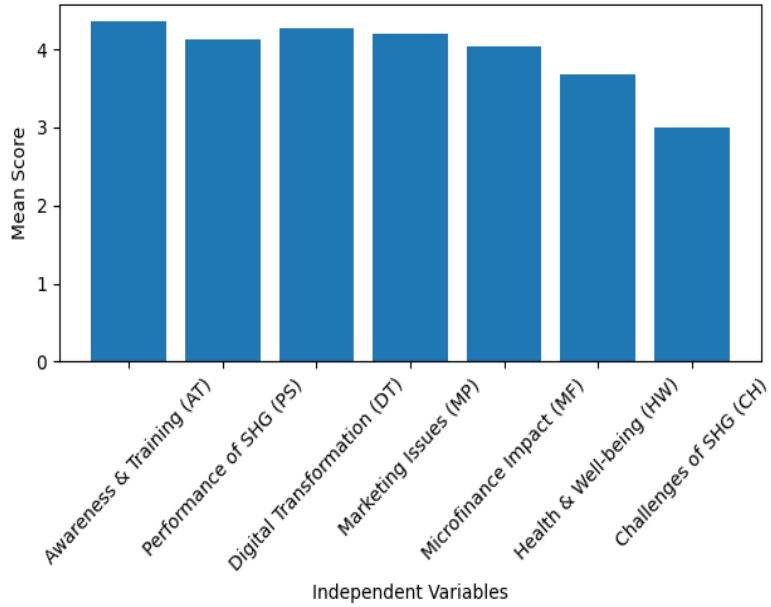


Fig. 2: Mean Scores for Each Independent Variable

Fig. 2 shows the average scores of the individual independent variables, which are Awareness and Training (AT), Performance of SHG (PS), Digital Transformation (DT), Marketing Issues (MP), Microfinance Impact (MF), Health and Well-being (HW), and Challenges of SHG (CH). The chart gives a relative illustration of the perceived relative importance and perception of these factors amongst the respondents.

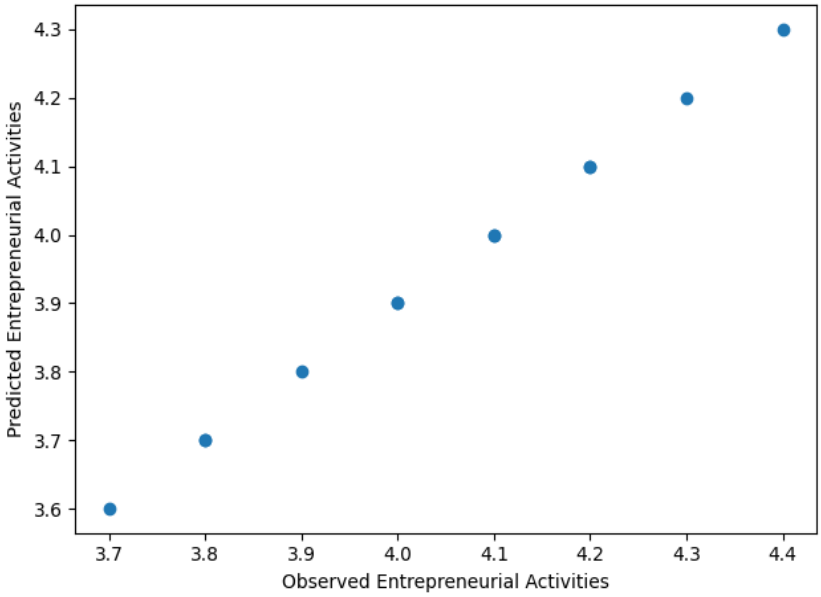


Fig. 3: Predicted vs Observed Entrepreneurial Activities

The comparison of the predicted and observed entrepreneurial activities when using the regression model is shown in fig. 3. Such a graphical image assists in evaluating the intensity of the relationship among the independent variables and entrepreneurial results as well as presents a graphical confirmation of the predictive efficacy of the model. These graphical images are complementary to the statistical analysis because they illustrate the results in a form comprehensible to a graph, which enhances the clarity and strength of the empirical data.

- **Review of Related Literature**

Mahato.T & Jha M.k (2024) conducted the study of SHGs in enabling agricultural tribal women in Jharkhand, India and expose significant advancements in self–confidence, independence and standard of life after contribution. The results emphasize the importance of SHGs in attend to psychological empowerment among women from scheduled tribes in one of the India's below standard states.

Mahato & Jha (2024) examine the concussion of SHGs under the National Rural Livelihood Mission (NRLM) on the political empowerment of rural tribal women in Jharkhand, India. Based on primary data gathered by multistage random sampling and computed by utilizing the tendency score matching in STATA, the research establish substantial positive shifts in women access to voting rights, awareness of government scheme political participation, election campaigning and leadership positions. This research is a missing link in comprehending the role of SHGs in the political empowerment of tribal women that give meaningful insights to policy-makers, practitioners and researches.

The article by Rasheed and Keshlata (2024) compares the efficacy of the Pradhan Mantri Matri Vandana Yojanna (PMMVY) regarding maternal health among tribal women in Poonch district. The study examines the impact of such variables as age, education and cultural traditions on awareness, access to and implementation of the program. Though most of the respondents (70) had heard about PMMVY, half of them had tried its benefits, indicating barriers to full participation. Women who were younger and more educated were more aware and perceived better benefits. The study highlights the significance of culturally sensitive connect and recommends customized techniques to improve the programs reach and impact on maternal health in tribal areas.

Upadhyay and Dagar Upadhyay Solanki (2024) carried out research on the limitation encountered by tribal women in enterprise livelihood activities in three Rajasthan districts of India. These areas were selected for their huge tribal population. The study found that tribal women face countless protest in securing a sustainable livelihood, including lack of education, motivation, negative attitudes towards technology, inadequate transportation, faraway to markets, inadequate storage facilities and difficult loan procedures with high interest rates. These aspects are a big hindrance to their involvement in business, which affects their economic status and living standards.

Raj A and Vaish A (2023) discusses how SHGs can empower women and increase Bihar by inclusive finance. SHGs have significantly impacted the socio-economic empowerment of women by challenging existing public standard and give strength to their financial adequacy. Through these groups women gain access to economical resources, which help them to break the cycle of poverty and contribute to the economic development of the nation. The study emphasizes that SHGs facilitate women's engagement in financial activities building community institutions and connecting them with development initiatives thereby improving their quality of life.

In recent studies, it is also emphasized that the role of digital literacy and technological adoption in empowering SHG-based entrepreneurial practices is increasing. Alka et al. (2023) note that digital technologies and online platforms are increasingly being influential factors in determining entrepreneurial opportunities of rural women, which enables them to have access to markets, make digital payments, and even share information. On the same note, Arjun and Subramanian (2025) indicate that the engagement in SHG-led microfinance activities greatly increases the financial literacy of women that subsequently increases their capabilities in dealing with business-related issues and making financial decisions.

The research on community development and tribal economies also emphasizes on the institution of SHGs in the empowerment of socio-economic systems. Prasanth and Balasubramaniam (2024) studied that economic institutions of the tribal societies are highly influential in determining the livelihoods and the management of resources. Likewise, Reddy and Naik (2025) discuss how tribal communities are undergoing economic transitions through new development paradigms, which include entrepreneurship, financial inclusion, and community-based economic initiatives.

In addition, the combination of training, digital, and community involvement has been noted to be a key social change driver. Amritha et al. (2024) note that training programs under SHG facilitated by humanitarian technologies can significantly contribute to empowering women by increasing their skills and knowledge, as well as inclusion, and inclusion. Similarly, Yadav et al. (2024) state that SHGs assist in addressing other developmental problems such as

poverty alleviation, economic empowerment of women and women inclusion in the economy, which are realized by way of collectivism.

Even though an extensive literature on SHGs and women empowerment is accumulating, scant knowledge exists on how various socio-economic and institutional determinants, which include awareness and training, access to microfinance, digital transformation, marketing issues, and health-related reasons combinedly affect the development of entrepreneurial activities among tribal women. Especially, the studies devoted to the importance of digital literacy and technological adoption in SHG-based entrepreneurship in Kerala are rather sparse. Thus, the current study tries to fill this research gap by analyzing the joint effect of SHG-related variables on the entrepreneurial behavior of tribal women in Kerala.

Findings

1. Economic Empowerment: SHGs have significantly enhanced the financial status of tribal women, especially with increased savings habits, access to microcredit, and generation of income through small-scale ventures, yet challenges still prevail in terms of limited access to markets and weak infrastructure.
2. Social Inclusion & Confidence: Previously withdrawn women are now actively engaged to develop leadership, communication and decision-making skills to flourish in family and social participative roles.
3. Skill & Capacity Gaps: Even though members are earning revenue, they don't have the proper training in production, marketing, or financial management, leaving them with inadequate entrepreneurship skills to scale their products.
4. Market & Infrastructure Challenges: Poor distribution networks, lack of access to larger markets, and unknowing with new-age marketing tools are hurdles to effective commercialization of SHG products.
5. Community Cohesion & Well-being: SHGs foster solidarity, improved health consciousness, educational commitment and emotional support, greatly improving the social and psychological well-being of members and their family.

Suggestions

1. Capacity Building & Financial Literacy: Offer regular training on finance, marketing, and leadership. Simplify materials and improve banking awareness to prevent exploitation.
2. Market Access & Digital Inclusion: Trade fairs, e-markets, and sales platforms from Link SHGs. Promote digital tools, mobile banking, and digitized record-keeping.
3. Leadership & Gender Sensitivity: Train women in leadership, conflict resolution, and participatory management. Conduct awareness programs to challenge patriarchal norms.
4. Diversification, Health & Education: Encourage SHGs to explore eco-tourism, agribusiness, and services. Promote health camps, adult education, and school support for children.
5. Networking, Governance & Sustainability: Connect SHGs to federations for wider influence and learning. Ensure monitoring, environmental practices, and long-term policy support.

Conclusion

By providing these opportunities, Self Help Groups (SHGs) have become an important means of promoting tribal women entrepreneurship in Kerala. Their training, microfinance, and consensual community support break through socio-economic barriers. SHG performance marketing challenges digitalization economic empowerment and health are the key aspects of this study. They play a pivotal role in determining the success of SHG-led enterprises. But problems such as digital illiteracy, a lack of financial support, and weak market access remain. Targeted policies, specialized training and digital incorporation can address these and enhance the effectiveness of the SHGs. Support women members by government initiatives and private partnerships. However, change can also be instilled by strengthening the SHG frameworks that will lead to sustainable and economic contributions of tribal women in the long run. The statistical analysis of the study also confirms the great impact of SHG-related variables on the entrepreneurial activities with high reliability scores (Cronbach alpha score between 0.730 and 0.970) indicate the high internal consistency between the constructs. The findings of the regression indicate that the awareness and training, access to microfinances, and digital transformation have a positive influence on the outcome of

entrepreneurship, whereas marketing issues and socio-cultural influences have a negative impact on the growth potential. The results highlight that to have sustainable development, it is necessary to increase institutional support, financial accessibility, and the strength of digital infrastructure. Further investigation of the specifics of comparative research in regions and the development of more sophisticated digital interventions can be the focus of future studies to enhance the effectiveness of SHG.

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