

Pathways to Growth: Assessing SHG Contributions to Skill Development and Business Outcomes in Women-Led Ventures in Tribal Area

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Abstract : *This study investigates the multifaceted role of Self-Help Groups (SHGs) in influencing business success, skill development, and entrepreneurial attitudes among women entrepreneurs, particularly those in rural and underserved areas. SHGs, which function as community-based financial and support networks, are designed to promote economic empowerment and self-sufficiency among their members. While SHGs are widely recognized for providing essential training and resources, the extent of their impact on actual business success and entrepreneurial outlook remains a topic of debate. This study focuses on understanding how SHG participation influences business outcomes, skill enhancement and shifts in entrepreneurial mindset of tribal women. Using a mixed-method research approach, data was collected through surveys and semi-structured interviews from women-led ventures in tribal regions. Quantitative data was analysed to assess correlations between SHG membership and key business performance indicators, including profitability, sustainability, and scalability. Qualitative insights provided context to these findings, revealing the lived experiences and perceptions of women entrepreneurs regarding their SHG participation. The results highlight a dual effect: SHGs have a significantly positive impact on skill development, with members reporting increased financial literacy, improved business management skills, and greater confidence in their entrepreneurial capabilities. The study concludes by recommending targeted enhancements to SHG programs, including advanced business training and greater access to diversified funding sources, to better support long-term entrepreneurial resilience. The findings underscore the need for a more robust SHG model to support sustainable growth and independence, ultimately suggesting a comprehensive approach that aligns with the evolving aspirations of women entrepreneurs in underserved areas.*

Keywords: Bitcoin, Cointegration, Cryptocurrency, Ethereum, GARCH, Granger causality, Sensex, Spillover effect

INTRODUCTION

The Self-Help Group (SHG) model has emerged as a pivotal framework in promoting economic empowerment, particularly among women in underserved and rural communities. SHGs serve as grassroots organizations, typically composed of a small number of individuals who pool resources and support each other financially and socially, aiming to foster economic independence. This model has gained traction because it addresses fundamental challenges women face in establishing and sustaining businesses, such as limited access to credit, financial literacy, and business management skills (NABARD, 2017). The promise of SHGs lies in their ability to provide essential resources, financial support, and skill-building opportunities to their members, fostering both entrepreneurial success and self-reliance. Through shared resources and collaborative learning, SHGs enhance their members' capabilities in areas like budgeting, resource management, and marketing (Kabeer, 2005). In this way, they create an environment conducive to launching and sustaining small enterprises, which can drive economic growth at the community level (Basargekar, 2010).

However, the act of SHG participation on business success, skill development, and entrepreneurial outlook remains ambiguous. While numerous studies highlight positive outcomes associated with SHG involvement—such as increased financial independence and social empowerment—other research reveals mixed results. In some cases, SHGs appear to foster a dependency on group resources rather than encouraging long-term business self-sufficiency. Additionally, the perceptions of women entrepreneurs toward the effectiveness of SHGs in fostering substantial and enduring business outcomes can vary, influenced by the socio-economic conditions and specific challenges of underserved areas (Kabeer, 2005).

This study seeks to bridge this gap by examining the effect of SHG participation on entrepreneurial experiences, skill development, and business success among women-led ventures in tribal regions. These areas present unique obstacles, including limited access to larger markets, restricted resources, and lower levels of formal education, which influence both SHG functionality and member perceptions (NABARD, 2017). By assessing SHG participations on immediate business success metrics, skill acquisition, and entrepreneurial attitudes, this study contributes to the literature on SHGs, providing recommendations to strengthen the model and enhance outcomes for women entrepreneurs in similar socio-economic contexts.

LITERATURE REVIEW

Research on Self-Help Groups (SHGs) has consistently demonstrated their potential to enhance the financial and social well-being of members, particularly women entrepreneurs. SHGs operate on the principles of collective savings and shared accountability, providing a mechanism for individuals with limited access to formal credit to gain financial support and social solidarity (NABARD, 2017). Numerous studies show that SHGs play a significant role in improving financial literacy, fostering skill development, and promoting small-scale business success among their participants. Through access to shared resources and training, members often gain valuable skills in budgeting, resource allocation, and basic entrepreneurial practices, which can improve their business outcomes and confidence in entrepreneurial pursuits (Swain & Wallentin, 2009).

However, literature also identifies several challenges that hinder the full realization of SHG benefits. Studies reveal that while SHGs can enhance immediate financial success and skills, they sometimes cultivate a dependency on group resources, which can impede the long-term sustainability of individual businesses. For instance, in regions where SHGs are the primary source of support, members may struggle to achieve independence from these groups, relying heavily on communal funds instead of building individual financial resilience (Bali Swain & Varghese, 2011). This dependency may create limitations in scaling operations or transitioning to more sustainable business models, particularly in tribal and underserved areas where external opportunities are scarce.

Additionally, while SHGs have a positive impact on skill development, their role in fostering a comprehensive and enduring entrepreneurial mindset has been questioned. Some studies highlight that participants may still face psychological and social barriers that affect their outlook on entrepreneurship. For example, some SHG members express neutral or even negative perceptions about their long-term business viability, questioning whether SHG involvement alone is sufficient for fostering true economic independence (Kabeer, 2005). These findings indicate that although SHGs improve immediate business outcomes, they may not always empower participants with a fully positive entrepreneurial outlook, particularly concerning sustainability.

The literature suggests that SHGs contribute positively to skill development and financial success in the short term but may fall short in promoting long-term business viability and fostering a wholly independent entrepreneurial mindset. This study seeks to build on these findings, examining the extent to which SHG participation influences both immediate business outcomes and lasting entrepreneurial perceptions, especially among women entrepreneurs in tribal regions.

Research Objective

The objectives of this study are as follows:

1. To examine the role of SHG participation in business success and skill development among women entrepreneurs, particularly in tribal regions.
2. To assess the correlation between SHG support and entrepreneurial attitudes in women-led ventures within underserved areas.
3. To test the hypothesis that SHG participation may impact perceptions of business viability and entrepreneurial experiences negatively or neutrally, depending on the entrepreneurial context and available resources.

Hypothesis

(H0) - Women entrepreneurs in Rajasthan's tribal areas do not perceive SHGs to have a significant impact on their businesses, skill development, and overall entrepreneurship experiences, resulting in neutral or negative attitudes and perceptions of SHGs.

(H1) - Women entrepreneurs in Rajasthan's tribal areas perceive SHGs to have a significant positive impact on their businesses, skill development, and overall entrepreneurship experiences, resulting in favourable attitudes and perceptions of SHGs.

Data Analysis and Results

The optimisation method employed is NLMINB, while the estimation method is Maximum Likelihood (ML). The analysis employs 34 free parameters and encompasses 500 observations. There was no scaled test conducted, and standard errors are reported in their standard form. After 43 iterations, the model achieved convergence. The model as specified posits that SHG Participation is a latent variable that is measured by four indicators (SHGP1, SHGP2, SHGP3, SHGP4), and Skill Development is another latent variable that is measured by seven indicators (SDTO1 through SDTO7). Furthermore, the model posits that the development of skills is directly influenced by the participation in a self-help group (SHG).

Table 1 - Model tests

Label	X ²	Df	p
User Model	982	43	<.001
Baseline Model	4959	55	<.001

The results of the model tests for assessing the fit of a statistical model are presented in Table 1. The "User Model" has a chi-square (X²) value of 982 with 43 degrees of freedom (df), resulting in a p-value less than 0.001, which suggests a substantial discrepancy between the observed data and the model. The "Baseline Model," which is employed as a comparison, has a significantly higher chi-square value of 4959 with 55 degrees of freedom and a p-value of less than 0.001. These findings indicate that the User Model is a superior fit to the data in comparison to the Baseline Model, despite the fact that both models are statistically significant. This is supported by the lower chi-square value.

Table 2 - Fit indices

		95% Confidence Intervals		
SRMR	RMSEA	Lower	Upper	RMSEA p
0.082	0.209	0.198	0.22	<.001

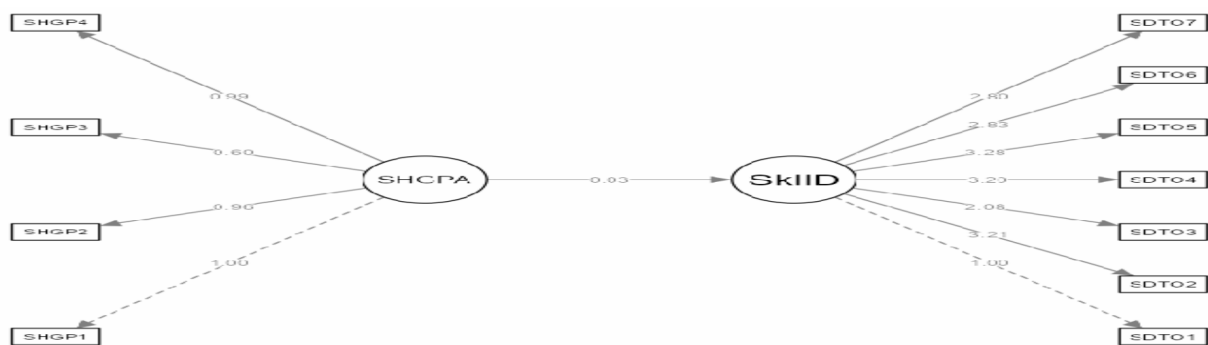
Fit indices are provided in Table 2 to assess the quality of a statistical model. The average discrepancy between the predicted and observed correlations is indicated by the Standardised Root Mean Square Residual (SRMR) of 0.082. The model's fit to the data is poor, as evidenced by the 95% confidence intervals of 0.198 to 0.22 and the Root Mean Square Error of Approximation (RMSEA) of 0.209. The model's lack of fit is statistically significant, as evidenced by the p-value for RMSEA being less than 0.001. In general, these indices indicate that the model does not adequately fit the data.

Table 3 - Parameters estimates

Dep	Pred	Estimate	SE	95% Confidence Intervals		β	z	p
				Lower	Upper			
Skill Development	SHG PARTICIPATION	0.0262	0.0149	-0.0029	0.0554	0.0863	1.76	0.078

The parameter estimates for the relationship between Skill Development and SHG Participation are presented in Table 3. The estimated effect of SHG Participation on Skill Development is 0.0262, with a standard error (SE) of 0.0149. The true effect could be slightly negative or positive, as the 95% confidence interval ranges from -0.0029 to 0.0554. The effect size is small, as indicated by the standardised estimate

(β) of 0.0863. The p-value is 0.078, which is marginally above the conventional threshold for statistical significance ($p < 0.05$), and the z-value is 1.76. Thus, although the estimate implies a positive correlation between Skill Development and SHG Participation, the evidence is insufficient to definitively establish that the effect is statistically significant.

Path Diagram**Table 4 - Measurement model**

Latent	Observed	Estimate	SE	95% Confidence Intervals		β	z	P
				Lower	Upper			
SHG PARTICIPATION	SHGP1	1	0	1	1	0.957		
	SHGP2	0.961	0.0275	0.907	1.015	0.892	34.98	<.001
	SHGP3	0.601	0.0353	0.531	0.67	0.629	17	<.001
	SHGP4	0.99	0.0263	0.939	1.042	0.914	37.72	<.001
Skill Development	SDTO1	1	0	1	1	0.28		
	SDTO2	3.211	0.5127	2.206	4.216	0.899	6.26	<.001
	SDTO3	2.078	0.3462	1.399	2.756	0.658	6	<.001
	SDTO4	3.2	0.5116	2.198	4.203	0.888	6.26	<.001
	SDTO5	3.284	0.5245	2.256	4.312	0.896	6.26	<.001
	SDTO6	2.826	0.4574	1.929	3.722	0.797	6.18	<.001
	SDTO7	2.796	0.4526	1.909	3.683	0.798	6.18	<.001

The measurement model is delineated in Table 4, which illustrates the relationships between latent variables and their observed indicators. The reference indicator for the latent variable SHG Participation is SHGP1, which has an unstandardized estimate of 1. SHGP2 has a standardised estimate (β) of 0.892 and a standard error (SE) of 0.0275, indicating a strong loading and a highly significant z-value of 34.98 ($p < .001$). SHGP3 has a z-value of 17 ($p < .001$), an estimate of 0.601 ($SE = 0.0353$), and a β of 0.629. SHGP4 exhibits a z-value of 37.72 ($p < .001$), an estimate of 0.99 ($SE = 0.0263$), and a β of 0.914.

SDTO1 serves as the reference indicator for the latent variable

Skill Development. SDTO2 has a z-value of 6.26 ($p < .001$), an estimate of 3.211 ($SE = 0.5127$), and a β of 0.899. SDTO3 has a z-value of 6 ($p < .001$), an estimate of 2.078 ($SE = 0.3462$), and a β of 0.658. The SDTO4 model yields a z-value of 6.26 ($p < .001$), an estimate of 3.2 ($SE = 0.5116$), and a β value of 0.888. SDTO5 has a z-value of 6.26 ($p < .001$), an estimate of 3.284 ($SE = 0.5245$), and a β of 0.896. SDTO6 has an estimate of 2.826 ($SE = 0.4574$), $\beta = 0.797$, and a z-value of 6.18 ($p < .001$). SDTO7 has an estimate of 2.796 ($SE = 0.4526$), $\beta = 0.798$, and a z-value of 6.18 ($p < .001$). These findings suggest that the latent variables and their respective observed indicators are significantly and robustly correlated.

Table 5- Variances and Covariances

Variable 1	Variable 2	Estimate	SE	95% Confidence Intervals		β	z	P
				Lower	Upper			
SHGP1	SHGP1	0.0957	0.0143	0.0676	0.124	0.0844	6.67	<.001
SHGP2	SHGP2	0.247	0.02	0.2078	0.286	0.2048	12.36	<.001
SHGP3	SHGP3	0.5712	0.0373	0.498	0.644	0.6041	15.29	<.001
SHGP4	SHGP4	0.2002	0.0181	0.1646	0.236	0.1643	11.03	<.001
SDTO1	SDTO1	1.1263	0.0716	0.9859	1.267	0.9216	15.73	<.001
SDTO2	SDTO2	0.2341	0.0202	0.1945	0.274	0.1915	11.6	<.001
SDTO3	SDTO3	0.5424	0.036	0.4719	0.613	0.5673	15.07	<.001
SDTO4	SDTO4	0.2626	0.0217	0.22	0.305	0.2111	12.08	<.001
SDTO5	SDTO5	0.2528	0.0215	0.2105	0.295	0.1965	11.73	<.001
SDTO6	SDTO6	0.4403	0.0312	0.3791	0.501	0.3653	14.11	<.001
SDTO7	SDTO7	0.4282	0.0304	0.3687	0.488	0.3637	14.1	<.001
SHG PARTICIPATION	SHG PARTICIPATION	1.038	0.0726	0.8956	1.18	1	14.29	<.001
Skill Development	Skill Development	0.0951	0.0306	0.035	0.155	0.9925	3.1	0.002

The variances and covariances of the observed and latent variables in the model are presented in table 5. The variances of the observed variables associated with SHG Participation are as follows: SHGP1 (estimate = 0.0957, $SE = 0.0143$, $\beta = 0.0844$, $z = 6.67$, $p < .001$), SHGP2 (estimate = 0.247, $SE = 0.02$, $\beta = 0.2048$, $z = 12.36$, $p < .001$), SHGP3 (estimate = 0.5712, $SE = 0.0373$, $\beta = 0.6041$, $z = 15.29$, $p < .001$), and SHGP4 (estimate = 0.2002, $SE = 0.0181$, $\beta = 0.1643$, $z = 11.03$, $p < .001$).

For the observed variables related to Skill Development, the variances are: SDTO1 (estimate = 1.1263, $SE = 0.0716$, $\beta = 0.9216$, $z = 15.73$, $p < .001$), SDTO2 (estimate = 0.2341, $SE = 0.0202$, $\beta = 0.1915$, $z = 11.6$, $p < .001$), SDTO3 (estimate = 0.5424, $SE = 0.036$, $\beta = 0.5673$, $z = 15.07$, $p < .001$), SDTO4 (estimate = 0.2626, $SE = 0.0217$, $\beta = 0.2111$, $z = 12.08$, $p < .001$), SDTO5 (estimate = 0.2528, $SE = 0.0215$, $\beta = 0.1965$, $z = 11.73$, $p < .001$), SDTO6 (estimate = 0.4403, $SE = 0.0312$,

$\beta = 0.3653$, $z = 14.11$, $p < .001$), and SDTO7 (estimate = 0.4282, $SE = 0.0304$, $\beta = 0.3637$, $z = 14.1$, $p < .001$).

The variance of the latent variable SHG Participation is estimated to be 1.038 ($SE = 0.0726$, $z = 14.29$, $p < .001$), while that of Skill Development is 0.0951 ($SE = 0.0306$, $\beta = 0.9925$, $z = 3.1$, $p = 0.002$). The statistical significance of all estimates suggests that they are reliable measures of the corresponding variables.

Table 6 - Intercepts

Variable	Intercept	SE	95% Confidence Intervals		z	p
			Lower	Upper		
SHGP1	2.066	0.048	1.973	2.159	43.389	<.001
SHGP2	1.994	0.049	1.898	2.09	40.602	<.001
SHGP3	1.88	0.043	1.795	1.965	43.23	<.001
SHGP4	1.994	0.049	1.897	2.091	40.401	<.001
SDTO1	2.044	0.049	1.947	2.141	41.345	<.001
SDTO2	2.002	0.049	1.905	2.099	40.496	<.001
SDTO3	1.882	0.044	1.796	1.968	43.039	<.001
SDTO4	2.004	0.05	1.906	2.102	40.177	<.001
SDTO5	2.044	0.051	1.945	2.143	40.303	<.001
SDTO6	2.026	0.049	1.93	2.122	41.264	<.001
SDTO7	1.978	0.049	1.883	2.073	40.759	<.001
SHG PARTICIPATION	0	0	0	0		
Skill Development	0	0	0	0		

The intercepts for the observed variables in the model are summarised in table 6. The intercepts for the SHG Participation indicators are as follows: An intercept of 2.066, a standard error (SE) of 0.048, a z-value of 43.389, and a p-value less than .001 are indicative of high statistical significance for SHGP1. The intercept of SHGP2 is 1.994 (SE = 0.049, $z = 40.602$, $p < .001$), it of SHGP3 is 1.88 (SE = 0.043, $z = 43.23$, $p < .001$), and it of SHGP4 is 1.994 (SE = 0.049, $z = 40.401$, $p < .001$).

For the Skill Development indicators, the intercepts are: SDTO1 with 2.044 (SE = 0.049, $z = 41.345$, $p < .001$), SDTO2 with 2.002 (SE = 0.049, $z = 40.496$, $p < .001$), SDTO3 with 1.882 (SE = 0.044, $z = 43.039$, $p < .001$), SDTO4 with 2.004 (SE = 0.05, $z = 40.177$, $p < .001$), SDTO5 with 2.044 (SE = 0.051, $z = 40.303$, $p < .001$), SDTO6 with 2.026 (SE = 0.049, $z = 41.264$, $p < .001$), and SDTO7 with 1.978 (SE = 0.049, $z = 40.759$, $p < .001$).

The latent variables The intercepts of SHG Participation and Skill Development are fixed at 0, as is customary in numerous models to serve as reference points. The measurement model's stability and reliability are further bolstered by the highly significant intercepts of all observed variables.

Interpretation

The results of the analysis of the relationship between Skill Development and SHG Participation are of mixed quality. The estimated effect of SHG Participation on Skill Development is 0.0262, with a standard error of 0.0149. The true effect could be either slightly negative or positive, as the 95% confidence interval ranges from -0.0029 to 0.0554. The effect size is small, as indicated by the standardised estimate (β) of 0.0863.

The relationship is marginally above the conventional threshold for statistical significance ($p < 0.05$) as indicated by the p-value of 0.078 and z-value of 1.76. Therefore, although the estimate suggests a positive correlation between Skill Development and SHG Participation, the evidence is insufficiently robust to establish a definitive conclusion that the effect is statistically significant.

In conclusion, the data does not provide sufficient evidence to definitively confirm the positive association between Skill Development and SHG Participation, despite the indication of a positive association. In order to elucidate this potential relationship, it may be necessary to conduct future research with larger sample sizes or more precise measurements.

Conclusion and Findings

The qualitative data obtained through interviews provide further insights into participants' experiences with SHG support. Many participants acknowledged the **skill-building benefits** of SHGs, stating that they gained knowledge and practical skills that aided in their business operations. However, the responses also indicated **neutral to negative perceptions** concerning the sustainability and long-term viability of SHG-supported businesses.

Overall, these findings underscore the dual role of SHGs: while beneficial in the initial stages of skill acquisition, there may be limitations in their capacity to foster independent, sustainable entrepreneurial success among women in underserved regions. The findings of this study highlight the **dual impact of SHG participation** on women entrepreneurs, particularly in underserved and tribal areas. While SHG involvement fosters notable improvements in **skill development**, equipping women with essential entrepreneurial competencies, this does not always correlate with a sustained positive trajectory in **business viability** or **entrepreneurial enthusiasm** over the long term.

The **neutral to negative attitudes** observed regarding long-term business sustainability indicate that while SHGs offer

short-term benefits, their support may not be robust enough to address deeper, more complex business needs over time. Factors like **market access, ongoing mentorship, and diversified skill sets** remain essential for sustainable growth, yet these are areas where SHGs often fall short (Kumar et al., 2019). This gap may lead to dependency on SHG resources and limited resilience among women entrepreneurs when attempting to expand or diversify their businesses independently.

In conclusion, while SHGs play a crucial role in the initial stages of entrepreneurial ventures by providing access to financial resources and skill-building opportunities, there is a clear need to expand the support framework to foster **long-term viability and independence**. These insights underscore the value of **restructuring SHG initiatives** to incorporate sustainable support mechanisms that address both immediate and long-term entrepreneurial needs.

However, this research also highlights a critical gap: while SHG participation is effective in building foundational skills, it does not fully address the challenges of sustaining long-term business viability.

For SHG programs to create a lasting impact, there may be a need for advanced interventions, such as market access facilitation, ongoing financial literacy programs, and a focus on building resilience and self-sufficiency in entrepreneurial ventures.

By acknowledging both the strengths and limitations of SHG frameworks, policymakers and program developers can better design initiatives that not only encourage initial entrepreneurial activity but also foster enduring business success. Thus, future SHG programs could benefit from a balanced approach that emphasizes sustainable business practices and equips participants with the resources to thrive independently.

Recommendations For Future Research

This study suggests several key areas for enhancing the impact of SHG programs on women-led ventures:

1. **Advanced Training:** This would help members not only initiate but also sustain their businesses over time.
2. **Market Access and Financial Independence:** Programs can include partnerships with local businesses and digital platforms to expand market reach and support members in building independent revenue streams.
3. **Resource Accessibility:** Connecting SHGs with NGOs, government schemes, or private organizations could improve access to these resources.
4. **Community Networks:** Programs can include peer networking sessions and mentorship opportunities.
5. **Future Research Directions:** Examining SHG models across different socio-economic and geographic contexts could reveal insights into regional variations and identify best practices for SHG success in varied settings.

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