International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Empowerment of Rural Women Through Self-Help Group: A Comparative Study in Two Selective District of West Bengal

Mr. Kousik Dari

Assistant Professor, Department of Commerce, Nabagram Hiralal Paul College affiliated to University of Calcutta, West Bengal, India

Abstract

Introduction: The purpose of present research is to analyze the level of rural women's empowerment in Self-Help Groups (SHGs) in the Cooch Behar and Kalimpong districts In West Bengal, India. It has therefore become apparent that SHGs have assumed functions which make them instruments of change that can empower women and uplift their standards of living especially of the rural women. The study aims to establish the differences and similarities in performance and effectiveness of the SHG in the two districts where the problems of rural development and women's empowerment are similar even though culturally and geographically the two districts are very different.

Methodology: The study uses both primary and secondary data to analyze the cross-sectional relationship in SHG performance, sociological factors affecting women on SHGs, and the effect of SHGs on women's decision-making, financial independence, and social engagement. These aspects are analyzed in the study with the aim of offering a comprehensive understanding of the performance of SHGs and establish recommendations for policy measures that potentially place a motivation on sustainable and gender sensitive improvement in the rural areas of West Bengal.

The paper examines the effects of SHGs on the social and economic status of the rural women in two districts of West Bengal, namely, Cooch Behar and Kalimpong, with a view to comparing the change in decision-making immunity and the degrees of financial and social emancipation. Cooch Behar-1 is mainly selected as the particularly intensity block of high SHG and Sitai represents the intensity block of low SHG. Kalimpong-I is mainly identified as the intensity block of high SHG and Lava mainly referred to as the intensity block of low SHG.

Literature Review: The present literature review aims at analyzing changing consumer behavior and the effects of digitalization on marketing. It transitioned from offline to online media focusing on the influence of social networks, mobile devices, and analytics in consumers' decisions. The review also discusses individualized marketing depending on how organizations are using more consumer data to target their marketing. In addition, it answers the questions of how to preserve the consumers' overall loyalty to the brand in the conditions of an information overload. Current knowledge about consumer behaviour and the most important marketing strategies is also presented and critically discussed, thus theoretically grounding the research.

Data Analysis and Interpretation: The consumer behavior patterns and its marketing implications section is a data analysis section where a detailed examination of the patterns of consumers and its impact on the marketing strategies is conducted. Carrying out quantitative research that incorporates the use of

complex statistical measures, the study assesses data retrieved from multiple online sites based on the patterns and associations that exist. A close look at the findings indicates that personalized marketing is one of the most powerful factors that affect consumers' purchasing behaviour as influenced by social media. Furthermore, the research shows that consumers' brand loyalty is shifting more and more from word-of-mouth communications into online comments and posts on social networks. It is important for business organizations to employ tools to understand the various aspects of consumer behaviour and then create effective marketing strategies.

Findings and Conclusion: The results of the investigation point at the fact that marketing has gone digital and this has changed the approach to the same. This has led to the change of the power balance in the market with consumers holding the power in the market, a situation that has been enabled by the advancements of new technology. Personalized marketing is also proven in this study to have the potential of raising consumer interest and pulling them closer to a brand's overlap. However, the results also indicate the overall necessity for moderation when implementing personalized marketing. Due to the fact that excessive use of such technique is likely to threaten the privacy of the consumers.

The final section of the work consolidates all the results of the studies underlining the necessity of adjusting the concept of marketing to the needs of the digital environment. Based on the study, digitalization comprises a vast potential for businesses, at the same time, it comprises numerous threats, among which the threats to consumer trust and loyalty. The research provides suggestions to businesses on how they can improve their marketing which includes the incorporation of personalized marketing, the incorporation of social media in marketing, and ethical practice in marketing.

Keywords: Self Help Group, Empowerment, Self-esteem

Introduction

Education for rural women is therefore very important in the promotion of the development of any society. In India, Self-help groups or SHGs have come up as the most effective tool to uplift the standard of the women socially and economically especially those in the rural background. Such groups empower the women in terms of income generation, financial support and social relationships thereby enhancing their worth in the societies. The objective of this particular research is to understand the extent of empowering the rural women through SHG in two districts of West Bengal which are Coochbehar and Kalimpong. While known to be different in geographical and cultural context, four of them have become grouped together in that they face similar problems as the other group, namely problems concerning rural development and empowering women.

Coochbehar has the nature of an agricultural economy and this is supplemented by several problems like illiteracy and lack of credit facilities. While Kalimpong is famous for different types of gardening and tourism, it faces the following and different socio-economic issues. The findings from this study are therefore intended to show the manner in which women's empowerment varies depending on the district in which the SHGs operate. It will look at the different facets of power, the ability to be economically self-reliant in terms of decision-making power and participation in social processes. These will mainly give a holistic view on the efficiency of SHGs. The conclusions will inform policy action along with designing culturally appropriate types of strategies for improving the status of women within the Indian countryside.

Review of Literature

According to Ghosh and Paul, 2021, SHGs or self-help groups is a policy related to micro economic aspect that was proposed in India to eliminate poverty through the improvement of women. In is a bank-connecting initiative by which governing bodies can remarkably link with the poor women connected with the banking facility and support them to improve their socio-financial condition. Women empowerment addresses the capability of women where they can get the proper facility from their rights, decision-generating power, self-dependence, and improvement of livelihood conditions (Ghosh and Paul, 2021). The objective of this research paper was to assess the main causes related to joining of women in the aspect of self-help teams in the context of women empowerment.

According to Mullick and Khanna, 2021, the purpose of this research paper was to evaluate the connection between involvement in SHGs and the overall socio-financial empowerment aspect of women. This research paper delivered examples of the effective possibilities related to SHGs in encouraging the motivation of women, in the aspect of how well the SHG structure properly performed in the community context (Mullick and Khanna, 2021). It is very crucial for regulative bodies to form significant strategies effectively and fund micro as well as macro aspects to determine to enforce the SHG shift in different contexts qualitatively. This research paper also attempts that target different individuals and administrative bodies to have information on the significant key components related to practicability and its overall effect on women.

According to Gupta, *et al.* 2020, SHGs, or social-help groups are compressed groups connecting rural individuals basically poor people and the objective of the organization of these groups is savings money with interpersonal arrangements for sharing a common monetary aspect. This assessment was introduced to inspect the socio-financial background of social-help groups that connected with fish culture insights scientifically were gathered from randomly chosen 16 SHGs from 3 important blocks of the Nadia district of WB (Gupta, *et al.* 2020). Based on the significant results related to socio-financial assessments, researchers can state that the SHG's perspectives function as a catalyst that is effectively modified in the socio-financial contexts related to group individuals.

According to Patel and Mistry, 2024, India has a high rural population and masculinity index; therefore, they have had more dominant males which is even practiced up to today in certain parts of the country. There are several related schemes being run by the government for development, one of the most important is National Rural Livelihood Mission Self-Help Group, Targeting Rural Women (Patel and Mistry, 2024). This paper aims to present an overview of how SHG's empower women in India in economic uplifting, social and education transformation, political enhancement. Since the SHG's bank linkage program empowers the rural population, helping them into the formal banking sector, increases national saving rate, forces the bank to increase the lending rate, and ultimately reducing unemployment and poverty for the overall development of a nation.

According to Kumar, *et al.* 2021, originated for the savings and loans, Self-Help Groups (SHGs) now also focus on governance or civil-like matters and social inequality, such as gender or caste. Thus, despite the general view of low-cost credit through the SHGs as one of the major instruments aimed at poverty reduction in the developing countries, there is still no definite proof of its efficiency. Based on a primary survey of 90 SHG and 90 non-SHG women in rural Bihar, India, this paper examines the differences in socio-economic transformation related to loan size, saving behavior, and women's freedoms (Kumar, *et al.* 2021). The findings reveal that SHG women have better empowerment scores and tend to use credits mainly for business than other non-SHG women.

According to Chakraborty, and Dasgupta, 2020, Proposed by microfinance self-help groups, this paper evaluates the extent of women empower-ment in Cooch Behar and Purulia Districts of West Bengal, particularly targeting Scheduled Caste and Tribe women (Chakraborty, and Dasgupta, 2020). Applying survey data collected from NABARD's SHG Linkage Programme to empower the rural women economically, social and personal decision-making autonomy is used to capture the levels of empowerment. The findings then indicate that while microfinance increases women's financial and social capital, the latter is more marked by changes in network, confidence and in decision-making within the household.

Statement of the Problem

The Indian female population is empowered nowadays although attempts made by rural women from India especially West Bengal, are still restricted by a number of socio-economic problems. Coochbehar and Kalimpong districts remain disadvantaged in education, material wealth, and decision-making mechanisms which make women in the communities underdeveloped. Self-Help Groups or SHGs have been advocated as a strategy of tackling these problems. The successes and outcomes which incorporate the usage of SHGs are unequal between areas. This paper is a comparative study which was carried out with the aim of solving the level of economic independence of rural women in the two areas of Coochbehar and Kalimpong through formation of SHGs (Chattopadhyay and Biswas, 2021). Therefore, based on the analyzed variables like economic status, decision-making on household matters and social activity, the investigation strives to compare the outcomes of the two districts. The fundamental question relates to evaluating the manner in which contextual factors determine the effectiveness of SHGs and what issues of the women affect such groups. Solving these problems is a main thing if SHG is to be made relevant to the needs of rural women in West Bengal with the view to enhancing sustainable development and proper promotion of gender equity agenda.

Objective of the Study

The particular aim of this study is to mainly comparatively examine the overall empowerment of rural women through the assistance of self-help groups within the state of Cooch Behar as well as Kalimpong in West Bengal districts. So, the objective of the study is mainly given below.

1. To examine the regional variation in performance of women self-help groups across Cooch Behar and Kalimpong district in West Bengal. In addition, the study also identifies socio-economic characteristics of survey groups that influence performance of women SHGs.
2. To understand the factors responsible for facilitating sustainable interest of women to engage themselves with SHGs.
3. To assess the impact of SHGs on women empowerment in the study region by measuring their participation in household decision-making, financial autonomy, freedom of mobility, political activities, gender equality.
4. To find out the problems associated with the Self-Help Group (SHGs) in the study region.
5. To evaluate the overall role of SHGs within improving the educational type of opportunities along with health awareness throughout rural women within the state of Cooch Behar and Kalimpong.

Hypothesis

The hypothesis of the research mainly comes from the topic of the research which are mainly given below.

Hypothesis 1:
Null Hypothesis (H_0): There is mainly no significant type of difference within the women performance of self-help groups between the districts of Cooch Behar and Kalimpong.
Alternative Hypothesis (H_1): There is a significant type of difference within the women performance of self-help groups between the districts of Cooch Behar and Kalimpong.
Hypothesis 2:
Null Hypothesis (H_0): Socio-economic type of characteristics of women do not constantly affect the self-help groups' performance within the study regions.
Alternative Hypothesis (H_1): Socio-economic type of characteristics of women constantly affect the self-help groups' performance within the study regions.
Hypothesis 3:
Null Hypothesis (H_0): Participation within self-help groups does not crucially affect women's empowerment within the terms of household type decision-making, financial type autonomy, freedom of mobility, as well as political interests.
Alternative Hypothesis (H_1): Participation within self-help groups crucially affect women's empowerment within the terms of household type decision-making, financial type autonomy, freedom of mobility, as well as political interests.
Hypothesis 4:
Null Hypothesis (H_0): There are not any significant variations within the challenges faced through the help of self-help groups within the districts of Cooch Behar and Kalimpong.
Alternative Hypothesis (H_1): There are significant variations within the challenges faced through the help of self-help groups within the districts of Cooch Behar and Kalimpong.

Data and Methodology

This research specifically employs both the sources of primary and secondary data for mainly analyzing the overall rural women empowerment through the help of Self-Help Groups or SHGs within Cooch Behar along with Kalimpong districts in the state of West Bengal.

Sampling Technique: Stratified type of random sampling is specifically utilized to determine overall representation through SHG involvement in different intensities. The overall research focuses upon two particular types of blocks which come from each district. These things are mainly categorized through SHG intensity such as high intensity and low intensity (Aggarwal and Shamsi, 2022). In the district of Cooch Behar, Cooch Behar-1 is mainly selected as the particularly intensity block of high SHG, in the time when Sitai represents the intensity block of low SHG. For the particular type of district of Kalimpong, Kalimpong-I is mainly identified as the intensity block of high SHG, and Lava mainly referred to as the intensity block of low SHG.

In the primary data, A particularly total size of the sample of 100 respondents is mainly targeted for that analysis with 50 different respondents from every district. In every different district, 25 different respondents are mainly selected through an intensity block of high SHG. Not only this but also 25 different respondents through an intensity block of low SHG.

Data Collection: Primary data is specifically collected through the help of structured type of interviews along with surveys that are mainly administered towards members of SHG while particular secondary data is mainly collected through the help of government reports, academic type of literature, along with NGO

records. This approach of mixed-method mainly facilitates a complete type of analysis of the particular SHGs impact as well as challenges of women's empowerment within different contexts.

Data Analysis and interpretation

Through the help of primary and secondary data, here mainly interpret and analyze the overall data based on the topic of the research. So, the primary and secondary research is mainly given below.

Primary Analysis

Descriptive Statistics

Figure 1: Descriptive Statistics

Statistics

		Marital Status	Religion	Category	Age	Occupational Level of Respondent Pre SHG	Occupational Level of Respondent Post SHG	Income Before Joining SHG	Income After Joining SHG	Savings Before Joining SHG	Savings After Joining SHG	Problem faced by women respondents	Impact of Joining SHGs	Primary Motive of Joining SHGs	Reason for Joining SHG
N	Valid	100	100	100	100	100	100	100	100	100	100	100	100	100	100
	Missing	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean		.12	.28	.82	2.33	4.05	1.40	.53	4.13	.00	2.81	3.03	2.01	1.16	1.22
Median		.00	.00	1.00	2.00	5.00	.00	.00	4.50	.00	3.00	3.00	3.00	1.00	1.00
Mode		0	0	0	2	5	0	0	5	0	3	3[a]	3	0	0
Std. Deviation		.477	.473	.968	1.256	1.486	1.917	.771	1.002	.000	.761	1.648	1.527	1.108	1.292
Skewness		4.331	1.284	.917	1.035	-1.386	.639	1.043	-.697		.616	-.367	.104	.495	.842
Std. Error of Skewness		.241	.241	.241	.241	.241	.241	.241	.241	.241	.241	.241	.241	.241	.241
Kurtosis		19.246	.374	-.258	.089	.714	-1.625	-.506	-.851		.628	-.948	-.914	-1.100	-.537
Std. Error of Kurtosis		.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478	.478
Sum		12	28	82	233	405	140	53	413	0	281	303	201	116	122

a. Multiple modes exist. The smallest value is shown

(Source: Self-created in SPSS)

Figure 1 mainly defines the descriptive statistics between a total of 14 variables in which here mainly gets marital status, religion, category, age, Occupational level of respondents Pre SHG, and Occupational level of respondents Post SHG, etc. The number of responses for all the variables is set at 100 and there are no cases of missing values. The table mainly represents the mean values of these variables and the overall average of participants' responses. As such, the average age category comes to 2.33. An average occupational level of the respondents before and after participating in SHGs is 4.05 as well as 1.40 respectively. The particular income before joining SHGs is on average 0.53 and after joining the SHGs, it is 4.13.

The median is another measure of central tendency and is the value at which 50 percent of the responses are below and 50 percent above. For a particular example, for the median age the category is 2.00 and for the occupational level of the respondents before and after joining SHGs the level is 5.00 and 0.00 respectively (Ghosh, 2024). The values of mode give information concerning the total number of common types of frequencies of the variable in a particular area. Certain variables have more than one mode with the minimum value represented in the table. This applies to 3 for the problems faced by the women respondents and 0 for marital status. The occupational level of different types of respondents before joining

SHGs has a standard deviation of 1.486, problems faced by women respondents sd is 1.648. The skewness coefficient determines the extent of the departure from symmetry of the photocopy of data. Positive skewness means that the tail on the right is longer as compared to the left, if skewness is negative, it means that the tail on the left is longer. For the instance of the marital status variable, here mainly examine a high positive skewness of 4.331 that depicts the right-tail distribution. Skewness measures the degree of asymmetry to the tail of the distribution and Kurtosis measures the peakedness or flatness of the distribution. If kurtosis is greater than zero then the distribution of the variable is said to have a peaked distribution; if kurtosis is below zero then the distribution is said to be flat. In this case of marital status there is high kurtosis of 19. 246 which means distribution is very peaked.

One Sample T-test:

Figure 2: One-Sample T-test

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference Lower	Upper
Occupational Level of Respondent Pre SHG	27.246	99	<.001	4.050	3.76	4.34
Occupational Level of Respondent Post SHG	7.301	99	<.001	1.400	1.02	1.78
Income Before Joining SHG	6.871	99	<.001	.530	.38	.68
Income After Joining SHG	41.235	99	<.001	4.130	3.93	4.33

(Source: Self-created in SPSS)

The table below shows the outcome of one sample T-test where the mean of several variables is compared to a value of 0. For the specific Occupational Level of Respondent Pre-SHG the t-value obtained is 27.246 with 99 degree of freedom and at the same time with p less than 0.05. This mainly shows the overall mean difference of 4.05 is significant and at 95 percent confidence level and the range is 3.76 and 4.34. The Occupational Level of Respondent Post SHG has mainly a t-value of 7.301, p-value of 0.000 along with a specific mean difference of 1.40 with Confidence Interval of 1.02 towards 1.78. The Income before Joining SHG variable also has a t-value 6.871 while the p-value is 0.000. Furthermore, the mean difference of this variable is 0.530, confidence interval is 0.38 towards 0.68. The t-test analysis in the Income after Joining SHG has values of 41.235 on t-value, 0.000 on p-value, while on mean difference it was 4.130 and the confidence interval of the sample mean at 3.93 and 4.33. All the p-values are less than 0.05 hence all the mean differences for all the variables are significant.

Two Sample T-test:

Figure 3: Independent Sample T-test based on District Code

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Income Before Joining SHG	Equal variances assumed	2.501	.117	1.701	98	.092	.260	.153	-.043	.563
	Equal variances not assumed			1.701	97.191	.092	.260	.153	-.043	.563
Income After Joining SHG	Equal variances assumed	140.834	<.001	17.721	98	<.001	1.740	.098	1.545	1.935
	Equal variances not assumed			17.721	49.000	<.001	1.740	.098	1.543	1.937
Savings After Joining SHG	Equal variances assumed	4.877	.030	-3.461	98	<.001	-.500	.144	-.787	-.213
	Equal variances not assumed			-3.461	94.731	<.001	-.500	.144	-.787	-.213
Impact of Joining SHGs	Equal variances assumed	7.008	.009	-.065	98	.948	-.020	.307	-.629	.589
	Equal variances not assumed			-.065	90.805	.948	-.020	.307	-.630	.590

(Source: Self-created in SPSS)

For the assumption of equal variances for Income before Joining SHG, Levene reasonable equal variances assumption has F-value of 2.501 with a p-value of 0.117. The t-test comes out to be equal to 1.701 with degree of freedom equal to 98, and p-value equal to 0.092 which are not statistically significant and the mean difference is equal to 0.260 and the 95 percent confidence interval as -0.043 to 0.563. For the Income after Joining SHG, Levene's Test suggesting that the group variances significantly differ, so that the homoscedasticity assumption is not attained. Cohort record analysis also indicates a highly significant t-test result of t equals 17.721, df equals 49.000, p equals 0.000 for a mean difference of 1.740 with 95 percent Confidence Interval range 1.543 to 1.937. By analyzing Savings after Joining SHG, the Levene's Test also depicts that the variances differ significantly. The t-test was significant at t equals -3.461, df equals 94.731, p equals 0.001 and the mean difference was - 0.500, while the 95 percent confidence interval test was -0.787 to -0.213. The Levene's Test for the Impact of Joining SHGs shows a significant difference in variances with F equals 7.008 and probability value equals 0.009 (Scott *et al.* 2020). The t-test revealed that the mean difference -0.020 is an insignificant impact of joining SHGs on the socio-economic status of the women of 0.630 and 0.590.

Paired Sample T-test:

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	Occupational Level of Respondent Pre SHG - Occupational Level of Respondent Post SHG	2.650	2.645	.265	2.125	3.175	10.018	99	<.001
Pair 2	Income Before Joining SHG - Income After Joining SHG	-3.600	1.073	.107	-3.813	-3.387	-33.548	99	<.001
Pair 3	Occupational Level of Household Member Pre SHG - Occupational Level of Household Member Post SHG	2.700	2.163	.216	2.271	3.129	12.485	99	<.001

Figure 4: Paired Sample T-test based on three factors
(Source: Self-created in SPSS)

The most suitable statistical test for comparing pairs of related groups is the Paired Samples t-test which mainly compares means of the two groups for significance. The particular estimated means for Pair 1 between the particular Occupational Level of Respondent Pre SHG along with Post SHG equals to 2.650 in which t-statistic value equals 10.018 and probability value equals 0.000. H1 is supported for Pair 1. In Pair 2, Income Before Joining SHG and Income After Joining SHG give a mean difference of -3.600, t-value of -33.548 and p- value of 0.000, hence indicating an increased income. In Pair 3, it is seen that the mean difference is equal to 2.700 in Occupational Level of Household Member Pre as well as Post SHG with t-value is equals 12.485 and p- value equals 0.000, hence there is significant improvement.

One Way Anova:

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Problem faced by women respondents	Between Groups	.490	1	.490	.179	.673
	Within Groups	268.420	98	2.739		
	Total	268.910	99			
Income Before Joining SHG	Between Groups	1.690	1	1.690	2.894	.092
	Within Groups	57.220	98	.584		
	Total	58.910	99			
Income After Joining SHG	Between Groups	75.690	1	75.690	314.040	<.001
	Within Groups	23.620	98	.241		
	Total	99.310	99			

Figure 5: One Way Anova based on the factor of District Code
(Source: Self-created in SPSS)

Figure 5 mainly defines one-way Anova depending on the factor of district code. On Problems faced by women respondents' analysis with a particular F-value of 0.179 as well as probability value of 0.673. These things establish that there is no significant type of difference between the groups. In the particular case of Income before Joining SHG there is mainly the F-value of 2.894 that is indicated through the p-value of 0.092 which means there is no significant difference in income before joining SHG across the different types of groups (Sarawagi and Singh, 2024). Earnings after joining SHG has an F-value of equals 314.040 along with the p-value is equals 0.000. This shows that there is a significant type of difference within income after joining SHG throughout the different groups. This specifically implies that income mainly shown to have been significantly higher after joining a SHG group.

Chi-square Statistics:

Chi-Square Tests			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	27.543[a]	15	.025
Likelihood Ratio	31.610	15	.007
Linear-by-Linear Association	5.850	1	.016

N of Valid Cases	100		
a. 16 cells (66.7%) have expected count less than 5. The minimum expected count is .56.			

Figure 6: Chi-square tests based on problem faced by SHG members and primary motive for joining SHG

(Source: Self-created in SPSS)

The Chi-Square Tests table provides insights into the association between categorical variables. The results obtained for the Pearson Chi-Square tested variables are values of 27.543, degrees of freedom of 15 along with p-value of 0.025 that the variables tested are significantly associated. This implies that there is a relation between categorical types of variables that can be mainly tested and also be proven to be statistically significant.

The value of Likelihood Ratio is equal to 31.610 with the df of 15 and probability value of 0.007 which also supports the finding of Pearson Chi-Square that has listed these variables having a significant relation. The value of Linear-by-Linear Association is 5.850, it mainly has 1 degree of freedom. The probability value is 0.016 thus there is linear relationship between two variables (Raghunathan *et al.* 2023). The table also mentions that 16 cells have an expected count less than 5 that is 55 percent and this fact may reduce the dependability of chi-square test results. The particular minimum expected count is obtained as 0.56 which is below the 5 that is ideal for Chi-Square test measurements.

Regression Model:

Figure 7: Model Summary based on District Code dependent variable

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.903[a]	.815	.803	.223	1.620

a. Predictors: (Constant), Impact of Joining SHGs, Income After Joining SHG, Primary Motive of Joining SHGs, Income Before Joining SHG, Frequency of Group Meeting, Reason for Joining SHG

b. Dependent Variable: District Code

(Source: Self-created in SPSS)

Figure 7 mainly defines the model summary through the help of regression analysis depending on the district code dependent variable for predicting different types of variables. The Model Summary table indicates that the actual regression model has rather a high correlation coefficient of R equal to 0.903 which means a clear positive correlation between the District Code and all the predictors. The model has an R-Square value of 0.815 meaning that 81.5 percent of the total variance in District Code is explained by the predictor variables. The Adjusted R-Square of 0.803 reiterates the notions of fit of the model that are not being severely affected by the number of predictors. The standard error of 0.223 depicts closeness of observed values to the regression line of the model. The particular type of autocorrelation of the residuals evaluated using the Durbin-Watson statistic was equal to 1.620. These aspects implying there was moderate positive autocorrelation within the data.

PCA Analysis:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.708
Bartlett's Test of Sphericity	Approx. Chi-Square	236.838
	df	55
	Sig.	.000

Figure 8: KMO and Bartlett's Test between different factors
(Source: Self-created in SPSS)

The third table again reveals the better KMO value out of three and it is 0.708, which on aggregated level is viewed as acceptable sampling adequacy. Significance test, the statistical process of "Bartlett" provides value of "Chi-square" of 236.838 for 55 d.f and the numerical value of 236.838 can be consider significant indicative of a significance level of 0.000. This gives a robust figure suggesting that the data's correlation matrix is suitable for factor analysis, thus producing a major result.

Findings

The analysis of data is very useful to understand the extent of effectiveness of Self-Help Groups within changing the respective socio-economic aspects. In Table 1, the change in economic status after participating in SHGs is presented through the means of descriptive measures of participants. The educational standard and income level of the occupationally active population also rose considerably and the means here elevated from 0.53 to 4.13 and from 4.05 to 1.40. This shows the fact that there has been an improvement in the economic and occupational position of respondents.

The One-Sample T-test shows these changes as statistically significant reasonably low p-Functions all less than 0.05. For instance, the mean income after joining SHGs was 4.13 as compared to before joining the SHGs mean equals 0.53. Hence indicating the SHGs were economically empowering the women. Independent Samples T-test also provides validity for such observations. Compare the income level of participants before and after participating in the SHGs by groups. There are differences of income after participating in the SHGs by groups probability value equals 0.000. Hence this has a good influence on participants' income. On the income earned before the formation of SHGs, there was no variation among the districts under study indicating that the pre-SHG conditions were similar. The results which are mainly depicted by the Paired Sample T-test show certain enhancements in occupational level and income that present high t-values that are constructive in nature. The raise in occupational level after SHG with mean differences equals 2.650 and in income after joining the SHGs with mean differences equals -3.600 that are indications towards better economic status made by SHGs.

Through the ANOVA test, the researcher was able to establish differences in the income of those women after joining SHGs across different districts and a high F-value with a probability value of 0.000. This means that SHGs have enhanced income within all specialties of the districts. The problems mainly faced by the women respondents and the income just prior to formation of SHGs were found to be similar. Using Chi-Square tests, it is possible to detect significant relationships between categorical variables. The large p-values of 0.025 and 0.007 mainly indicate the existence of strong correlations for the studied variables. Analyzing the summary of the regression model, it can be seen that there is a marked relationship between district codes and predictor variables.

Regression value equals 0.903 with the R-Square value of 0.815. This mainly shows that indeed the model has been responsible for a significant amount of variance in district codes given by the predictors. A moderate positive autocorrelation which is also conclusive from the calculated Durbin-Watson value of 1.620 indicates that defined residuals are somewhat correlated. The reliability test results of the obtained Principal Component Analysis or PCA data is equal to 0.708 referred to as the Kaiser-Meyer-Olkin or KMO measure (Murry, 2020). These mainly show moderate adequacy. While Bartlett's Test of Sphericity p-level is 0.000, this implies that the data is quite satisfactory for factor analysis.

Secondary data analysis strengthens various types of effects of SHGs, at higher per capita incomes and shifts in expenditure profile. These findings about an increase in the number of SHG registrations and the promising changes in the status of women in West Bengal have led to the conclusion about the effectiveness of the use of SHGs for enhancing the living standards of rural people.

Conclusion

Here mainly conclude that education is very necessary for rural women empowerment in the place of Kalimpong and Cooch Behar in the state of West Bengal. By applying the research frameworks and models, the study gives a clear insight on consumer behavior and its connection with the marketing approaches in the context of the digital environment. Focusing on the distribution of various kinds of information, the work investigates the issues concerning personalized marketing, the impact of the social networks and the changes in the concept of brand identity. This suggests that change is inevitable for businesses especially where the market dynamics are quite volatile and that adopting data analytics is quite crucial. Another thing is that the present study reveals important trends that may be useful for managers and practitioners to help all consumers and boost business in new and more efficient ways of marketing communication within a constantly competitive type of future market environment.

The article's concluding section compiles all of the research findings, emphasizing the need to adapt the marketing idea to the demands of the digital world. Based on the report, while digitalization offers organizations a lot of opportunities, it also poses a number of risks, including those to customer loyalty as well as confidence. The study offers recommendations to companies on how to enhance their marketing, such as using social networks, tailored marketing, along with ethical advertising strategies.

Reference List

Journals

1. Aggarwal, S. and Shamsi, M.S., 2022. Self-help groups movement: Indefatigable guide and supporter of rural women empowerment leading to sustainable development. International Journal of technology management & sustainable development, 21(2), pp.229-249.
2. Chakraborty, T. and Dasgupta, S., 2020. Microfinance and women's empowerment: A Cross-Caste Analysis in West Bengal. Psychology and Education, 57(9), pp.2164-2176.
3. Chattopadhyay, A. and Biswas, P., 2021. Presence of Life Skill Education among the Rural Women with Special Reference to Self-help Groups. WOMEN EDUCATION AND EMPOWERMENT: INDIAN PERSPECTIVE, p.242.
4. Dutta, M., Ghosh, S. and Husain, Z., 2024. Maternal and Child Health in India: Networks and Information Diffusion. Taylor & Francis.
5. Ghosh, A., A Study of the Role of West Bengal Government in Women Empowerment.
6. Ghosh, D. and Paul, S., 2021. The Impact of Self-Help Groups in Women Empowerment with Special

Reference to Kumargram Block, Alipurduar District (West Bengal). Int J Eng Manage Humanit, 2(5), pp.1-9.
7. Gupta, R., Dana, S.S., Maity, A. and Bandyopadhyay, U.K., 2020. A study on the socio-economic status of the fishery-based self-help groups in Nadia district, West Bengal.
8. Kumar, N., Raghunathan, K., Arrieta, A., Jilani, A. and Pandey, S., 2021. The power of the collective empowers women: Evidence from self-help groups in India. World Development, 146, p.105579.
9. Mishra, S. and Pati, S.K., 2023. A comparative study on women empowerment through self-help groups of Khordha district. Journal of Pharmacognosy and Phytochemistry, 12(3), pp.188-194.
10. Mullick, S. and Khanna, A., 2021. Impact of participation of women in Self Help Groups and their empowerment: A study on the women from vulnerable delta region of West Bengal. RESEARCH REVIEW International Journal of Multidisciplinary, 6(12), pp.33-42.
11. Murry, N., 2020. Assessment of self help groups and their impact on tribal women in Nagaland.
12. Patel, M.R. and Mistry, S., 2024. Women Empowerment through Self-Help Groups in India–A Comprehensive Literature Review. Journal of Informatics Education and Research, 4(1).
13. Raghunathan, K., Kumar, N., Gupta, S., Thai, G., Scott, S., Choudhury, A., Khetan, M., Menon, P. and Quisumbing, A., 2023. Scale and sustainability: The impact of a women's self-help group program on household economic well-being in India. The Journal of Development Studies, 59(4), pp.490-515.
14. Sarawagi, A. and Singh, M., 2024. ENHANCING LIVELIHOODS AND EMPOWERING TRIBAL WOMEN: ANALYZING THE ROLE OF SELF-HELP GROUPS IN SONBHADRA. Sachetas, 3(2), pp.23-30.
15. Scott, S., Arrieta, A., Kumar, N., Menon, P. and Quisumbing, A., 2020. Multidimensional predictors of common mental disorders among Indian mothers of 6-to 24-month-old children living in disadvantaged rural villages with women's self-help groups: A cross-sectional analysis. Plos one, 15(6), p.e0233418.