Microfinance as a catalyst for women's empowerment: A study of Sindhuli District, Nepal

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Abstract: This study examines the impact of microfinance programs on women's economic empowerment in the Sindhuli district. It focuses on how micro-saving, micro-credit, micro-insurance, and training services contribute to improving women's financial independence and decision-making abilities. A cross-sectional research design with a deductive approach was used. Data were collected from 385 women who use microfinance services in the Sindhuli district. Participants were selected through purposive sampling. The data were analyzed using SmartPLS software to assess the relationship between microfinance services and women's economic empowerment. The results show that micro-saving, micro-credit, micro-insurance, and training services all have a significant positive effect on women's economic empowerment. Microcredit supports women in starting or expanding businesses and managing emergencies. Micro-saving and insurance services provide financial security, while training helps build knowledge and confidence. Microfinance programs play an important role in increasing women's economic independence and strengthening their decision-making power, especially in rural areas like Sindhuli. Microfinance institutions are encouraged to provide balanced services. Along with credit and savings, they should strengthen micro-insurance and training programs to better support women in low-income communities and promote sustainable development.

Keywords: Empowerment, Microfinance, Nepal, Sindhuli, Women.

1. Introduction

Women's empowerment has long been recognized as a key driver of development, but its meaning, dimensions, and measurement remain diverse and debated. Terms such as power, choice, control, and option are frequently used in defining women's empowerment [1] yet there is still ambiguity over whether "empowerment," "gender equality," "women's autonomy," and "women's status" are interchangeable concepts. Scholars have described women's empowerment both as an end-state reflecting the ability to exercise choice and as a dynamic process of gaining power [2].

In Nepal, the reality for many women is shaped by deep-rooted poverty and societal norms that hinder their development [3]. Women, despite being the backbone of family and community life, remain economically marginalized, undereducated, and underrepresented in decision-making spaces [4]. Challenges such as low economic power, limited rights in family decisions, asset deprivation, job insecurity, and denial of reproductive rights continue to impede their progress. While Nepal is celebrated for its cultural diversity and unity, true gender equality is still elusive. Biological sex

differences often hide behind the rhetoric of equal rights, and tensions between modern egalitarian ideals and traditional male-dominated norms persist [5]. Although initiatives in education and awareness have brought some progress, disparities remain stark, particularly between urban and rural areas. Female literacy, for instance, lags significantly behind that of males 70.1% compared to 85.8% highlighting persistent gender gaps [6]. In rural areas like Sindhuli district, women face even harsher realities: lower literacy rates, limited access to economic opportunities, and entrenched gender discrimination [7].

Against this backdrop, microfinance has emerged globally as a strategy for promoting economic development and reducing poverty among marginalized groups [8]. It offers small-scale financial services such as savings, credit, insurance, and training to low-income individuals who are typically excluded from formal financial institutions[9]. Beyond financial access, microfinance initiatives also aim to build self-confidence, financial literacy, and group solidarity among women, thus serving as a potential catalyst for broader social and economic empowerment [10].

In Nepal, where approximately 20.27% of the population still lives below the poverty line National Statistics Office [6] microfinance could play a transformative role. Sindhuli district, with a population of about 300,026 where female literacy remains lower than the national average (64.3%) presents an important case for examining the role of microfinance. The district has a notable presence of financial institutions, yet disparities persist, particularly for women.

Microfinance, by putting financial resources directly into women's hands, has the potential to enhance their decision-making power, economic autonomy, and societal status. However, the global literature presents mixed findings on its impact [11]. While some studies report positive effects on women's income, self-esteem, and household roles, others highlight negative outcomes such as increased social pressure, male appropriation of loans, or minimal changes in empowerment [12].

Given these diverse findings, there is a need for localized research to understand how microfinance influences women's empowerment in specific socio-cultural contexts like Sindhuli. Thus, this study, titled Microfinance as a Catalyst for Women's Empowerment: A Study of Sindhuli District, Nepal, specifically seeks to explore whether microfinance services such as micro-savings, micro-credit, micro-insurance, and training and advisory services have had a significant impact on the economic empowerment of women in Sindhuli district. In doing so, the research aims to contribute to the ongoing global and national debates, while offering insights that can inform policies and programs designed to promote gender equality and women's development.

2. Literature Review

This study formulates hypotheses based on existing empirical evidence to evaluate the role of microfinance in fostering the economic empowerment of women in Sindhuli district, Nepal.

2.1. Micro-Savings and Women's Economic Empowerment

A Case Study of Banke by Gautam [13] observed that participation in micro-savings programs substantially improved women's economic standing, with 76% reporting enhanced financial status and 84% gaining greater familial respect. Micro-savings encourage a culture of financial discipline, resource accumulation, and self-reliance among women, thereby strengthening their bargaining power within the household and community [14].

Hypothesis 1 (H_1): Micro-savings have a significant positive impact on women's economic empowerment.

2.2. Microcredit and Women's Economic Empowerment

Gubhaju [15] highlighted that microcredit services positively influenced women's income levels, empowered them to participate in household decision-making, and improved the productivity of their enterprises. Moreover, access to microcredit often leads to better health, education, and welfare outcomes, suggesting a holistic advancement of women's economic and social status.

Hypothesis 2 (H$_2$): Microcredit has a significant positive impact on women's economic empowerment.

2.3. Micro-Insurance and Women's Economic Empowerment

Review article by Mhella [16] emphasized that micro-insurance offers more than just financial protection it fosters social organization, capacity building, and the development of enterprise management skills among women. By mitigating risks and encouraging group solidarity, micro-insurance empowers women to take calculated entrepreneurial risks, protect their investments, and enhance their long-term economic security [17].

Hypothesis 3 (H$_3$): Micro-insurance has a significant positive impact on women's economic empowerment.

2.4. Training and Advisory Services and Women's Economic Empowerment

Microfinance institutions also play a critical role in providing training and advisory services that equip women with the knowledge and skills necessary for successful enterprise development. Training programs significantly contribute to the socio-economic transformation of women by enhancing their business acumen, self-confidence, and ability to navigate market opportunities [18]. Skill-building initiatives not only improve women's economic performance but also contribute to their leadership development within communities.

Hypothesis 4 (H$_4$): Training and advisory services have a significant positive impact on women's economic empowerment.

2.5. Conceptual Framework

From the literature reviewed, microfinance program such as micro saving, micro credit, micro insurance and training and advisory services are used to examine the effect of microfinance services on women empowerment. Therefore, conceptual framework for the research has been developed based on which has been supported by Gubhaju [15].
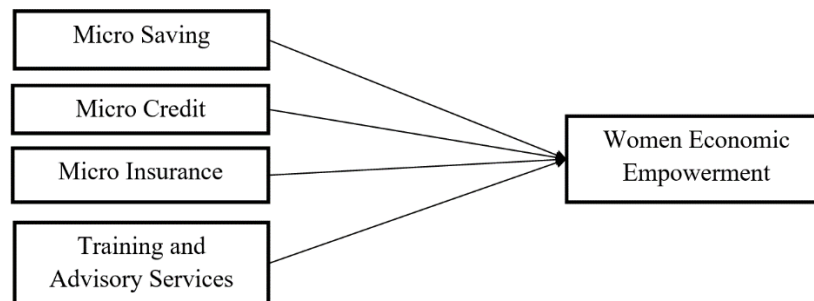

Figure 1.
Conceptual Framework.

2. Research Methodology

This study adopts a descriptive and explanatory research design to analyze the impact of microfinance programs on women's economic empowerment in the Sindhuli district. The target population consists of all female clients affiliated with microfinance institutions operating in the Sindhuli district. According to Nepal Rastra Bank [19] there are fifty-five microfinance institutions in Nepal. The total female population of Sindhuli district is approximately 153,013. However, since the exact number of women engaged with microfinance services is unknown, a sample size of 385 respondents was determined using Cochran's formula:

$$n = \frac{z^2 \times p \times q}{e^2} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 385$$

The primary instrument used for data collection was a structured questionnaire, designed to operationalize the research objectives into measurable questions. The questionnaire was developed by reviewing previous studies, particularly those by Gubhaju [15] and Gnawali [20] ensuring relevance and validity.

The questionnaire was divided into six sections. The first section captured the demographic profile of the respondents through closed-ended questions. The subsequent sections covered key constructs: micro-savings, micro-credit, micro-insurance, training and advisory services, and women's economic empowerment, respectively. Each construct was measured with multiple items to ensure comprehensive coverage of the research variables.

This research is based on primary data collection employing a quantitative research approach. Data were collected using a combination of online and printed questionnaires. Specifically, 490 respondents were approached, and 389 valid responses were received, resulting in a response rate of 79%. Of the total responses, 208 were collected through online Google Forms and 181 through printed questionnaires. Although 4 additional responses were collected beyond the required sample size, they were included to account for any incomplete or invalid entries.

For data analysis, the following steps were followed:

Normality Testing: Initially, data were assessed for normality using linearity tests and histograms to ensure that assumptions for subsequent analyses were met.

Descriptive Analysis: Descriptive statistics were used to summarize demographic characteristics and the distribution of responses across study variables.

Measurement Model Analysis: To assess construct validity, the measurement model was evaluated using SMART PLS software. Convergent validity was checked using criteria such as Composite Reliability (threshold ≥ 0.70) and Average Variance Extracted (AVE, threshold ≥ 0.50) as suggested by Henseler, et al. [21]. Discriminant validity was examined using the Fornell-Larcker criterion, where the square root of each construct's AVE must be higher than its correlations with other constructs. Additionally, the Heterotrait-Monotrait (HTMT) Ratio was applied, ensuring values remained below 0.90, and cross-loadings were verified to be below 0.70 [21, 22].

Correlation Analysis: Finally, correlation analysis was conducted to examine the strength and direction of the relationships between the independent variables (micro-savings, micro-credit, micro-insurance, and training and advisory services) and the dependent variable (women's economic empowerment).

Table 1.
Demographic Profile of Respondents.

Demographic Variables		Frequency	Percentage
	16 to 25	82	21.3
	26 to 35	109	28.3
Age	36 to 45	158	41.0
	Literate	34	8.8
	Secondary	122	31.7
Educational qualification	Intermediate	174	45.2
	Unmarried	132	34.3
	Married	171	44.4
Marital Status	Divorced	13	3.4
	Less than 15000	106	27.5
	15000 to 30000	150	39.0
Monthly Income	30000 to 45000	116	30.1
	45000 and above	13	3.4

3. Results

This section presents and analyzes the primary data collected through a survey, testing the data in detail.

3.1. Demographic Profile

Table 1 presents the demographic profile of the participants in this survey, categorized into four main groups: Age, Marital Status, Educational Qualification, and Monthly Income. Among the 385 respondents, 21.3% were aged between 16 and 25, 28.3% were between 26 and 35, and 41% were in the 36 to 45 age group, which is the largest group compared to others. Respondents aged 46 and above made up 9.4%. Clearly, the 36 to 45 age group has the highest representation. In terms of educational qualifications, 8.8% of respondents were literate, 31.7% had a secondary level education, 45.2% held an intermediate qualification, and 14.3% had a bachelor's degree or higher. The majority of respondents (45.2%) have an intermediate level of education. Regarding marital status, 34.3% of respondents were unmarried, 44.4% were married, 3.4% were divorced, and 17.9% were widowed, indicating that most respondents were married. For monthly income, 27.5% of respondents earned less than 15,000, 39% earned between 15,000 and 30,000, 30.1% earned between 30,000 and 45,000, and 3.4% earned above 40,000. It is clear that the largest group of respondents falls within the 15,000 to 30,000 income range.

3.2. Descriptive Statistic

Table 2.
Descriptive Statistics.

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Standard Error	Maximum	Minimum
Micro Saving	3.9721	0.9892	-1.25	0.6	0.0504	5	1
Micro Credit	3.94	1.052	-1.227	0.337	0.95576	5	1
Micro Insurance	3.86	1.064	-1.16	0.214	0.0543	5	1
Training and Advisory Services	3.8682	1.043	-1.227	0.337	0.053	5	1
Women Economic Empowerment	4.045	1.0438	-1.636	1.847	0.9557	5	1

Table 2 presents the descriptive statistics for various variables, including Micro Saving, Micro Credit, Micro Insurance, Training and Advisory Services, and Women Economic Empowerment. For Micro Saving, the mean is 3.9721, indicating that respondents generally agree with the statements on this topic. The standard deviation of 0.9892 suggests some variation in responses, with some respondents slightly disagreeing and others agreeing. The data is right-skewed, with a skewness of -1.25, and the kurtosis is 0.6, indicating lighter tails than a normal distribution.

In the case of Micro Credit, the mean is 3.94, showing general agreement, with a standard deviation of 1.052, reflecting some variability in responses. The skewness is -1.227, pointing to right skewness, while the kurtosis value of 0.337 suggests a platykurtic distribution with lighter tails. Similarly, for Micro Insurance, the mean of 3.86 shows agreement with the statements, and a standard deviation of 1.064 indicates some disagreement or neutral responses. The data also exhibits right skewness (skewness = -1.16) and a platykurtic distribution (kurtosis = 0.214).

For Training and Advisory Services, the mean is 3.8682, indicating partial agreement, with a standard deviation of 1.043, suggesting a mix of responses. The skewness is -1.227, implying right skewness, and the kurtosis value of 0.337 again indicates a platykurtic distribution. Finally, for Women Economic Empowerment, the mean is 4.045, indicating general agreement, with a standard deviation of 1.0438, showing variability in responses. The skewness is more pronounced at -1.636, pointing to a stronger right skew, while the kurtosis is 1.847, indicating a distribution closer to normal but with lighter tails.

Overall, the data across all variables exhibits a tendency toward right skewness, with platykurtic distributions, suggesting that the responses are generally clustered around the higher agreement levels but with some variation across the respondents.

3.3. Shapiro-Wilk Test for Normality

Table 3.
Shapiro-Wilk Test.

Construct	Statistics	Df	Sig.
Micro Saving	0.826	385	0.05
Micro Credit	0.807	385	0.05
Micro Insurance	0.822	385	0.05
Training and Advisory Services	0.812	385	0.05
Women Economic Empowerment	0.773	385	0.05

Table 3 presents the results of the Shapiro-Wilk normality test for the constructs under analysis. The p-values for Micro Saving, Micro Credit, Micro Insurance, Training and Advisory Services, and Women Economic Empowerment are all greater than 0.05, indicating that these constructs are normally distributed. Thus, we can conclude that the data for these variables follows a normal distribution.

3.4. Measurement Model
The measurement model is the component of the model that examines the relationship between variables and their indicators. In essence, it connects the latent variables to their respective measures, either explicitly stated or implied, within the framework.

3.5. Construct Reliability and Validity

Table 4.
Construct Reliability and Validity.

Construct	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Micro Credit (MC)	0.701	0.708	0.833	0.624
Micro Insurance (MI)	0.761	0.762	0.848	0.583
Micro Saving (MS)	0.729	0.735	0.831	0.553
Training Advisory (TA)	0.759	0.762	0.846	0.58
Women Economic Empowerment (WEM)	0.831	0.831	0.877	0.542

Table 4 presents the reliability and validity measures for each construct. The rho_A values for all latent variables exceed 0.7 Henseler, et al. [21] confirming acceptable internal consistency. Additionally, the Composite Reliability (CR) values for all constructs are also greater than the 0.7 threshold Henseler, et al. [21] further supporting the reliability of the constructs. The Average Variance Extracted (AVE) values are above 0.5 for all constructs, indicating that, on average, each construct explains more than half of the variance in its indicators, as recommended by Fornell and Larcker [23]. Based on these results, convergent validity is confirmed for all constructs, demonstrating that they adequately measure the intended latent variables.

3.5. Discriminant Validity

Table 5.
Cross Loadings and VIF.

Item	MC	MI	MS	TA	WEM	VIF
MC1	0.774	0.533	0.432	0.377	0.453	1.368
MC2	0.782	0.49	0.445	0.419	0.444	1.404
MC3	0.813	0.584	0.529	0.509	0.545	1.332
MI1	0.504	0.727	0.491	0.555	0.521	1.325
MI2	0.484	0.754	0.491	0.44	0.462	1.504
MI3	0.52	0.79	0.513	0.564	0.498	1.595
MI4	0.567	0.781	0.421	0.524	0.535	1.49
MS1	0.405	0.385	0.706	0.384	0.4	1.333
MS2	0.417	0.431	0.746	0.396	0.411	1.417
MS3	0.529	0.569	0.809	0.451	0.477	1.55
MS4	0.415	0.462	0.709	0.373	0.413	1.333
TA1	0.468	0.49	0.408	0.751	0.506	1.418
TA2	0.366	0.504	0.432	0.754	0.419	1.531
TA3	0.463	0.532	0.429	0.79	0.531	1.495
TA4	0.384	0.558	0.381	0.75	0.487	1.458
WEM1	0.479	0.483	0.417	0.47	0.744	1.762
WEM2	0.452	0.472	0.458	0.453	0.693	1.534
WEM3	0.42	0.456	0.433	0.466	0.752	1.727
WEM4	0.444	0.502	0.407	0.501	0.714	1.583
WEM5	0.458	0.482	0.372	0.447	0.738	1.837
WEM6	0.451	0.528	0.444	0.496	0.775	1.77

Table 5 combines the cross-loadings for each item under their respective constructs (Micro Credit, Micro Insurance, Micro Saving, Training & Advisory Services, and Women Economic Empowerment) alongside the Variance Inflation Factor (VIF) values. The cross-loadings show how each item correlates with its own construct (primary loadings) compared to other constructs (secondary loadings). From the data, it is evident that the primary loadings for each item are significantly higher than the secondary loadings, indicating good discriminant validity.

Additionally, the VIF values, which measure multi-collinearity, are all below 3, suggesting that there is no issue with multicollinearity among the items. Therefore, both discriminant validity and the absence of multicollinearity are confirmed, supporting the robustness of the measurement model in this study.

Table 6.
Fornell-Larcker Criterion.

Construct	Micro Credit	Micro Insurance	Micro Saving	Training Advisory	WEM
Micro Credit	**0.79**				
Micro Insurance	0.681	**0.763**			
Micro Saving	0.597	0.626	**0.743**		
Training Advisory	0.556	0.685	0.541	**0.761**	
WEM	0.613	0.663	0.574	0.642	**0.737**

Table 6 shows the Fornell-Larcker Criterion, which provides the cross-loadings of the constructs. The square root of the Average Variance Extracted (AVE) is presented along the diagonal of the table. It is crucial that a construct has a higher variance with its indicators than with other constructs in the model. Therefore, the square root of the AVE, shown in bold, is higher than the coefficients between that construct and all other constructs in the model [24].

Table 7.
Heterotrait-Monotrait Ratio (HTMT).

Construct	Micro Credit	Micro Insurance	Micro Saving	Training Advisory	WEM
Micro Credit					
Micro Insurance	0.845				
Micro Saving	0.825	0.836			
Training Advisory	0.749	0.896	0.727		
WEM	0.796	0.83	0.735	0.802	

Table 7 displays the Heterotrait-Monotrait Ratio (HTMT). Henseler, et al. [21] developed simulation studies to show that a lack of discriminant validity can be effectively identified using the HTMT ratio. The results indicate that all HTMT ratios for each pair of factors are below the threshold of 0.90. Therefore, discriminant validity has been confirmed using the Fornell-Larcker Criterion, Cross Loadings, and HTMT ratio.

3.6. Model Fit Indices

As a measure of the goodness of fit for the current model, the Standardized Root Mean Square Residual (SRMR), developed by Henseler, et al. [21] was adopted. SRMR is the difference between the observed correlation and the correlation matrix implied by the model, which allows for comparing observed and expected correlations. According to Hu and Bentler [25] a value less than 0.10 indicates a good model fit.

From 8, it can be seen that the SRMR value is 0.068, indicating that the model is suitable for the study.

Table 8.
SRMR Index.

Model	Original Sample (O)	Sample Mean (M)	95% Confidence Interval
Saturated Model	0.068	0.05	[0.055, 0.068]
Estimated Model	0.068	0.051	[0.056, 0.070]

The SRMR value of 0.068, which is below the threshold of 0.10 (Hu & Bentler, 1999), confirms that the model fits well for the study.

3.7. Correlation Matrix

The correlation matrix in 9 presents the associations and the significance levels between micro saving, micro credit, micro insurance, training and advisory services, and women economic empowerment.

Table 9.
Correlation Matrix.

Construct	Micro Saving	Micro Credit	Micro Insurance	Training and Advisory Services	Women Economic Empowerment
Micro Saving	1				
Micro Credit	0.591**	1			
Micro Insurance	0.626**	0.677**	1		
Training and Advisory	0.541**	0.546**	0.684**	1	
Women Economic Empowerment	0.572**	0.607**	0.660**	0.638**	1

Note: Correlation is significant at the 0.01 level (2-tailed).

Table 9 demonstrates the correlation coefficients and their significance levels. The correlations between constructs are significant at the 0.01 level, confirming strong relationships between micro saving, micro credit, micro insurance, training and advisory services, and women economic empowerment.

3.8. SEM - Path Analysis

Figure 2 illustrates the results of the Structural Equation Modeling (SEM) path analysis, highlighting the relationships between the independent variables Micro Saving, Micro Credit, Micro Insurance, and Training Advisory Services and the dependent variable, Women Economic Empowerment (WEM). The R^2 value for WEM is 0.550, indicating that these four factors collectively explain 55% of the variance in Women Economic Empowerment. This suggests that Micro Saving, Micro Credit, Micro Insurance, and Training Advisory Services play a significant role in influencing WEM, while the remaining 45% of the variance may be attributed to other variables not examined in this study.

The standardized path coefficients show that Micro Saving has a coefficient of 0.150, Micro Credit has 0.204, Micro Insurance has 0.232, and Training Advisory Services has the highest coefficient at 0.288. These results indicate that among the predictors, Training Advisory Services exerts the strongest positive effect on Women Economic Empowerment, followed by Micro Insurance, Micro Credit, and Micro Saving, respectively. The findings emphasize the crucial role of providing training and advisory services to enhance the economic empowerment of women.
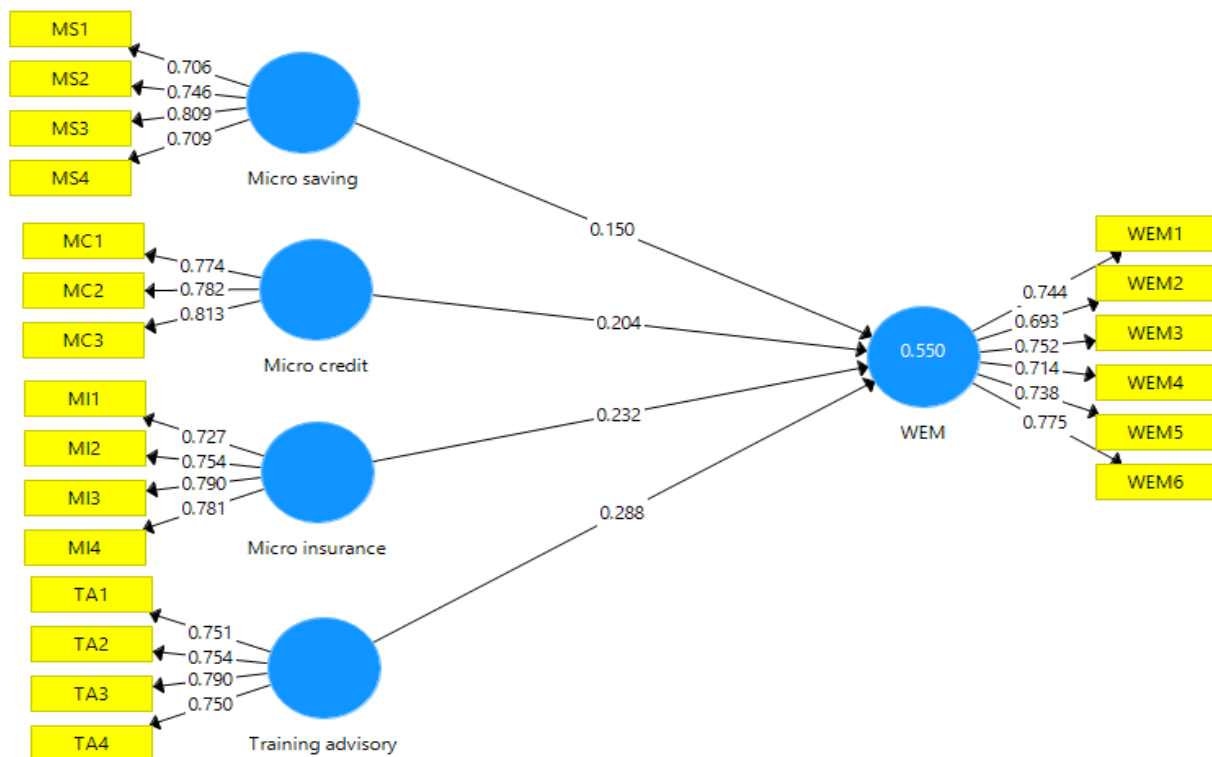

Figure 2.
PLS Model of Study.

Table 10.
SEM-Path Analysis.

	Beta Coefficient	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Micro credit -> WEM	0.204	0.204	0.057	3.583	0.000
Micro saving -> WEM	0.15	0.151	0.061	2.46	0.014
Micro insurance -> WEM	0.232	0.235	0.073	3.19	0.002
Training advisory -> WEM	0.288	0.288	0.058	4.942	0.000

The results of the SEM-Path Analysis presented in Table 10 show that all the paths from the independent variables (micro credit, micro saving, micro insurance, and training advisory services) to Women Economic Empowerment (WEM) are statistically significant, with p-values less than 0.05. The Beta coefficient for micro credit is 0.204, indicating that a 1 standard deviation increase in micro credit leads to a 0.204 standard deviation increase in women's economic empowerment, assuming other factors remain constant. The p-value of 0.000 confirms that this relationship is highly significant. For micro saving, the Beta coefficient is 0.15, which means that a 1 standard deviation increase in micro saving results in a 0.15 standard deviation increase in women's economic empowerment. The p-value of 0.014 indicates that this relationship is also significant. In the case of micro insurance, the Beta coefficient is 0.232, suggesting that a 1 standard deviation increase in micro insurance leads to a 0.232 standard deviation increase in women's economic empowerment. The p-value of 0.002 confirms that this relationship is statistically significant as well. Finally, training advisory services has the highest Beta coefficient at 0.288, meaning that a 1 standard deviation increase in training advisory services results in a 0.288 standard deviation increase in women's economic empowerment. The p-value of 0.000 indicates that this effect is highly significant.

Overall, all the variables micro credit, micro saving, micro insurance, and training advisory have a significant positive impact on women's economic empowerment, with training advisory services having the largest effect.

3.9. Hypothesis Testing Summary

Table 11.
Hypothesis Testing Results.

Hypothesis	P-value	Result
Micro saving has significant impact on women economic empowerment	0.014	Accepted
Micro credit has significant impact on women economic empowerment	0.000	Accepted
Micro insurance has significant impact on women economic empowerment	0.002	Accepted
Training and Advisory Services has significant impact on women economic empowerment	0.000	Accepted

As shown in Table 11 the analysis results support all the proposed hypotheses concerning the influence of various factors on women's economic empowerment (WEM). Specifically, micro saving has a significant effect on WEM, with a p-value of 0.014, leading to the acceptance of this hypothesis. Similarly, micro credit also significantly influences WEM, as indicated by a p-value of 0.000, which supports the acceptance of this hypothesis. Micro insurance is shown to have a significant impact on WEM, with a p-value of 0.002, thus confirming the hypothesis. Lastly, training and advisory services significantly affect WEM, with a p-value of 0.000, leading to the acceptance of this hypothesis as well. All hypotheses are therefore accepted, indicating that each of these factors plays a significant role in promoting women's economic empowerment.

4. Discussion

This study aimed to assess the impact of microfinance programs on women's economic empowerment in Sindhuli district. The educational background of most women respondents was at the intermediate level. Previous research by Dhungana [26] suggests that increased financial income enhances educational opportunities, and microfinance can contribute to improving education levels Education has been identified as a critical factor influencing income and poverty at the household level Bici and Çela [27]. Hill and King [28] further emphasized that improving education, especially for household heads, can significantly contribute to economic empowerment by enabling better income-generation strategies.

The impact of micro credit on women has been a topic of debate. While some scholars argue that micro credit positively influences women's employment, others point to potential negative effects [29]. However, the results of this study indicate that micro credit is primarily used for financial purposes,

with respondents largely using the credit for investment. Many women reported that micro credit has helped them achieve financial independence, and the interest rates charged by Microfinance Institutions (MFIs) did not discourage them from borrowing. These findings suggest a positive impact on empowerment for most women who participated in the credit programs.

Participation in family decision-making also appears to change for women involved in microfinance programs. Forty-five percent of women respondents believed that micro savings helped them manage unexpected financial needs, while sixty-five percent felt that the microfinance program encouraged them to save. This aligns with the findings of Gracy and Devi [30] and Khursheed [31] who found that micro savings play a key role in helping women manage unforeseen expenses. Similarly, Swain and Wallentin [32] concluded that micro savings empower women to handle contingencies more effectively.

The study also found that micro insurance has a positive effect on women's economic empowerment. Micro insurance helps prevent the need to sell essential household assets or pawn them at low prices. It offers customized services tailored to respondents' needs, including coverage for health, life, death, and natural disasters. This supports the findings of Akotey and Adjasi [33] who argued that micro insurance helps low-income households manage risks, escape poverty, and retain their welfare gains.

Regarding training and advisory services, respondents noted that microfinance institutions offer specialized training and business advice to help them run small businesses. Women reported gaining valuable business knowledge and skills, such as preparing income statements and annual reports. These services have contributed to an increase in self-esteem among women, empowering them to start income-generating businesses and accumulate wealth. Nevertheless, training programs aimed at improving women's economic conditions, as noted by Pandit [18] are crucial for skill development and income-generation opportunities.

5. Conclusion

Microfinance has proven to be a crucial tool for empowering underprivileged populations, particularly women, by addressing income disparities and economic vulnerability. Through services like micro credit, savings, insurance, and training, microfinance institutions (MFIs) provide essential support to women, especially in low-income communities. The findings from this study highlight that micro credit significantly contributes to women's economic empowerment, with many respondents using loans for investments and to address emergency needs. Additionally, micro savings programs help women manage unexpected expenses, while micro insurance offers financial security. The study also found that training and advisory services play a vital role in enhancing women's business knowledge and skills, thus encouraging their participation in economic activities. These results are consistent with previous research indicating that microfinance positively impacts women's income, decision-making power, and overall economic independence.

The study further emphasizes the need for MFIs to allocate equal attention to all of their services, particularly micro insurance and training, which remain underutilized compared to micro credit and savings. By improving access to these services, MFIs can better support women's economic empowerment and increase their own sustainability. Although this research is limited to Sindhuli district, future studies could expand the sample size to encompass a wider range of regions and consider additional variables such as social and political empowerment. This broader approach would provide a more comprehensive understanding of microfinance's impact on women and offer valuable insights for more effective policy-making and program development.

Institutional Review Board Statement:

Before collecting data, the researcher obtained ethical approval (Ref. No. 1/08-2082) on May 5, 2024 from Research Department of Shanker Dev Campus affiliated to Tribhuvan University. The clearance clearly states that no human emotions were harmed and that full ethical considerations were maintained.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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