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ASSESSMENT AND IMPACT OF CREDIT RISK AND FINANCIAL STABILITY OF SELECTED MFI's- A COMPARATIVE ANALYSIS

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Abstract: *This study aims to analyse and compare the credit risk profiles of selected microfinance institutions (MFIs) and assess their overall financial stability. By examining financial statements and loan portfolio data, various credit risk indicators are used to evaluate credit quality and risk exposure. Through comparative analysis, effective practices and factors contributing to strong credit risk management are identified. The findings of this study will provide valuable insights to policymakers, regulators, and microfinance practitioners, aiding in the development of effective policies and regulations to enhance the stability of the microfinance sector.*
Keywords: Microfinance institutions, credit risk, financial stability, comparative analysis, return on assets, default rates, Bad debts rate, cost per loan.

Introduction

Microfinance institutions (MFIs) play a crucial role in providing financial services to underserved populations, and assessing their credit risk and financial stability is essential for their viability and effectiveness. This assessment helps address issues such as default rates, portfolio quality, social impact, investor confidence, and systemic risk. Understanding these risks and implementing effective risk management procedures is crucial for stakeholders to protect the interests of lenders, investors, regulators, and the overall financial system. This research focuses on analysing the credit risk and financial stability of a microfinance company (SKDRDP) to identify potential risks, improve risk management practices, and contribute to long-term sustainability in providing financial services to marginalized areas. Strong credit risk management and financial stability are essential for microfinance organizations to support economic growth and poverty reduction.

Need for the study

Assessing credit risk and financial stability in microfinance institutions is crucial for effective risk management, attracting investors, regulatory compliance, and promoting systemic stability. This study provides insights into risk management practices, transparent

information about portfolio risks, and proposals for maintaining regulatory compliance. Evaluating the credit risk and financial stability of microfinance organizations enhances operational efficiency and contributes to the growth and development of the microfinance sector.

Statement of problem

Assessing credit risk in MFIs is complex due to the unique characteristics of their client base and limited access to historical data. Developing new methods for accurate credit risk assessment is necessary. Ensuring the financial stability of MFIs is crucial for their long-term viability and ability to serve underserved populations. Effective solutions will benefit regulators, investors, and the overall stability and growth of the microfinance sector.

Objectives of the study

- To evaluate the credit risk management practices of selected micro finance companies and identify the factors contributing to credit risk in the microfinance industry.
- To compare the Impact of credit risk and financial stability of the selected microfinance companies.
- To evaluate the relationship between the credit risk and the financial stability

Scope of the study

In order to identify possible risks and difficulties that might have an influence on the financial stability of selected micro finance institutions, the study will take into account a variety of parameters, including the quality of the loan portfolio, repayment rates, loan loss reserves, and profitability. The study's analysis of micro finance institutions operational and financial data for a certain time period will be the foundation for its suggestions for improvement.

Industry and Company Profile

Industry profile

The microfinance industry plays a crucial role in promoting financial inclusion and economic growth by providing financial services to underserved individuals and small businesses. With features like small loans, financial inclusion, and social impact, microfinance aims to empower marginalized groups and reduce poverty. Challenges faced by microfinance institutions include financial sustainability and managing credit risk. The future prospects of the industry include product diversification and collaborations with other financial and technological entities. Overall, the microfinance sector is vital for achieving financial inclusion, poverty reduction, and sustainable development.

Company profile

The Sri Kshethra Dharmasthala Rural Development Project (SKDRDP) is a non-profit organization in Karnataka, India, founded in 1982 to empower rural communities and promote sustainable development. SKDRDP offers financial and non-financial services to low-income individuals and small businesses in rural areas through its network of Self-Help Groups (SHGs) and village-level centres. As a Business Correspondent (BC) and Business Facilitator (BF), SKDRDP acts as a banking agent, promoting financial inclusion by providing banking services and promoting financial literacy in underserved regions. SKDRDP collaborates with multiple banks, including Syndicate Bank, SBI, IDBI Bank, Union Bank, Corporation Bank, Pragati Krishna Grameen Bank, Canara Bank, and Vijaya Bank.

Review of the literatures

Sangeetha (2021) The article discusses the risks that financial organisations face, with a focus on credit risk in particular. The main objective is to study the credit risk position to reduce credit risk, the authors stress the need of putting in place suitable debt management and recovery systems. The Morgan Stanley credit risk assessment technique is used, and multiple regression is used for analysis. They also look at the challenges that microfinance institutions (MFIs) encounter while trying to manage loan risk and achieve financial sustainability. The study makes the case that credit scoring analysis may boost financial institutions' productivity and stresses the significance of financial sustainability for the expansion and survival of MFIs. Overall, the article provides insightful information for scholars, decision-makers, and professionals interested in credit risk management in the financial industry.

Jamil Salem Al Zaidanin, Omar Jamil Al Zaidanin (2021) In this study the writers aim to quantify the impact of independent variables on the financial performance of the commercial banks in the United Arab Emirates. These variables include the capital adequacy ratio, the non-performing loans ratio, the cost-income ratio, the liquidity ratio, and the loans-to-deposits ratio. In contrast, capital adequacy, liquidity, and loans-to-deposits ratios have no bearing on bank profitability but do have a weakly positive relationship with return on assets. The Unit root test and the descriptive statistics test is used for the analysis of the data. The study found that non-performing loans ratio and cost-income ratio have a significant negative impact on the profitability of commercial banks. Based on the research's conclusions, it is recommended that banks improve their credit risk management by regularly

monitoring loan performance and scrutinising their customers' credit histories in order to reduce the risk of non-performing loans

Geresem Orichom, Michael Omeke (2020) The author of this study investigates the connections between the capital structure, credit risk management, and financial performance of microfinance institutions (MFIs) in Uganda. Data from 64 MFIs in Uganda were evaluated using correlation and multiple regression analysis as part of the cross-sectional research methodology. According to the study, capital structure is not strongly correlated with financial success, but credit risk management greatly adds to stable financial performance. The study emphasises the value of credit risk assessment, monitoring, and mitigation in helping MFIs achieve solid financial performance. The research makes good use of agency theory, which offers a theoretical framework for comprehending the function of credit risk management in achieving sound financial performance.

Taofeek Sola Afolabi, Tomola Marshal Obamuyi, Tajudeen Egbetunde (2020) This study used panel data from six microfinance banks between 2012 and 2018 to investigate how credit risk impacts the financial performance of microfinance banks in Nigeria. According to the regression study, loan loss provisions had a small but negative effect on returns on assets, but non-performing loans had a considerable negative impact. The study also discovered a favourable correlation between total loans and advances and returns on assets. The study emphasised the relevance of its insights for policymakers, regulators, and microfinance banks in Nigeria seeking to improve financial performance by managing credit risk and recommended that microfinance banks develop credit policies that promote proper monitoring of loan portfolios to reduce defaults. Overall, the study offers insightful data on the connection between credit risk and financial performance in the MFI sector.

Xin Song, Li, Lei Xiao (2019) The study is divided into four main sections and provides a complete analysis of credit risk management for rural credit cooperatives. These parts go through credit risk categorization, credit risk features, credit risk problems and variables, credit risk models and evaluation, and credit risk management tactics. In addition to offering ideas and insights for enhancing credit risk management in rural credit cooperatives, the paper reviews pertinent research in each of these areas. For practitioners, policymakers, and researchers looking to understand and manage credit risk in rural finance, this study is a great resource.

Research Methodology

This empirical study focuses on observing and measuring the cause-and-effect relationship between variables related to credit risk management practices and financial stability in microfinance companies. It involves in-depth investigation and analysis of specific organizations to gain insights into their credit risk and financial stability. The research utilizes quantitative methods, such as financial analysis, to collect data and draw conclusions about the selected microfinance companies' credit risk and financial stability.

Definition of Variables

Variable	Definition
Y	Financial performance (ROA)
X1	Default rate
X2	Bad debts cost
X3	Cost per loan

Data Collection

The data collected for the analysis is secondary data.

- The loan portfolio data and financial statements of SKDRDP are collected directly from the office and their official website *https://skdrdpindia.org/*
- The data of Ujjivan small finance company from *https://www.ujjivansfb.in/*
- The data of Annapurna small finance company is from *https://annapurnafinance.in/*

Hypothesis formulation

- **H_{01}:** There is no significant impact of credit risks on financial performance.
- **H_{02}:** There is no significant relationship between credit risks and financial performance.
- **H_{03}:** There is no significant difference between the means of the credit risk and the financial stability.

Data analysis and Interpretation

Regression analysis (SKDRDP)

Regression Statistics					
Multiple R					0.8855
R Square					0.7841
Adjusted R Square					0.5682
Standard Error					0.0123
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.00055	0.00055	3.6323	0.3076
Residual	1	0.00015	0.00015		

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	-0.05672	0.03754	-1.510	0.37220
Credit risk	10.02034	5.25760	1.90587	0.30761

The multiple correlation coefficient (R) is 0.8855, indicating a strong positive correlation between the dependent and independent variables.

The coefficient of determination (R-squared) is 0.7841, meaning that approximately 78.41% of the variation in the dependent variable can be explained by the independent variable(s).

The regression model's explanatory power is not statistically significant (p-value = 0.3076), based on the F-statistic of 3.6323 with 1 degree of freedom.

The intercept coefficient is -0.05672, representing the expected value of the dependent variable when the independent variable(s) is zero, and the credit risk coefficient suggests an expected increase of 10.02034 units in the dependent variable for a one-unit increase in credit risk.

Regression analysis (Ujjivan small finance bank)

Regression Statistics					
Multiple R					0.9213
R Square					0.8489
Adjusted R Square					0.6978
Standard Error					0.0060
ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.00020	0.00020	5.619530	0.25413
Residual	1	3.61234	3.61234		
	Coefficients	*Standard Error*	*t Stat*		*P-value*
Intercept	0.001893	0.01130	0.167497		0.89434
Credit risk	2.650778	1.11820	2.370554		0.25413

The multiple correlation coefficient (R) is 0.921374999, indicating a strong positive correlation between the dependent and independent variables.

The coefficient of determination (R-squared) is 0.84893189, meaning that approximately 84.89% of the variation in the dependent variable can be explained by the independent variable(s).

The regression model's explanatory power is not statistically significant (p-value = 0.2541), based on the F-statistic of 5.6195 with 1 degree of freedom.

The intercept coefficient is 0.00189, representing the expected value of the dependent

variable when the independent variable(s) is zero, and the credit risk coefficient suggests an expected increase of 2.6507 units in the dependent variable for a one-unit increase in credit risk.

Regression analysis (Annapurna small finance)

Regression Statistics	
Multiple R	0.4337
R Square	0.18817
Adjusted R Square	-0.62364
Standard Error	0.00939

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.0000204	0.00002045	0.2317	0.71435
Residual	1	0.0000882	0.00008822		

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	0.094207	0.096820	0.97301	0.50870
Credit risk	-2.182064	4.532289	-0.48144	0.71435

The multiple correlation coefficient (R) is 0.4337, indicating a moderate positive correlation between the predictor variables and the response variable.

The coefficient of determination (R^2) is 0.18817, suggesting that approximately 18.82% of the variance in the response variable can be explained by the predictor variables.

The regression model's explanatory power is not statistically significant (p-value = 0.7143), based on the F-statistic of 0.2317 with 1 degree of freedom.

The intercept coefficient is 0.094, representing the expected value of the dependent variable when the independent variable(s) is zero, and the credit risk coefficient suggests an expected decrease of 2.182 units in the dependent variable for a one-unit increase in credit risk.

ANOVA
ROA

SUMMARY			
Groups	*Sum*	*Average*	*Variance*
SKDRDP ROA	0.0406	0.0135	0.000350903
Ujjivan ROA	0.0822	0.0274	0.00011956
Annapurna ROA	0.143	0.0477	0.000054333

ANOVA					
Source of	*SS*	*df*	*MS*	*F*	*P-value*

Variation					
Between Groups	0.001768	2	0.000884	5.0537	0.0517
Within Groups	0.001050	6	0.000175		

According to the ANOVA analysis, Annapurna small finance company has the highest average return on assets (ROA) at 4.7%, followed by Ujjivan small finance company at 2.7%, while SKDRDP has an average ROA of 1.3%. This indicates that Annapurna small finance company has better financial stability potential.

The variance of ROA is higher for SKDRDP (0.04%) compared to Ujjivan small finance company (0.01%) and Annapurna small finance company (0.005%), suggesting that SKDRDP faces more variability in their ROA. The F-statistic of 5.05 and a p-value of 0.0512 indicate that there is no significant difference in the ROA between SKDRDP, Ujjivan small finance company, and Annapurna small finance company, leading to the acceptance of the null hypothesis (H0) and the rejection of the alternative hypothesis (H1).

Default rates

SUMMARY			
Groups	*Sum*	*Average*	*Variance*
SKDRDP Defaults	0.0174	0.0058	0.0000042
Ujjivan defaults	0.0371	0.0124	0.0002117
Annapurna defaults	0.1	0.0333	0.00001934

ANOVA					
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*
Between Groups	0.00124	2	0.000620	7.9127	0.02078
Within Groups	0.00047	6	0.000078		

According to the ANOVA analysis, Annapurna small finance company has the highest average default rate at 3%, followed by Ujjivan small finance company at 1.24%, while SKDRDP has the lowest average default rate at 0.58%. This indicates that Annapurna small finance company needs to strengthen its credit policies to reduce the default rate.

The variance of default rates is higher for Ujjivan small finance company (0.02%) compared to SKDRDP (0.00%) and Annapurna small finance company (0.00%), suggesting that Ujjivan small finance company faces more variability in their default rates. The F-statistic of 7.91 and a p-value of 0.020 indicate that there is a significant difference in the default rates between SKDRDP, Ujjivan small finance company, and Annapurna small finance company, leading to the rejection of the null hypothesis (H0) and the acceptance of the alternative hypothesis (H1).

Bad debts rates

SUMMARY			
Groups	*Sum*	*Average*	*Variance*
SKDRDP Bad debts	0.0073	0.00243	0.00000086
Ujjivan Bad debts	0.0207	0.0069	0.00000813
Annapurna Bad debts	0.0599	0.01997	0.00020361

ANOVA					
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*
Between Groups	0.000498	2	0.00024905	3.51428	0.09767
Within Groups	0.000425	6	0.00007087		

According to the ANOVA analysis, Annapurna small finance company has the highest average bad debts rate at 1.9%, followed by Ujjivan small finance company at 0.69%, while SKDRDP has the lowest average bad debts rate at 0.24%. This indicates that Annapurna small finance company needs to strengthen its credit policies to reduce the bad debts rate.

The variance of bad debts rates is higher for Annapurna small finance company (0.00020) compared to SKDRDP (0.0000008) and Ujjivan small finance company (0.00000081), suggesting that Annapurna small finance company faces more variability in their bad debts rates. The F-statistic of 3.51 and a p-value of 0.097 indicate that there is no significant difference in the bad debts rates between SKDRDP, Ujjivan small finance company, and Annapurna small finance company, leading to the acceptance of the null hypothesis (H0) and the rejection of the alternative hypothesis (H1).

Cost per loan

SUMMARY			
Groups	*Sum*	*Average*	*Variance*
SKDRDP Cost per loan	0.0384	0.0128	0.0000136
Ujjivan Cost per loan	0.0288	0.0096	0.0000014
Annapurna Cost per loan	0.03206	0.0107	0.0001976

ANOVA					
Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*
Between Groups	0.0000159	2	0.00000794	0.1121	0.8958
Within Groups	0.0004251	6	0.00007086		

According to the ANOVA analysis, Ujjivan small finance company has the lowest average cost per loan at 0.96%, followed by Annapurna small finance company at 1.07%, while SKDRDP has the highest average cost per loan at 1.28%. This suggests that Ujjivan small

finance company has implemented more effective credit policies, resulting in a lower cost per loan.

The variance of cost per loan is lower for Ujjivan small finance company (0.0000014) compared to SKDRDP (0.000014) and Annapurna small finance company (0.00019), indicating that Ujjivan small finance company experiences less variability in their cost per loan.

The F-statistic of 0.1121 and a p-value of 0.895 suggest that there is no significant difference in the cost per loan between SKDRDP, Ujjivan small finance company, and Annapurna small finance company. Therefore, the null hypothesis (H0) is accepted, and the alternative hypothesis (H1) is rejected.

Findings

- Annapurna Small Finance Company outperforms SKDRDP and Ujjivan in terms of financial performance, with a higher average Return on Assets (ROA) of 4.74% compared to SKDRDP's 1.35% and Ujjivan 2.7%.
- SKDRDP demonstrates a lower bad debts rate of 0.24% compared to the other two selected companies.
- The selected institutions exhibit variability in their financial metrics, indicating fluctuations in their performance over time.
- Although there are potential correlations among financial metrics, the statistical significance of the regression models and the impact of credit risks on financial stability for the selected institutions remain uncertain.

Suggestions

- A detailed analysis is required to understand the factors contributing to SKDRDP's lower financial performance metrics and develop targeted interventions to improve its financial stability.
- It is crucial to review credit management techniques, bad debt management practices, and cost efficiency in order to address these issues and enhance SKDRDP's overall performance.

Conclusion

The comparative analysis highlights variations in credit risk and financial stability among SKDRDP, Ujjivan Small Finance Company, and Annapurna Small Finance Company. Areas of improvement are identified for SKDRDP based on lower financial performance metrics. Targeted interventions can be developed to enhance SKDRDP's stability, while

implementing recommendations from the analysis will benefit both institutions in strengthening credit risk assessment and fostering sustainable growth.

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