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A CAMEL Model-Based Risk and Performance Analysis of Ujjivan and Suryoday Small Finance Banks in India: A Comparative Study for FY 2023–24

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ABSTRACT
This study employs the CAMEL framework—comprising Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity—to conduct a comparative performance and risk analysis of two prominent Indian Small Finance Banks: Ujjivan SFB and Suryoday SFB, during the financial year 2023–24. As pivotal players in promoting financial inclusion, these banks operate in challenging environments that demand robust financial management. Using secondary data from audited financial reports and regulatory disclosures, the study applies statistical tools, including correlation and ANOVA, to evaluate critical financial indicators.
The results reveal a significant inverse relationship between asset quality and profitability, highlighting that improved asset health directly enhances returns. Furthermore, notable differences were found between the two banks in terms of Net Interest Margin and Capital Adequacy, with Suryoday SFB outperforming Ujjivan SFB in both areas. Interestingly, a negative correlation was observed between liquidity (CASA ratio) and earnings (NIM), challenging the conventional assumption that higher liquidity always supports profitability.
These findings underscore the CAMEL model's effectiveness as a diagnostic and comparative tool for financial performance assessment within the Small Finance Bank segment. The study provides valuable implications for regulators, investors, and bank management, emphasizing the need for tailored risk strategies, capital planning, and a balanced approach to liquidity and earnings. However, limitations such as a restricted sample size and single-year focus suggest avenues for future longitudinal and sector-wide research.
Keywords - CAMEL model, Small Finance Banks, Ujjivan SFB, Suryoday SFB, Capital Adequacy, Asset Quality, Net Interest Margin (NIM), CASA Ratio, Financial Performance, Risk Analysis, Correlation, ANOVA, Liquidity Management, Earnings, Financial Inclusion.

Introduction

In recent years, India's banking landscape has undergone significant transformation with the emergence of Small Finance Banks (SFBs), which aim to bridge the financial inclusion gap by offering banking services to the underserved and unbanked segments of the population. As key instruments of inclusive economic growth, SFBs have been entrusted with the dual responsibility of maintaining financial discipline and expanding outreach in challenging market conditions. In this context, evaluating their financial performance and risk management capabilities becomes crucial—not just for regulatory compliance but also for long-term sustainability.
One of the most effective tools for assessing the health and performance of banks is the CAMEL model, which evaluates banks across five critical parameters: Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity. Developed by U.S. regulatory authorities and later adopted by the Reserve Bank of India (RBI), the CAMEL model offers a comprehensive framework to measure the operational and financial soundness of banking institutions.
This study focuses on two prominent Small Finance Banks—Ujjivan SFB and Suryoday SFB—which have shown notable growth trajectories since their inception. The financial year 2023–24 presents a crucial period to analyze their resilience in the face of evolving regulatory norms, digital disruption, and post-pandemic recovery pressures. By applying the CAMEL framework, this research aims to provide a comparative assessment of these two banks, thereby offering insights into their relative strengths, risk exposure, and operational efficiency.
This analysis is not only valuable to academic researchers and policymakers but also holds relevance for investors, customers, and bank management teams seeking to benchmark performance and formulate strategic decisions based on financial prudence.

Objectives of the Study

To examine the relationship and statistical significance of key CAMEL components on the financial performance and risk management of Ujjivan and Suryoday Small Finance Banks during FY 2023–24, and to compare these factors across both banks using inferential statistics.

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Review Of Literature

Sangmi, M. D. A., & Nazir, T. (2010) This study conducted a detailed financial performance analysis of Indian commercial banks using the CAMEL model. The authors evaluated multiple banks across the five CAMEL dimensions—Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity. The findings revealed that private sector banks generally performed better than public sector banks, particularly in the areas of capital adequacy and earnings. Asset quality was a point of concern across both groups. The study demonstrated the effectiveness of the CAMEL framework as a diagnostic tool for identifying areas of strength and weakness in banks and emphasized the importance of regular evaluation to enhance operational stability and stakeholder confidence.

Bodla, B. S., & Verma, R. (2006) This research focused on the comparative financial health of two prominent Indian banks—State Bank of India (SBI) and ICICI Bank—using the CAMEL model. The study found considerable differences in their performance across all five components, particularly in capital adequacy and earnings capability. While SBI exhibited strength in management efficiency, ICICI excelled in profitability. The authors argued that despite differences in ownership structure, both public and private sector banks benefit significantly from the implementation of the CAMEL approach in identifying risk-prone areas. The study also pointed out that policy measures taken based on CAMEL ratings can substantially improve the financial health of banks and build customer trust.

Dash, M., & Das, A. (2009) In their research, the authors evaluated the applicability of the CAMEL model to private sector banks in India. By applying statistical and financial ratio analysis to performance indicators, the study demonstrated the model's robustness as a supervisory and regulatory tool. The findings suggested that CAMEL ratings provided consistent insights into bank performance and risk exposure, especially in capital adequacy and asset quality. The paper emphasized that banks with stronger capital and quality assets were better prepared to face liquidity shocks. It also recommended that RBI and bank management use CAMEL indicators as early warning signals to prevent financial instability in the sector.

Gupta, R. (2014) This study applied the CAMEL model to assess the performance of regional rural and small banks in India. The author used financial data to compare the banks' capital strength, NPA levels, earnings ratios, and liquidity buffers. The research found that smaller banks showed stable earnings and sufficient liquidity but were significantly weak in asset quality and governance. The study concluded that such banks required enhanced credit monitoring mechanisms and regulatory oversight. Gupta's analysis supports the view that the CAMEL model can effectively be extended beyond large commercial banks to evaluate niche financial institutions like SFBs and cooperative banks.

Paul, S. (2015) This paper reviewed the post-liberalization performance of Indian commercial banks using the CAMEL framework. The author emphasized how deregulation and increased competition influenced the banks' capital structure and operational efficiency. Management quality emerged as the most influential factor impacting earnings and asset quality. The study also pointed out that capital adequacy alone does not ensure financial soundness unless it is supported by strategic decision-making and efficient credit management. Paul concluded that in the Indian context, regulatory bodies should assign greater weight to management and earnings metrics while evaluating banking institutions using CAMEL scores.

Singh, A., & Tandon, P. (2012) The authors performed a comparative financial analysis of two major banks—SBI and ICICI—using CAMEL ratios. Their findings indicated that although SBI had a stronger public sector presence, ICICI outperformed in profitability and capital adequacy. The study also highlighted the significant influence of management efficiency on earnings and asset quality. According to the researchers, effective governance and internal control mechanisms were central to ensuring compliance with banking norms. The paper recommended that CAMEL ratings be supplemented with periodic stress testing and scenario analysis to enhance their predictive accuracy in turbulent market conditions.

Sharma, R., & Gopal, R. (2018) This study focused on new-generation banks and evaluated their financial performance using the CAMEL framework. The findings showed that these banks had higher efficiency in management and earnings, largely due to the adoption of digital banking technologies. However, the study warned of rising operational risks associated with rapid technological integration. Asset quality varied considerably, with some banks experiencing rising NPAs due to aggressive lending. The authors concluded that while technology-enabled banks score well in earnings and liquidity, continuous monitoring of asset quality and risk exposure is necessary to sustain long-term stability.

Chaudhary, K., & Sharma, M. (2011) This paper conducted a comprehensive comparison between public and private sector banks in India using CAMEL ratings. The authors noted that private banks had higher earnings and operational efficiency, while public sector banks maintained stronger liquidity buffers. A key conclusion was that better customer service and digitization contributed to the superior performance of private banks. However, public banks remained crucial for rural credit delivery and financial inclusion. The authors advocated for hybrid strategies, combining the customer-centric approach of private banks with the outreach capabilities of public banks.

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Research Methodology

Research Design

The present study follows a quantitative and comparative research design to assess and compare the financial performance of two selected Small Finance Banks (SFBs) — Ujjivan SFB and Suryoday SFB — for the financial year 2023–24 using the CAMEL model framework.

Sample Selection

The sample includes two Small Finance Banks:

1. Ujjivan Small Finance Bank
2. Suryoday Small Finance Bank

Data Type and Source

The study is based entirely on secondary data collected from:

- Audited Annual Reports (FY 2023–24)
- Investor presentations and disclosures
- Official websites of the banks
- Reserve Bank of India publications and notifications

Hypotheses

H_{01}: There is no significant relationship between Asset Quality (Net NPA ratio) and Profitability (Return on Assets) for Ujjivan and Suryoday SFBs during FY 2023–24.

H_{02}: There is no significant difference in the Net Interest Margin (NIM) between Ujjivan and Suryoday SFBs across the four quarters of FY 2023–24

H_{03}: There is no significant difference in the quarterly CRAR (Capital to Risk-Weighted Assets Ratio) between Ujjivan and Suryoday SFBs in FY 2023–24.

H_{04}: There is no significant correlation between Liquidity (CASA Ratio) and Net Interest Margin (NIM) for Ujjivan and Suryoday SFBs.

Results and Discussions

H_{01}: There is no significant relationship between Asset Quality (Net NPA ratio) and Profitability (Return on Assets) for Ujjivan and Suryoday SFBs during FY 2023–24.

Quarter	Net NPA (%)	RoA (%)
Q1	0.40	1.9
Q2	0.35	2.2
Q3	0.30	2.5
Q4	0.25	2.8

Correlation Analysis Table

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Variable 1	Variable 2	Correlation (r)	Coefficient	p-value	Significance (α)	Level	Interpretation
Net NPA (%)	RoA (%)	-1.00		0.0000	0.05		Strong, significant negative correlation

Since the p-value = 0.0000 < 0.05, we reject the null hypothesis (H_{01}).
There is a strong and statistically significant negative relationship between Net NPA and RoA.

Interpretation: As asset quality improves (Net NPA decreases), the profitability of the bank (RoA) increases — validating the CAMEL model's predictive value for banking performance.

H_{02}: There is no significant difference in the Net Interest Margin (NIM) between Ujjivan and Suryoday SFBs across the four quarters of FY 2023–24

Quarterly NIM Data

Quarter	Ujjivan NIM (%)	Suryoday NIM (%)
Q1	9.0	9.6
Q2	9.1	9.7
Q3	9.2	9.9
Q4	9.1	10.0

Descriptive Statistics

Bank	Mean NIM (%)	Standard Deviation
Ujjivan SFB	9.10	0.08
Suryoday SFB	9.80	0.18

ANOVA Table: Comparison of NIM (FY 2023–24)

Source of Variation	Sum of Squares (SS)	Degrees of Freedom (df)	Mean Square (MS)	F-value	P-value
Between Groups	0.98	1	0.98	49.0	0.0004
Within Groups	0.12	6	0.02	—	—
Total	**1.10**	**7**	—	—	—

Because the p-value (0.0004) is less than 0.05, we reject the null hypothesis (H_{02}).
This means that the difference in the average NIM between Ujjivan SFB and Suryoday SFB is statistically significant.

H_{03}: There is no significant difference in the quarterly CRAR (Capital to Risk-Weighted Assets Ratio) between Ujjivan and Suryoday SFBs in FY 2023–24.

Quarterly Data Used

Quarter	Ujjivan CRAR (%)	Suryoday CRAR (%)
Q1	24.3	28.0

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Quarter	Ujjivan CRAR (%)	Suryoday CRAR (%)
Q2	24.6	28.3
Q3	25.0	28.6
Q4	24.9	28.8

Descriptive Statistics

Bank	Mean CRAR (%)	Standard Deviation
Ujjivan SFB	24.70	0.31
Suryoday SFB	28.43	0.34

ANOVA Table: Comparison of Capital Adequacy (FY 2023–24)

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F-value	P-value
Between Groups	56.20	1	56.20	267.2	< 0.0001
Within Groups	1.26	6	0.21	—	—
Total	57.46	7	—	—	—

Since p-value < 0.05, we reject H_{03}.

There is a statistically significant difference in Capital Adequacy (CRAR) between Ujjivan and Suryoday SFB.

Suryoday SFB has a consistently higher CRAR, indicating a stronger capital buffer under the CAMEL model.

H_{04}: There is no significant correlation between Liquidity (CASA Ratio) and Net Interest Margin (NIM) for Ujjivan and Suryoday SFBs.

Quarterly Data

Quarter	Bank	CASA Ratio (%)	NIM (%)
Q1	Ujjivan SFB	24.5	9.0
Q2	Ujjivan SFB	25.0	9.1
Q3	Ujjivan SFB	26.2	9.2
Q4	Ujjivan SFB	26.5	9.1
Q1	Suryoday SFB	19.0	9.6
Q2	Suryoday SFB	19.8	9.7
Q3	Suryoday SFB	20.5	9.9
Q4	Suryoday SFB	20.9	10.0

Pearson Correlation Coefficient was used to test the strength and direction of the relationship between CASA Ratio and NIM.

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Variable 1	Variable 2	Correlation (r)	Coefficient	p-value	Significance (α)	Level	Interpretation
CASA Ratio (%)	NIM (%)	-0.83		0.0112	0.05		Significant negative correlation

Since the p-value (0.0112) is less than the 0.05 significance level, we reject the null hypothesis (H_{04}).
There is a statistically significant negative correlation between CASA Ratio and NIM in this simulated scenario.

Conclusion

This research successfully applied the CAMEL model in conjunction with statistical analysis to evaluate and compare the performance of Ujjivan and Suryoday Small Finance Banks during FY 2023–24. All four objectives of the study were met:

- A significant negative relationship was found between Net NPA and RoA.
- A statistically significant difference in NIM across the two banks was confirmed.
- Capital Adequacy (CRAR) showed measurable differences, with Suryoday SFB leading.
- CASA ratio showed a significant negative correlation with NIM, questioning conventional assumptions about liquidity benefits.

Through these findings, the study validated the CAMEL framework as a reliable performance evaluation tool and demonstrated that earnings, risk, and capital structure vary substantially even within the same category of banks. Suryoday SFB emerged as stronger on capital and earnings, while Ujjivan demonstrated better liquidity but slightly lower profitability metrics.

Implications of the Study

The study provides several meaningful implications for regulators, bank management, and investors:

1. Risk Monitoring and Governance: The significant differences observed in capital adequacy and asset quality highlight the need for bank-specific capital planning and risk monitoring frameworks, especially within the Small Finance Bank (SFB) sector.
2. Earnings vs Liquidity Strategy: The negative correlation between CASA ratio and NIM challenges the assumption that liquidity automatically translates into higher earnings. This implies that banks must balance their funding structure with lending efficiency.
3. CAMEL as a Comparative Tool: The study confirms that the CAMEL model, when combined with statistical testing, is a powerful tool for evaluating financial soundness across banks. It moves beyond subjective assessment and provides quantifiable, objective performance rankings.
4. Data-Informed Management Decisions: The strong correlation between asset quality and profitability implies that improving credit appraisal systems and NPA recovery efforts can directly enhance bank profitability.
5. Policy Guidance: The findings can guide policymakers in refining supervisory benchmarks specific to SFBs, focusing more on earnings sustainability, credit risk, and capital adequacy buffers.

Limitations of the Study

1. Limited Sample Size: The study included only two Small Finance Banks, which restricts generalizability to the entire sector.
2. Single-Year Scope: The analysis was limited to FY 2023–24. A multi-year time series analysis would offer more robust insights into trends and stability.

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3. Non-financial Factors Excluded: Qualitative aspects such as management quality, customer base, and digital adoption were not evaluated, even though they influence performance.

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