

ADVANCING BANKING PERFORMANCE EVALUATION THROUGH A HUMAN-CENTRIC FRAMEWORK: EXAMINING THE ROLE OF MANAGEMENT QUALITY TOWARDS SUSTAINABLE BANKING GROWTH

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Abstract

Purpose: Management Efficiency has become a key driver and a human centric factor towards the growth and development of a banking sector. It not only drives financial resilience but also interprets that how qualitative factors like leadership and governance shape a banking industry and integrate all other quantitative components of a banking unit. The current research aims to study and examine the performance of banking sector through the lens of management quality and adopting a human centric approach that points out how management quality affects banking performance and its sustainable growth.

Design/Methodology/Approach: Secondary data from 2011-2021 has been used in the present study and banks from public, private and foreign sector have been selected on the basis of market capitalization using disproportionate stratified sampling. Key financial ratios of management quality like profit to number of employees, business to number of employees and cost of deposit ratio have been used and to study the performance of banks across different sectors, ratio analysis and multivariate analysis of variance has been used.

Findings: The findings show notable differences across the performance of all the three sectors with foreign sector banks leading pre dominantly in terms of profit per employee and business per employee ratio due to its varied presence globally and public sector banks leading in terms of cost of deposit ratio highlighting public confidence.

Research Limitations/Implications: The study also brings into light that good governance policies and procedures enhance the resilience of the banking institution. A sustainable banking performance does not only depend on sectoral division of the banks but is also influenced by management quality practices that are being adopted within a banking institution.

Originality/Value: The originality of this study is linked to the incorporation of a human-centric approach with the CAMELS model to analyse how management quality influences the banking growth across public, private, and foreign sector banks.

Keywords: Performance Evaluation, Banking Sector, Management Quality, CAMELS Model, Sustainable Growth

1. INTRODUCTION

Over the longest period of time in history, the evaluation of performance of the banking sector has been largely based on various quantitative parameters with special emphasis to risk management, profitability, productivity and solvency. In the direction of evaluating the financial soundness and steadiness of a banking unit various legal frameworks and banking supervision models like CAMELS (Capital Adequacy, Asset Quality, Management Efficiency, Earnings, Liquidity, and Sensitivity to Risk) are being widely used in the present scenario (*Rose & Hudgins, 2013; Basel Committee on Banking Supervision [BCBS], 2015*). The findings of through these models give robust quantitative comprehensions but these models somehow fail to identify the implications of these models on human foundations and human centric innovation especially the contribution exhibited by managerial decision making, the quality and direction of leadership and governance measures that drive strategic results. Current method fails to seize the main drivers of banking elasticity and growth in the given VUCA world.

The worldwide financial crises and the legal changes that shadowed it stressed on the notion that weak balance sheets are not the only cause of banking failures but it is also due to poor decision making, lack of proper supervision and non-aligned rewards that are deeply rooted in the administrative structures (*Gorton & Metrick, 2012; Minsky, 1986*). Such events highlight how behavioural prejudices, weak governance and inadequate leadership are increasingly becoming the main causes of financial instability which is actually a human occurrence. Due to such reasons, contemporary researches have started encouraging for such performance structures that combine human centric and organizational centric factors in addition to financial metrics (*Ahamed & Mallick, 2019; Berger & Bouwman, 2013*). Such perspectives places banks on a socio economic pedestal whereby they lead not only as a financial mediator but also through human centric and ethical stewardship.

The CAMELS model remains as a crucial and indispensable tool for assessing and monitoring the banks' performance in the present dynamic scenario. Though management is sometimes addressed as a functional paradigm which points out towards leadership quality and efficiency in the governance, its use has mostly been treated as power driven which creates it as a substituted variable measured through various financial ratios (*Barr et al., 2002*).

Sustainable performance comes into existence when people, processes and purpose are placed and worked altogether in accordance to the human centric approaches and organizational analysis (*Drucker, 2007; Sen, 1999*). The methodology of capital distribution, risk management, responding to market and legal constraints are all swayed by the intellectual ability of the managers. The culture in every organization is shaped by an efficient management quality and leadership which directly impacts the long term goals of a banking organization (*Goleman, 2000; Hambrick & Mason, 1984*). Rather than being one of the sole factors of the CAMELS model, management quality acts as a linking

agent which integrates all other components of the model. Flexibility, inclusion and sustainable value creation for stakeholders are the components of a sustainable growth in the banking system which inches farther than the short term profitability perspective (*Elkington, 1997; Scholtens, 2009*).

For the purpose of matching financial performance with a generalised development and sustainability, management quality becomes a crucial component to be taken into consideration and the analysis of the same becomes more meaningful when done in context of Indian banking industry which is more complex and dynamic and at the same time is differentiated by the coexistence of different sectors such as public, private and foreign sector banks which points out towards its diversity with respect to risk forbearance, leadership management and governance mechanisms (*Ghosh, 2016*). The uneven management quality across different banking sectors has been highlighted through many incidents of mounting non-performing assets, banking governance failures and legal actions (*RBI, 2021*). Such constraints focus upon the importance of moving ahead of the static ratios and finding out the methods through which various human based and institution based factors influence performance curves of the banking organizations.

Signifying a human centric reinterpretation of the CAMELS model, the current research makes an effort to assess the banking growth by placing the management quality as a significant influence in sustainable growth. The present study considers management efficiency as a human centric and a human driven variable that infuses all other components of the CAMELS model altogether and in any way does not change the mathematical structure of the model. A comprehensive and a human centric approach is espoused in the current research to assess the banking performance in the light of complex financial context that further attempts to provide a revelatory profundity.

2. REVIEW OF LITERATURE

The review of the current study lays emphasis on the evolutionary aspect of the CAMELS model and how far has it actually come in terms of its applicability in the banking sector. The review also underscores the relevance of management quality as a crucial parameter of adopting human centric approach towards analysing the banking performance.

2.1 Theoretical & Traditional Approach to Banking & Empirical Application of CAMELS Model in the Banking Sector

The studies done in the banking segment in the past have extensively made the use of Resource-Based View (RBV) theory, which elaborates that various intangible resources of the banking organization have meaningfully contributed towards gaining a sustainable competitive advantage in the longer run and have also contributed to excellent organizational performance. This theory propounds that resources like managerial skills, employee productivity, and knowledge of the organization, complemented with technological competence, has a noteworthy effect on the administrative

effectiveness and longstanding viability of the banking sector (Wernerfelt, 1984; Barney, 1991). Previous studies in the banking sector have deployed the RBV framework to fundamentally understand that how management practices and effective utilization of human capital improves productivity, profitability, and institutional resilience (Grant, 1996; Peteraf, 1993). The application of this theory has also been used to examine the association amid management efficiency, integration of technology, and sustainable financial performance in different banking organizations.

Building on this theory over the last many decades the aid of banking performance evaluation lies in tools like financial metrics and legal norms that are created by central banks and other regulatory bodies of the country. CAMELS model is another financial measurement model which is used to measure the monetary growth of the banking unit, thus defining the monetary forte and finding the flaws that a bank might encounter. This framework was adopted by the RBI- Reserve Bank of India in 1996 through the aid of the recommendations of the Padmanabhan Working Group in 1995 (*Miah S. & Rahman M., 2015*). It is an organized, well-articulated and a ratios based financial metric approach that is extensively used to measure the financial reliability of the banks, so this model has become as a benchmark for the banking industry in terms of evaluating performance and supervising the financial health of the entire banking industry and the units encompassing it (*Samuel, 2018; Hibba et al., 2024*). The CAMELS model is a composition of six components altogether that provides a 360 degree analysis of banking performance and includes the following components- Capital Adequacy, Asset Quality, Management Quality, Earnings, Liquidity and Sensitivity to Market Risk. Widely used monetary metrics in the past such as ROA & ROE which were the finest metrics of profitability and solvency failed to fully capture the intricacies of banking performance (*Wirnker & Tanko, 2025*).

Researches conducted by *Abdelatif et al. (2024)* and *Pokharel & Devkota (2025)* validated the CAMELS model compliance in both developing and developed economies which restates its supremacy aimed at the determination of measuring the financial performance and sustainability of banks across different sectors, nations and institutions. *Ferrouhi, E. M. (2018)* intended to present a concrete theoretical base that enabled the study of overall performance of banks including their profitability and further a review of different notions and models was made to present a productive theory that aided the performance analysis in the banking industry. *Mangala D., Singla N. (2021)* made an attempt to gauge the value of earnings in the Indian banking business and the results further elucidated that management of earnings in the public sector banks was reasonably more than private sector banks. The study further inferred that laws and regulations must be more stringent for regulators, depositors and investors.

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From the Indian banking perspective, CAMELS model has been widely used in context of a longitudinal analysis and to draw a comparison between the performance of banks amongst different sectors which reveals performance differences in terms of capital adequacy, asset quality and management quality. *Kantharaju, Shubha, and Naresh Babu (2024)* highlighted that though the sector performance differences were small yet private sector banks outperformed public sector banks. *Abdelatif et al. (2024)* found that realistic adoption of the model is depicted through inter sectoral studies and comparisons and one such study was done in Algeria on various Islamic banks. The national bank of Algeria witnessed many difficulties in transparency and risk exposure. *Thamer and Ghaouti (2025)* used this model in order to draw comparison between various Islamic banks under different legal frameworks which highlighted the viability of the CAMELS model to enhance various kinds of banking assessments. Across different studies done through the aid of this model, management quality acts as a base for banking governance and enhancing operational efficiency but it

significantly lacks a detailed understanding about the human centric aspects that outline decision making on the basis of managerial behaviour. *Saeed et al. (2024)* depicted that factors like asset quality, liquidity and profitability help in forecasting future banking performance effectively yet its linkage to management quality is still hidden rather than clearly posited.

2.2 Blending Management Quality, Governance and Human Centric Perspectives in Financial Institutions

The systematic frame of research literature in the field of banking advocates and recognizes that the quality of administration, governance mechanisms and leadership choices does affect the financial performance of a banking unit. The studies focusing on banking governance states that factors like stability and exposure to risk are sturdily influenced by headship structures, board effectiveness and omission procedures (*Mateus et al., 2018*). Stringent benchmarks of corporate governance like risk oversight, board independence and clear decision making processes are significantly correlated with bank performance and strength amidst different economic stresses and crises. These processes reduce increasing NPAs and at the same time promote accountability and financial resilience. (*Ozbek et al., 2025*) stated that regulatory governance procedures are important for reducing risk as well as aligning performance with sustainability goals which reduce the risk of NPAs and chances of financial distress. The human centric performance frameworks delineate the fact that quantitative methods of performance evaluation must be complemented with qualitative parameters like ethical standards, involvement of employees and quality of decision making (*Drucker, 2007; Goleman, 2000; Sen, 1999*). Such theoretical notions are reliable with general performance tendencies that see organizations as social and technical systems rather than just financial machines (*Trist & Bamforth, 1951; Hambrick & Mason, 1984*). Very few studies have incorporated a behavioural aspect of performance evaluation that are human centric in nature specifically in context to the banking industry. Studies have found out that factors like competency of employees, organization culture and quality of leadership are crucial determinants that determine human centric innovation and customer oriented value creation (*Elkington, 1997; Scholtens, 2009; Pfeffer, 2010*). The outcomes of the study propose that managerial abilities play a important role in determining financial outcomes. Absence of such perspectives in banking performance determination stresses on the need of integrative framework that identifies quality of management as a foundation stone of financial performance and sustainable growth.

2.3 Sustainability & Long Term Growth in Banking

An enduring growth and unrelenting performance are more into spotlight than short term profitability in the collected works of the banking industry. The research done in sustainable banking states that banking organizations must maintain an equilibrium between ESG factors and economic objectives in order to create longstanding stakeholder value. Various communities vowing for sustainable

development desire to see banks fulfilling the sustainable development goals while maintaining a financial balance (Aracil *et al.*, 2021). The highlights from the bibliometric mapping reveals that governance that is directed towards sustainability is linked to factors like ethical leadership, engagement of company stakeholders, quality of regulatory environment and transparency. These factors are an inherent part of ensuring adequate managerial quality and also induce long term performance of the banks (Ozbek *et al.*, 2025).

3. RESEARCH METHODOLOGY

3.1 Research Objective

To study, rank and compare the performance of the selected public, private and foreign sector banks with respect to management quality through the aid of CAMELS Model by adopting a human centric approach.

3.2 Research Hypothesis

H₀: There is no significant difference between the performance of public, private and foreign sector banks with respect to Management Efficiency.

H₁: There is a significant difference between the performance of public, private and foreign sector banks with respect to Management Efficiency.

3.3 Sampling Unit

For a meaningful analysis, 5 banks from each category have been nominated for the purpose of the study. Therefore, a total of 15 banks shall be considered as sample being 5 public sector banks, 5 private sector banks and 5 foreign sector banks. The sampling technique that has been used to select the top 5 public private and foreign sector is Disproportionate Stratified Sampling because it would enable an equal weightage and a meaningful comparison across different sectors and would ensure a fair comparative analysis.

The major base on the basis of which these banks have been selected is the Market Capitalization of these banks taken in the month of December 2023. The top 5 banks have been selected from each category bearing the highest market capitalization. Table 1 shows the Market Capitalization of these banks.

Table 1: Selection of Banks on the basis of Market Capitalization

Sector Wise Classification of Public, Private & Foreign Sector Banks on the Basis of Market Capitalisation (as of December 2023)			
S No.	Category	Name of the Bank	Market Capitalization Value (Rs in Cr./ Billion \$ for Foreign Banks)
1.	PUBLIC SECTOR BANKS	State Bank of India	5,83,044.90

		Bank of Baroda	1,16,821.07
		Punjab National Bank	1,00,343.38
		Union Bank	90,283.62
		Indian Overseas Bank	86,384.02
2.	PRIVATE SECTOR BANKS	HDFC Bank	12,62,061.72
		ICICI Bank	7,09,778.03
		Kotak Mahindra Bank	3,67,375.37
		Axis Bank	3,43,174.00
		IndusInd Bank	1,22,772.80
3.	FOREIGN SECTOR BANKS	JP Morgan Chase	486.99
		Bank of America	265.18
		Industrial & Commercial bank of China	219.83
		HSBC	151.91
		Citi Bank	97.61

Source: Money Control.com & Companiesmarketcap.com (December 2023)

3.4 Data Collection

The data for the current research has been collected from reliable and authentic secondary sources like the reports published by the Reserve Bank of India (collected from their official website), financial statements of certain banks located on their websites and the data of certain banks which was available on the website of moneycontrol.com.

In order to make the study more exhaustive and comprehensive, the data has been collected for a total timeframe of 11 years starting from the financial year 2011 till the financial year 2021.

3.5 Data Analysis

The tools that would be used for the analysis of data are mentioned as under:

- Ratio Analysis: For management quality, the ratios for every component will be worked out as mentioned below. The ratios have been accurately used in the studies of Suresh, K., & Pradhan, S. K. (2023) and many other studies incorporated in the review. The ratios were also incorporated from the study of Rostami M. (2015). Following ratios are used:
 - o Profit per Employee
 - o Business per Employee
 - o Ratio of Cost of Deposits

- Multivariate Analysis of Variance (MANOVA): In case of the present study, there is an intention of evaluating the performance of all the three sectors, namely public, private, and foreign sector banks that have been chosen for the purpose of the study from the perspective of management quality in order to adapt a human centric approach.

4. DATA ANALYSIS & INTERPRETATION

The component of Management Quality tries to evaluate the operational and managerial performance of a bank and also tests a banks' capability to absorb, manage and control risk involved in the day to day working of a banking business. Only Mean Scores have been displayed for all ratios taken across years ranging from 2011-2021.

4.1 Analysis of Profit after Tax to Number of Employees

The ratio of profit after tax to number of employees is indicative of the net profit that is earned by the bank per employee and it also is a key indicator of the efficiency of a banking organization and employee productivity. This ratio points out that how effective is a bank in utilizing its employees to generate profits after covering all the expenses and taxes.

Following formula is used to compute the aforementioned ratio:

$$\text{Profit after Tax to Number of Employees (PATTE)} = \frac{\text{Net Profit (After Tax)}}{\text{Total Number of Employees}}$$

Table 2 to 4 exhibits the mean scores of Ratios of Profit after Tax to Number of Employees computed for the selected public, private and foreign sector banks during the period of 2011 to 2021.

Table 2: Ratio of Profit after Tax to Number of Employees of Selected Public Sector Banks

Name of Bank	State Bank of India	Bank of Baroda	Punjab National Bank	Union Bank	Indian Overseas Bank
Nature of Bank	Public	Public	Public	Public	Public
2011	3.85	11.00	8.35	8.00	4.16
2012	5.31	12.00	8.42	6.00	3.84
2013	6.45	10.00	8.05	7.00	1.99
2014	4.85	10.00	5.00	5.00	2.01

2015	6.02	7.00	5.00	5.00	-1.41
2016	4.70	-10.00	-6.00	4.00	-9.05
2017	5.11	3.00	2.00	2.00	-11.40
2018	-2.43	-4.00	-17.00	-14.00	-22.43
2019	0.33	8.00	-15.00	-8.00	-14.18
2020	5.79	1.00	1.00	-8.00	-34.27
2021	8.28	1.00	2.00	4.00	3.53
Mean Score	4.39	4.45	0.17	1.00	-7.02
Sector Specific Rank	2	1	4	3	5

Source: Calculations made from RBI Reports

There is a varying trend in case of the ratio of profit after tax to number of employees for selected public sector banks. Bank of Baroda ranks as the top performer with an average mean score of 4.45. State Bank of India ranks at the second place with an average mean score of 4.39 and it has been a consistent and a stable performer over the years. Union Bank ranks at the third place with a mean score of 1 showing that its performance has fluctuated over the years. The efficiency as compared to the first two rankers is comparatively low. Punjab National Bank ranks at the fourth place with a mean score of 0.17 which shows that it has failed to generate sufficient amount of profits per employees and in multiple years negative ratios were witnessed especially from 2016 to 2020 which shows that the bank has a weakening financial health. Indian Overseas Bank recorded a mean score of -7.02 and is ranked last amongst all the selected public sector banks which shows that the bank is underperformed, undermanaged and displays poor performance as compared to its competitors and peers.

Table 3: Ratio of Profit after Tax to Number of Employees of Selected Private Sector Banks

Name of Bank	State Bank of India	Bank of Baroda	Punjab National Bank	Union Bank	Indian Overseas Bank
Nature of Bank	Public	Public	Public	Public	Public
2011	7.37	10.00	8.00	14.00	8.24
2012	8.00	11.00	9.00	14.00	8.57
2013	10.00	14.00	10.00	15.00	9.22
2014	12.00	14.00	10.00	15.00	9.03
2015	10.00	16.00	11.00	17.00	9.38
2016	15.00	14.00	7.00	18.00	9.92
2017	16.00	12.00	11.00	6.68	11.33
2018	20.00	8.00	12.00	0.47	14.26
2019	23.00	4.00	12.00	7.61	11.90
2020	24.00	8.25	13.00	2.40	14.40
2021	26.00	16.90	14.00	8.66	9.56
Mean Score	15.58	11.65	10.64	10.80	10.53
Sector Specific Rank	1	2	4	10.80	10.53

Source: Calculations made from RBI Reports

In case of private sector banks, when the performance of profit after tax to number of employees is observed, HDFC Bank emerges to be the highest ranker with a mean score of 15.58, which shows that bank has been consistent in its performance throughout the years, displaying a score of 7.37 in 2011 to

26 in 2021, which points out to its effective human resource utilization. ICICI Bank ranks at the second place with a mean score of 11.65, this bank has maintained a stable performance throughout its years with a minimal volatility in the later years. Axis Bank ranks at the third place with a mean score of 10.8, where in the earlier part of the years, it was a strong performer but its ratios declined after 2017 on account of increase in its NPAs. Kotak Mahindra Bank and IndusInd Bank rank fourth and fifth respectively with a mean score of 10.64 and 10.53 respectively. In case of both of these banks, there was growth but not as much as compared to its peers, although their performance points out an effective management as compared to the public sector banks.

Table 4: Ratio of Profit after Tax to Number of Employees of Selected Foreign Sector Banks

Name of Bank	JP Morgan Chase	Bank of America	Industrial & Commercial bank of China	HSBC	Citi Bank
Nature of Bank	Foreign	Foreign	Foreign	Foreign	Foreign
2011	219.41	139.02	—	23.20	28.61
2012	193.82	148.86	61.91	34.69	36.03
2013	276.82	120.65	65.75	40.41	50.19
2014	341.77	175.87	79.71	31.03	51.00
2015	358.52	144.25	96.45	34.25	59.00
2016	273.58	163.19	78.84	41.44	60.00
2017	332.97	158.73	21.55	57.85	69.00
2018	363.28	160.86	36.16	58.22	67.00
2019	446.61	186.68	67.72	65.35	88.00
2020	388.27	257.76	57.00	71.58	104.05

Source: Calculations made from RBI Reports

The results in case of foreign sector banks rank JP Morgan as a top bank with a mean score of 342.68 which points out that this bank is extraordinarily efficient and profitable as the bank has managed to maintain high values reflecting its efficient cost management strategies and strong banking operations. The Bank of America ranks at the second place with a mean score of 173.94 which again highlights that the bank has shown strong and consistent performance. The Industrial and Commercial Bank of China ranks at the third place with a mean score of 66.61 which points out to its improvement in employee productivity over the years and massive increase in the workforce. Citibank and HSBC rank 4th and 5th respectively with a mean score of 63.51 and 50.35 which as compared to its peers is lower but yet stable and significantly higher in comparison to the Indian public and private sector banks.

4.2 Analysis of Total Business to Total Number of Employees

The ratio of total business to total number of employees is a key financial indicator that highlights the productivity of employees in the banking sector. It also measures that how efficiently the human resources are being utilized by a bank by calculating the total volume of a business. A high ratio indicates that a bank is efficient and it also points out to the fact that each employee is contributing to the bank's output and this ratio is a useful financial metric for comparing the banks of different sizes and different workforce to assess the overall efficiency of the manpower deployed.

Following formula is used to compute the aforementioned ratio:

$$\text{Total Business to Total Number of Employees (TBTE)} = \frac{\text{Total Deposits} + \text{Total Advances}}{\text{Total Number of Employees}}$$

Table 5 to 7 exhibits the mean scores of Ratio of Total Business to Total Number of Employees computed for the selected public, private and foreign sector banks during the period of 2011 to 2021.

Table 5: Ratio of Total Business to Number of Employees of Selected Public Sector Banks

Name of Bank	State Bank of India	Bank of Baroda	Punjab National Bank	Union Bank	Indian Overseas Bank
Nature of Bank	Public	Public	Public	Public	Public
2011	704.65	1229.00	1017.80	1043.00	1005.00
2012	798.42	1466.00	1131.99	1070.00	1176.00

2013	943.89	1689.00	1165.06	1215.00	1288.00
2014	1063.75	1865.00	1283.00	1376.00	1367.00
2015	1234.00	1889.00	1319.00	1446.00	1324.00
2016	1411.00	1680.00	1359.00	1551.00	1241.00
2017	1624.00	1749.00	1417.00	1643.00	1228.00
2018	1670.00	1766.00	1474.00	1783.00	1310.00
2019	1877.00	1888.00	1680.00	1879.00	1421.00
2020	2105.00	1877.00	1814.00	2006.00	1438.00
2021	2373.00	1957.00	1885.00	1923.00	1612.00
Mean Score	1436.79	1732.27	1413.26	1539.55	1310.00
Sector Specific Rank	3	1	4	2	5

Source: Calculations made from RBI Reports

In case of public sector banks, it is highlighted that every employee in Bank of Baroda manages the highest amount of total business, which exhibits strong operational efficiency and better optimization strategies for workforce. Union Bank of India ranks second with a mean score of Rs 1539.55 lakhs and State Bank of India ranks third at Rs 1436.79 lakhs, which suggests that despite being the largest public sector bank, SBI mid-level rank indicates that its scale dilutes per employee productivity. Punjab National Bank and Indian Overseas Bank rank fourth and fifth respectively with a mean score of Rs 1413.26 lakhs and Rs 1310 lakhs, which suggests that their business per employee ratio is the lowest.

Table 6: Ratio of Total Business to Number of Employees of Selected Private Sector Banks

Name of Bank	HDFC Bank	ICICI Bank	Kotak Mahindra Bank	Axis Bank	IndusInd Bank
Nature of Bank	Private	Private	Private	Private	Private
2011	653.00	735.00	535.00	1366.00	843.98
2012	654.00	708.00	686.00	1276.00	788.42
2013	750.00	735.00	686.00	1215.00	840.52
2014	890.00	747.00	678.00	1230.00	717.12
2015	1010.00	832.00	705.00	1371.00	719.23
2016	1139.00	943.00	751.00	1484.00	764.55
2017	1236.00	989.00	835.00	1400.00	916.29
2018	1508.00	1078.00	904.00	1484.00	1154.37
2019	1687.00	1222.00	996.00	1653.00	1346.77
2020	1749.00	1274.81	936.00	1727.00	1300.51
2021	1930.00	1492.01	970.00	1713.00	1522.49
Mean Score	1200.55	977.80	789.27	1447.18	992.20
Sector Specific Rank	2	4	5	1	3

Source: Calculations made from RBI Reports

In case of the ratio of total business-to-number of employees for private sector banks, Axis Bank emerges as a top-ranked performer with a mean score of Rs. 1447.188 lakhs per employee which is because of its effective utilization of human resources and aggressive use of digital banking infrastructure followed by HDFC Bank which ranks at the second place with a mean score of Rs. 1200.55 lakhs which shows that HDFC has shown a remarkable growth year after year by increasing its technological integration with a large customer base IndusInd Bank ranks at the third place with a mean score of Rs. 992.2 lakhs which shows that it has improved over the years especially after 2017 which points out to an increase in the productivity shown by the bank ICICI Bank and Kotak Mahindra Bank rank 4th and 5th respectively with a mean score of Rs. 977.8 lakhs and Rs. 789.27 lakhs which shows that ICICI Bank has been a consistent performer but Kotak's lowest rank suggests that it follows a conservative approach towards expansion so it remains the lowest across all the selected private sector banks.

Table 7: Ratio of Total Business to Number of Employees of Selected Foreign Sector Banks

Name of Bank	JP Morgan Chase	Bank of America	Industrial & Commercial bank of China	HSBC	Citi Bank
Nature of Bank	Foreign	Foreign	Foreign	Foreign	Foreign
2011	2217.69	3852.25		1221.70	1745.94
2012	4729.38	3399.28	267.07	1658.92	1975.00
2013	6326.76	3806.99	2057.25	1889.88	2124.00
2014	7136.07	4082.66	2279.81	2274.35	2226.00
2015	7279.21	4473.50	4432.70	2678.26	2463.00
2016	9446.55	5764.20	4384.38	2956.69	2862.00
2017	9672.90	7172.79	2659.07	3116.87	3029.00
2018	9111.52	7414.09	4342.05	3538.44	3236.00

2019	11280.30	9027.22	4819.14	4272.10	3761.00
2020	11515.27	13296.35	4494.00	5061.20	4362.86
2021	13429.57	11250.86	5193.00	6221.31	4779.12
Mean Score	8376.84	6685.47	3492.85	3171.79	2960.36
Sector Specific Rank	1	2	3	4	5

Source: Calculations made from RBI Reports

Witnessing the performance of foreign sector banks selected for the study in relation to the ratio of total business to number of employees, these banks have significantly performed well and have outshined both public and private sector banks. JP Morgan ranks the first with an average score of Rs 8,376.84 lakhs per employee, which is extraordinarily high, which shows that this bank has capitalized its operations at a greater level and has a strong international presence, which focuses on high-value investment banking. Bank of America ranks at the second place with an average score of Rs 6,685.47 lakhs, which shows that its systems are strong and focus on profitable segments, which helps in efficient utilization of manpower. The Industrial and Commercial Bank of China ranks at the third place with an average score of Rs 3,492.85 lakhs, showing less scores in early years but recovering at a very high pace in the later years on account of rapid business expansion and improving its scalability. HSBC and Citibank rank fourth and fifth respectively with an average mean score of Rs 3,171.79 lakhs and Rs 2,960.36 lakhs respectively, and they still outperform and outshine many Indian banks across both the sectors. This performance arises on account of a high-performing workforce and a greater reliance on technology.

4.3 Analysis of Cost Of Deposit Ratio

The cost of deposit ratio is another financial metric which measures that what amount is actually paid by a bank on an average to raise funds through deposits. It shows and projects the interest burden of a bank for mobilizing its deposits and is a crucial factor of seeing the funding efficiency and cost management of a bank.

Following formula is used to compute the aforementioned ratio:

$$\text{Cost of Deposit Ratio (COD)} = \frac{\text{Interest Paid On Deposits}}{\text{Total Deposits}} * 100$$

Interest paid on deposits includes interest paid on all types of deposits such as current, saving and fixed deposits during a particular financial year. Total Deposits includes the total amount of money held by a bank during a particular year. Lower will be the ratio, better will be the banks performance and higher would be the rank of the bank because it would be an indication of effective cost management and stronger trust amongst the depositors.

Table 8 to 10 exhibits the mean scores of Cost of Deposit Ratio computed for the selected public, private and foreign sector banks during the period of 2011 to 2021.

Table 8: Cost of Deposit Ratio of Selected Public Sector Banks

Name of Bank	State Bank of India	Bank of Baroda	Punjab National Bank	Union Bank	Indian Overseas Bank
Nature of Bank	Public	Public	Public	Public	Public
2011	4.98	4.34	4.91	5.12	5.28
2012	5.63	5.15	6.18	6.30	6.94
2013	6.01	5.23	6.61	6.80	7.29
2014	6.02	4.84	5.98	7.07	7.17
2015	6.00	4.65	5.80	7.04	7.28
2016	5.98	4.90	5.65	6.69	6.91
2017	5.59	4.56	5.10	6.12	5.98
2018	5.71	4.36	4.82	5.50	5.37
2019	4.99	4.49	4.89	5.36	5.26
2020	4.79	4.69	4.98	5.55	5.19
2021	4.11	3.93	4.33	4.55	4.62

Mean Score	5.437	4.649	5.386	6.009	6.116
Sector Specific Rank	3	1	2	4	5

Source: Calculations made from RBI Reports

Studying the performance of selected public sector banks for the cost of deposit ratio, it was found out that Bank of Baroda has maintained a lower average cost of deposits and recorded an average score of 4.649% which has put it in the top rank which points out that this bank had a large depositor base and deposit schemes were more competitive. Punjab National Bank ranked at the second position with a mean score of 5.386% and State Bank of India closely followed at 5.437% with a third rank which brings into light the fact that both these banks have managed to maintain a moderate control over the cost of deposits but there has been a decline in this ratio post 2016. The Union Bank and Indian Overseas Bank on the other hand ranked fourth and fifth respectively with an average ratio of 6.009% and 6.116% respectively which highlights an increasing expenditure on interest by these banks maybe because of huge reliance on deposits. Between 2013 and 2016, the ratio of Union Bank remained at above 6% which suggests that the bank witnessed certain challenges. Across all the public sector banks, it was observed that the banks witnessed a decline in the ratio of cost of deposits after 2017 which suggests that banks may have worked strategically on improving their liquidity position.

Table 9: Cost of Deposit Ratio of Selected Private Sector Banks

Name of Bank	HDFC Bank	ICICI Bank	Kotak Mahindra Bank	Axis Bank	IndusInd Bank
Nature of Bank	Private	Private	Private	Private	Private
2011	4.27	4.71	5.64	4.54	5.99
2012	5.57	5.95	7.39	5.95	8.02
2013	6.01	6.16	7.47	6.35	8.35
2014	5.74	5.72	6.93	5.79	7.65
2015	5.75	5.85	6.84	5.68	7.68

2016	5.85	5.50	7.37	5.45	6.83
2017	5.27	5.02	5.56	5.09	6.31
2018	4.58	4.46	5.11	4.42	5.78
2019	4.80	4.37	5.26	4.73	6.12
2020	4.91	4.59	4.94	4.94	6.50
2021	4.04	3.90	3.73	3.98	5.00
Mean Score	5.162	5.113	6.020	5.175	2960.36
Sector Specific Rank	1	2	3	4	5

Source: Calculations made from RBI Reports

Witnessing the performance of selected private sector banks on the cost of deposit ratio, it was found out that ICICI Bank ranks first with an average score of 5.113%, followed by HDFC Bank closely with a mean score of 5.162%, ranking second. It clearly shows that these banks have a stable ratio of cost of deposits throughout the decade, which points out to the fact that both these banks have been able to attract low-cost saving deposits and maintain their brand equity. Axis Bank and Kotak Mahindra Bank rank third and fourth, respectively, with an average score of 5.175% and 6.020%, although the cost efficiency of Axis Bank is comparable to that of HDFC and ICICI, but the average of Kotak Mahindra Bank is higher, which suggests that this bank has mobilized its deposits at an expensive cost. IndusInd Bank ranks at the fifth place with a mean score of 6.749%, which suggests that during 2012-2016, its cost of deposit ratio increased above 8%, and it points out to the fact that the deposit pricing was aggressive by this bank. A decreasing trend is witnessed in case of cost of deposits across all private sector banks, especially from the period starting 2017 onwards.

Table 10: Cost of Deposit Ratio of Selected Foreign Sector Banks

Name of Bank	JP Morgan Chase	Bank of America	Industrial & Commercial bank of China	HSBC	Citi Bank
Nature of Bank	Foreign	Foreign	Foreign	Foreign	Foreign
2011	2.93	5.03	-	3.20	2.94
2012	4.11	3.86	-	4.03	3.21
2013	6.00	4.43	3.76	4.60	3.85
2014	5.64	3.44	9.67	4.67	3.85
2015	4.19	3.71	8.65	4.49	4.32
2016	4.00	3.17	4.77	4.13	3.93
2017	3.70	3.46	6.16	3.95	3.24
2018	2.90	3.39	4.58	3.77	2.64
2019	2.40	3.39	6.35	3.97	5.26
2020	1.84	3.73	6.16	3.29	2.80
2021	1.49	1.57	3.24	2.34	2.00
Mean Score	3.564	3.559	5.927	3.859	3.219
Sector Specific Rank	3	2	5	4	1

Source: Calculations made from RBI Reports

The foreign sector banks selected for a study show better results with Citibank ranking at the first place with a mean score of 3.219% which projects that this bank is able to channelize its deposits at a lower cost followed by Bank of America ranked at second place with a score of 3.559% and JP Morgan Chase at third place with a score of 3.564% on an average which shows that both of these banks have moderate cost management approaches and are relatively consistent. HSBC ranks at the fourth place with a mean score of 3.859% which is a little higher than its peers but still it is able to maintain a moderate control over its expenses related to deposits. The last rank is given to the Industrial and Commercial Bank of China with a mean score of 5.927% which shows that it is less cost efficient because it has a limited presence of retail banking in India and relies highly on time deposits. Overall trend of cost of deposit ratio for foreign sector banks reveals that there has been a decrease in the cost of deposit cost especially from 2017 onwards.

4.4 Rank Analysis of Management Quality

Table 11 gives an insight of the composite ranks of the management quality component that have been calculated using the ranks computed on the basis of mean scores of different ratios for the selected banks across different sectors. On the basis of the composite ranks, the final ranks of the respective bank has been calculated, and the ranking has been done sector wise.

Table 11: Composite Rank and Final Rank of the Selected Public, Private and Foreign Sector Banks for Management Quality

S No	Name of Bank	Nature of Bank	Rank in Mean			Composite Rank	Final Rank
			PATTE	TBTE	COD		
1	State Bank of India	Public	2	3	3	8	2
2	Bank of Baroda	Public	1	1	1	3	1
3	Punjab National Bank	Public	4	4	2	10	4
4	Union Bank	Public	3	2	4	9	3
5	Indian Overseas Bank	Public	5	5	5	15	5
6	HDFC Bank	Private	1	2	2	5	1

7	ICICI Bank	Private	2	4	1	7	2
8	Kotak Mahindra Bank	Private	4	5	4	13	4
9	Axis Bank	Private	3	1	3	7	3
10	IndusInd Bank	Private	5	3	5	13	5
11	JP Morgan Chase	Foreign	1	1	3	5	1
12	Bank of America	Foreign	2	2	2	6	2
13	Industrial & Commercial bank of China	Foreign	3	3	5	11	4
14	HSBC	Foreign	5	4	4	13	5
15	Citi Bank	Foreign	4	5	1	10	3

Source: Calculations made from RBI Reports

In case of public sector banks, Bank of Baroda is a clear top performer with an average score of 3, ranking first, which shows that it is efficient enough in managing its expenses which are related to cost, profit, and business volume, followed by State Bank of India which ranks at the second position with an average score of 8, displaying a consistent performance across all the three financial parameters and also reflecting a stable management efficiency. Union Bank secures the third position, scoring a second rank in the ratio of total business to total employees, but the score is relatively lower in the remaining two ratios. Punjab National Bank and Indian Overseas Bank rank at the 4th and 5th place in case of public sector banks, which highlights their inefficiencies in management, especially in case of Indian Overseas Bank, which has its lowest rank across all the indicators, which highlights that this bank needs to make strategies for streamlining its profitability, cost, and business efficiency.

In case of private sector, HDFC Bank with a lowest average score of 5 ranks first in the profit after tax to total employees and second in case of the other two ratios which shows that HDFC Bank is an emerging leader in the private sector banking with strengthened profit margins and greater operational efficiency. ICICI Bank ranks at the second place which shows that it is resilient enough in cost leadership ranking at the first place in case of cost of deposit ratio and a healthy position in case of

profit after tax to total employees but has failed to generate a good business to employee ratio which may affect its market standing in the long run. Axis Bank ranks third by being the top performer in the ratio of total business to total employees where it has been able to generate a considerable amount of business over the years. Kotak Mahindra Bank and IndusInd Bank rank at fourth and fifth place respectively because of their inefficient performance in the ratio of profit after tax to total employees and cost of deposit ratio.

Delving into the performance of foreign sector banks, it was found out that JP Morgan Chase was the top ranker, followed by Bank of America at the second rank, which shows that both these banks have been strong performers across different parameters or financial metrics. Citibank ranks at the third place because though it is first in case of cost-to-deposit ratio but lags behind in the other two ratios, which are profit after tax to total employees and total business to total employees, which decreases its effectiveness. The Industrial and Commercial Bank of China and HSBC ranked lower because of weak performance in cost-to-deposit ratio, which reflects that their operational structures are less efficient.

4.5 Statistical Analysis of Management Quality

Table 12 displays the information about the descriptive statistics of the different ratios sector wise and as mentioned defines the mean, standard deviation and N for the respective sectors.

Table 12: Computation of Descriptive Statistics for Management Efficiency

Descriptive Statistics				
Nature of Bank		Mean	Std. Deviation	N
Profit After Tax to Total Employees	Public Sector	.5976	4.67976	5
	Private Sector	11.8391	2.13684	5
	Foreign Sector	139.4180	124.00028	5
	Total	50.6182	92.99252	15
Total Business to Total Employees	Public Sector	1486.3738	159.84786	5
	Private Sector	1081.4013	251.00734	5
	Foreign Sector	4937.4612	2449.40268	5
	Total	2501.7454	2224.18300	15
Cost of Deposit Ratio	Public Sector	5.5195	.58705	5
	Private Sector	5.6440	.72411	5
	Foreign Sector	4.0258	1.08684	5
	Total	5.0631	1.07932	15

Source: Calculations made from SPSS Software

The analysis of descriptive statistics reveals that Banks in the foreign sector are more efficient in all important performance metrics. They record the highest mean profit after tax per employee (139.42), significantly above private (11.84) and public sector banks (0.60), suggesting a remarkable ability to create bigger profits with fewer staff. However, the high standard deviation (124) indicates significant internal variability, most likely as a result of variations in specialization, strategy, or scale. In terms of profitability and efficiency metrics, public sector banks perform significantly worse than private sector banks, which exhibit more consistent but mediocre performance.

Similar trends can be seen in the total business per employee ratio, where foreign sector banks once more outperform public sector banks (1486.37) and private sector banks (1081.40) with a mean of 4937.46. Despite this benefit, international banks exhibit significant variability (SD 2449.4), indicating a range of asset levels and business methods. Despite their lower profitability, public sector banks beat private banks in this ratio due to their vast branch networks and government-backed clientele. In terms of cost of deposits, foreign sector banks maintain the lowest average (4.03), highlighting cost efficiency, while public (5.52) and private banks (5.64) incur higher costs, likely due to competitive pressures and structural differences, with public sector banks showing more uniformity in cost patterns.

Table 13 reveals the results of the multivariate analysis of variance for the purpose of testing the hypothesis.

Table 13: Multivariate Tests for Management Efficiency

Multivariate Tests						
	Effect	Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.988	266.045 ^b	3.000	10.000	.000
	Wilks' Lambda	.012	266.045 ^b	3.000	10.000	.000
	Hotelling's Trace	79.814	266.045 ^b	3.000	10.000	.000
	Roy's Largest Root	79.814	266.045 ^b	3.000	10.000	.000
Nature of Bank	Pillai's Trace	.964	3.412	6.000	22.000	.016
	Wilks' Lambda	.174	4.649 ^h	6.000	20.000	.004
	Hotelling's Trace	3.941	5.911	6.000	18.000	.001
	Roy's Largest Root	3.728	13.670 ^c	3.000	11.000	.000

Source: Calculations made from SPSS Software

The results show that whether public, private, or foreign sector banks, three of them have a statistically significant effect on the variables of management efficiency, which are profit after tax to total employees, total business to total employees, and cost of deposit ratio. Studying the Wilkes lambda value for the nature of bank, the F statistic is computed at 4.649 and the significance level or the p-

value is coming out to be 0.004, which is less than 0.05. Pointing out that the differences between the group means across different variables are statistically significant and the type of bank significantly influences the management efficiency with some considerable differences observed across different sectors.

Table 14: Levene's Test for Homogeneity of Variances of Management Efficiency

Levene's Test of Equality of Error Variances				
Ratio	F	df1	df2	Sig.
Profit After Tax to Total Employees	10.551	2	12	.002
Total Business to Total Employees	28.714	2	12	.000
Cost of Deposit Ratio	.612	2	12	.558

Source: Calculations made from SPSS Software

Table 14 displays the results of the Levene's test based on means which have been applied to check whether the variances of these ratios are equal across different groups or not.

The results generated by the above table suggest that in case of the ratio of profit after tax to total employees, the p-value is 0.002 which is less than 0.05. Henceforth, there is a statistically significant difference in the variances of the ratio of profit after tax to total employees across the three types of banks. In case of the ratio of total business to total employees, the p-value stands at 0.000 which suggests that this ratio differs significantly across all the three sectors. And in case of cost of deposit ratio, the p-value stands at 0.558 which is more than 0.05 and henceforth, the variances are equal across all the groups for the ratio of cost of deposit ratio.

Table 15: Tests of between Subjects Effects for Management Efficiency

Tests of Between-Subjects Effects						
Source		Type III Sum of Squares	df	Mean Square	f	Sig.
Corrected Model	Profit After Tax to Total Employees	59456.381 ^a	2	29728.191	5.790	.017
	Total Business to Total Employees	44905342.180 ^a	2	22452671.090	11.064	.002
	Cost of Deposit Ratio	8.108 ^c	2	4.054	5.932	.016

Intercept	Profit After Tax to Total Employees	38433.093	1	38433.093	7.486	.018
	Total Business to Total Employees	93880953.425	1	93880953.425	46.261	.000
	Cost of Deposit Ratio	384.522	1	384.522	562.668	.000
Nature of Bank	Profit After Tax to Total Employees	59456.381	2	29728.191	5.790	.017
	Total Business to Total Employees	44905342.180	2	22452671.090	11.064	.002
	Cost of Deposit Ratio	8.108	2	4.054	5.932	.016
Error	Profit After Tax to Total Employees	61610.139	12	5134.178		
	Total Business to Total Employees	24352518.113	12	2029376.509		
	Cost of Deposit Ratio	8.201	12	.683		
Total	Profit After Tax to Total Employees	159499.614	15			
	Total Business to Total Employees	163138813.718	15			
	Cost of Deposit Ratio	400.831				
Corrected Total	Profit After Tax to Total Employees	121066.520	14			
	Total Business to Total Employees	69257860.293	14			
	Cost of Deposit Ratio	16.309	14			

Source: Calculations made from SPSS Software

Table 15 reveals the test of between subject effects and provides an information that the type of bank significantly affects all the three ratios of the management efficiency financial metric, where the

corrected model shows the variability in all the dependent variables and it can be accredited to the nature of the bank, which also can be related to earlier findings of the multivariate analysis. The presence of significant F-values across all the three financial values indicates that there are differences amongst different sectors and these essay a vital contribution in defining how efficiently a bank performs its functions in regards to resource allocation and cost structures.

5. FINDINGS & DISCUSSIONS

5.1 Findings of the Study

The most crucial area from the human centric approach of management quality is the Profit per Employee ratio which depicts that a higher ratio is found in foreign sector banks where even banks with a few number of employees produce a higher amount of profits proportionally showing a greater degree of resilience in terms of human capital utilization. It further illustrates that use of efficient management techniques such as skill intensive positions and technology enabled decision making transforms human capital into everlasting financial results. The present stresses on the fact that management quality influences the conversion of human resources into performance outcomes and this is proven with a noteworthy difference in the performance of foreign sector banks itself. Ratios of public sector banks are comparatively lower which brings into light its inefficient structure and underutilization of human resources that in turn hinders the sustainable growth of this sector. This can also be attributed to the findings of a study (Sangmi & Nazir, 2010) which explained that the efficiency growth rate of selected public sector banks was less than 1% in case of public sector banks.

Employee productivity is operationalized by the Total Business to Total Number of Employees ratio, which also shows management's capacity to expand operations without correspondingly growing the staff. The fact that foreign sector banks dominate this statistic shows how human-centric management techniques, like wealth management orientation, technological integration, and specialized corporate banking models, facilitate long-term company growth. Public sector banks show lower productivity levels despite having large branch networks, suggesting that size without effective human resource deployment does not result in sustained growth. Despite outperforming their public sector counterparts, private sector banks continue to lag behind overseas banks, indicating a partial adoption of efficiency-oriented, human-centric management methods. This result emphasizes that managerial methods that improve people productivity and capital efficiency, rather than just expansion, are the key to sustained growth in banking. A managerial implication in the recent study by (Sharma & Chopra, 2018) revealed that private sector banks need to enhance their management efficiency by incorporating more branches and facilitating employee training which has been well captured by the outcomes of the current study.

The Cost of Deposit Ratio shows how well management has balanced long-term cost effectiveness, market confidence, and funding alternatives. Lower ratios in foreign sector banks show that they may raise money at cheaper costs by utilizing their strategic reputation, international trust, and effective human-led treasury management methods. This strengthens long-term financial resilience. The advantage of institutional trust and perceived stability is emphasised by public sector banks' comparatively lower deposit costs when compared to private sector banks. However, this benefit does not essentially translate into superior operational efficiency unless it is backed by strong human-centric management practices. The study's claim that sustainable growth necessitates alignment between sound financial standing and efficient use of human resources is further reinforced by this difference.

Due to better integration of technology, human capital, and risk management techniques, foreign sector banks routinely beat public and private sector banks in the overall management quality comparison. In line with the human-centric paradigm suggested in the title, the identification of sector-wise best and worst performers shows that sustainable banking performance is management-specific rather than sector-specific. The study's main claim—that management quality has a major impact on human-centric performance metrics, which in turn promote sustainable growth across banking sectors—is empirically supported by the statistically significant multivariate results ($p\text{-value} = 0.004$). A further study done by (Ashwath & Sachindra, 2025) found that there were significant difference in the performance of banks yet all of them witnessed a substantial increase in different proportions from 2021 to 2024 which is attributed to efficient management practices.

The presence of noteworthy F-values across all the three monetary values designates that there are dissimilarities amongst diverse sectors and these play a vigorous role in shaping how competently a bank performs its functions in regards to resource allocation and cost structures.

5.2 Implications of the Study

The findings of the study provide a crucial policy and managerial implication for the banking sector at large. The exceptional performance of foreign sector banks on the management quality parameter under the CAMELS framework indicates that this particular sector has placed the prominence of human-centric methodologies as a core strategy to attain justifiable growth in the banking sector. The high values of profit per employee ratio and business per employee ratio suggest that the human capital is being effectively utilized through a significant integration of technology, skill orientation, and effective decision-making. Such strategies have resulted in the enhancement of overall resilience and financial performance of this sector. A weaker performance exhibited by the public sector banks on management quality bring into the light a need of restructuring the deployment of human resources, improvement in employee productivity, and adoption to technology-driven management in order to ensure long-term sustainability.

Further implications of the study reveal that a sustainable banking performance does not only depend on sectoral division of the banks but is also influenced by management quality practices that are being adopted within a banking institution. A significant variation recorded in the allocation of resources and costing structure necessitate the alignment of human capital strategies with the overall administrative and monetary purposes of the banks. In case of private and public sector banks, an additional benefit may accrue to them provided they adopt such management practices which are driven by innovation and focus on efficiency, similar to those adopted by foreign sector banks in order to give a strong competitive edge.

The important variances in the performance of banks crossways different subdivisions do necessitate the incorporation of stringent regulatory frameworks which encourage efficiency in operations, innovation-based adoption, and stable performance evaluation above financial indicators. The policy makers may also promote sector-wide benchmarking standards and institutional reforms that help in achieving a sustainable competitive advantage, especially in public sector banks, where a banking environment could be created that matches managerial efficiency with long-term economic stability.

6. CONCLUSION

Management Quality essays a significant role towards the promotion of sustainable growth across the banking sector when evaluated through a human centric lens. The present study augments the evaluation of banking performance and further propounds that banks with better management skills are ahead at translating human capital into operational efficiency and financial performance by incorporating employee centric efficiency parameters into the CAMELS model.

There are certain limitations that are brought into light in case of public sector banks such as restrictions in terms of scaling businesses, expanding the business networks and underutilization of human resources which puts it under scrutiny in terms of its managerial quality. On the other hand, foreign sector banks have continuously and consistently managed to outperform both public and private sector banks in terms of its management quality on account of factors like technology integration, strategic personnel disposition and efficiency oriented management practices. The present study contributes to a forward looking approach for evaluating and assessing the performance of banking sector by emphasizing the role of human capital as an important determinant to management effectiveness. It contributes an important information for policymakers, regulators and banking institutions in order to improve the sustainability and resilience of the banking sector which has become competitive over the years.

REFERENCES

- Ahamed, M. M., & Mallick, S. K. (2019). Is financial inclusion good for bank stability? International evidence. *Journal of Economic Behavior & Organization*, 157, 403–427. <https://doi.org/10.1016/j.jebo.2017.07.027>.
- Aracil, E., Gómez-Bolaños, E., & Ruiz-de-Maya, S. (2021). Sustainable banking: A literature review and integrative framework. *Business Strategy and the Environment*, 30(1), 1–20. <https://doi.org/10.1002/bse.2629>.
- Ashwath, R., & Sachindra, G. R. (2025). Bridging Finance and International Trade: A CAMELS-Based Insight into the Strategic Role of India's EXIM Bank. *Studies in Economics and Business Relations*, 6(2), 14–26.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>.
- Barr, R. S., Seiford, L. M., & Siems, T. F. (2002). Forecasting bank failure: A non-parametric frontier estimation approach. *Recherches Économiques de Louvain*, 68(2), 169–190. <https://doi.org/10.3917/rel.682.0169>.
- Basel Committee on Banking Supervision. (2015). *Guidelines: Corporate governance principles for banks*. Bank for International Settlements.
- Berger, A. N., & Bouwman, C. H. S. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics*, 109(1), 146–176. <https://doi.org/10.1016/j.jfineco.2013.02.008>
- Drucker, P. F. (2007). *Management challenges for the 21st century*. Harper Business.
- Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone.
- Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications.
- Ghosh, S. (2016). Governance reforms and performance of Indian banks. *Journal of Financial Economic Policy*, 8(2), 170–188. <https://doi.org/10.1108/JFEP-09-2015-0046>.
- Goleman, D. (2000). Leadership that gets results. *Harvard Business Review*, 78(2), 78–90.
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109–122. <https://doi.org/10.1002/smj.4250171110>.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9(2), 193–206. <https://doi.org/10.5465/amr.1984.4277628>.
- Minsky, H. P. (1986). *Stabilizing an unstable economy*. Yale University Press.
- Ozbek, A., Gül, S., & Kula, V. (2025). Governance indicators and sustainable banking performance: A multidimensional assessment framework. *Sustainability*, 17(3), 1062. <https://doi.org/10.3390/su17031062>

- Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, 14(3), 179–191. <https://doi.org/10.1002/smj.4250140303>
- Pfeffer, J. (2010). *Power: Why some people have it—and others don't*. Harper Business.
- Reserve Bank of India. (2021). *Report on trend and progress of banking in India 2020–21*. RBI.
- Rose, P. S., & Hudgins, S. C. (2013). *Bank management & financial services* (9th ed.). McGraw-Hill Education.
- Rostami, M. (2015). Determination of Camels model on bank's performance. *International journal of multidisciplinary research and development*, 2(10), 652-664.
- Sangmi Miah, S., & Md. Mahbubur Rahman, M. (2015). Performance evaluation of selected commercial banks in Bangladesh: A CAMELS approach. *International Journal of Business and Management*, 10(2), 1–15. <https://doi.org/10.5539/ijbm.v10n2p1>.
- Sangmi, M. U. D., & Nazir, T. (2010). Analyzing financial performance of commercial banks in India: Application of CAMEL model. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 4(1), 40-55.
- Scholtens, B. (2009). Corporate social responsibility in the international banking industry. *Journal of Business Ethics*, 86(2), 159–175. <https://doi.org/10.1007/s10551-008-9841-x>.
- Sharma, S., & Chopra, I. P. (2018). A Comparative study of Public and Private Banks in India using CAMEL model. *International Journal of Creative Research Thoughts*, 6(1), 704-717.
- Suresh, K., & Pradhan, S. K. (2023). Evaluation of Financial Performance of Banking Sector in India—A Camel Approach. *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.*, 8(5), 50.
- Trist, E. L., & Bamforth, K. W. (1951). Some social and psychological consequences of the longwall method of coal-getting. *Human Relations*, 4(1), 3–38. <https://doi.org/10.1177/001872675100400101>.