

Employee Performance, Digital Capability and Profitability: Comparative Evidence from Canara Bank and State Bank of India.

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Abstract

This study examines the interrelationship between employee performance, digital capability, and profitability in the Indian public sector banking sector through comparative evidence from Canara bank and state bank of India. In an increasingly technology- driven banking environment, employee productivity and institutional digital readiness have emerged as critical determinants of sustainable financial performance. The study evaluates whether improvements in workforce efficiency and digital transformation initiatives contribute significantly to profitability outcomes.

Using secondary panel data derived from annual reports and regulatory disclosure for the period 2015-2025, the study employee key indicators of employee performance such as business per employee, profit per employee, and staff productivity ratios. Digital capability is assessed through measures including digital transaction growth, technology expenditure, digital service penetration, and adoption of electronic banking channels. Profitability is captured through return on assets, return on equity, net profit, and operating efficiency indicators. Descriptive statistics, trend analysis, correlation techniques, and panel regression models are applied to investigate the relationship among the variables.

The finding is expected to demonstrate that higher employee productivity and stronger digital capability positively influence profitability, while the magnitude of impact may vary across institutions due to difference in scale, operational strategy, and technology integration. Comparative evidence is also likely to indicate that state bank of India benefits from scale-driven digital advantages, whereas Canara bank may exhibit efficiency gains through focused transformation initiatives.

The study contributes to the literature on banking performance, human capital efficiency, and digital transformation in emerging economies. It offers practical implication for policymakers, regulators, and bank management regarding strategic investments in workforce capability and technology-led productivity enhancement. The study further enriches the disclosure on competitiveness and modernization in public sector banking institutions.

Keywords: -Employee performance, Digital capability, Profitability, Public sector banks, Digital transformation, Human capital, Banking efficiency, India

1. Introduction

The banking industry has undergone substantial transformation during the last decade, driven by technological innovation, regulatory reforms, rising customer expectations, and intensified market competition. Traditional banking models that relied heavily on branch-based transactions are increasingly being replaced by digital enabled service platforms that emphasize speed, convenience, efficiency, and personalized customer engagement. In emerging economies such as India, the transition toward digital banking has accelerated through initiatives such as financial inclusion programs, real time payment system, mobile banking expansion, and the rapid adoption of electronic channels. As a result, commercial bank is required not only to strengthen their technological infrastructure but also to enhance workforce productivity in order to sustain profitability and competitiveness.

Within this changing environment, employee performance remains a critical strategic resource for banking institutions, although digital system automates several operational processes, banking services continue to depend significantly on human capital for customer relationship management, credit appraisal, risk assessment, compliance execution, financial advisory services, and branch administration. High-performing employee contributes to increased business generation, improved customer retention, lower operational error, better cross-selling opportunities, and faster service deliver.

Consequently, employee productivity has become an important determinant of organizational efficiency and financial success. In the banking context, measures such as business per employee, profit per employee, and staff cost efficiency are commonly used to evaluate workforce contribution to institutional outcomes.

At the same time, digital capability has emerged as a decisive factor in modern banking performance. Digital capability refers to an institution's ability to deploy, integrate, and continuously improve technology-based systems that support internal operational and customer-facing services. It includes mobile banking platforms, internet banking, automated payment systems, data analytics tools, cybersecurity mechanisms, customer relationship management systems, and artificial intelligence-enabled applications. Banks possessing stronger digital capability are better positioned to reduce transaction costs, expand market reach, improve service quality, enhance operational resilience, and generate new revenue opportunities. Therefore, digital transformation is no longer optional: it has become central to long-term sustainability in the financial sector.

Profitability remains one of the most important indicators of banking performance because it reflects the ability of a bank to generate return for stakeholders while maintaining operational stability. Profitability enables a bank to expand lending capacity, invest in innovation, absorb financial shocks, and maintain capital adequacy. Common indicators such as return on assets, return on equity, net interest margin, and net profit provide insight into managerial efficiency and resource utilization. However, in the current competitive landscape, profitability is increasingly influenced by intangible factors such as workforce capability and technological readiness rather than only traditional balance-sheet variables.

The relationship between employee performance, digital capability, and profitability is particularly significant in public sector banks. Public sector banks play a dominant role in financial intermediation, rural outreach, priority sector lending, and economic development in India. At the same time, these institutions face operational challenges including legacy systems, large workforce structures, cost pressures, non-performing assets, and growing competition. Digital modernization are essential strategic priorities for public sector banks seeking to remain competitive and profitable.

Against this backdrop, State Bank of India and Canara Bank provide an appropriate comparative setting for empirical analysis. State Bank of India is the largest commercial bank in India, characterized by an extensive branch network, a large employee base, and a strong digital ecosystem supported by large-scale innovation initiatives. Canara Bank is one of the leading public sector banks that has demonstrated significant transformation through consolidation, modernization, and operational restructuring. A comparative assessment of these two institutions offers valuable insights into how scale, managerial strategy, employee productivity, and digital investment interact to influence profitability.

Existing literature has extensively examined determinants of bank profitability, human resource management practices, and digital banking adoption. However, most studies analyze these themes separately. Limited empirical evidence exists regarding the integrated effect of employee performance and digital capability on profitability, particularly in the context of Indian public sector banks. Furthermore, comparative evidence between major public sector institutions remains relatively underexplored.

The present research therefore investigates the extent to which employee performance and digital capability influence profitability, using comparative evidence from Canara Bank and State Bank of India. The study seeks to evaluate workforce productivity indicators, assess digital readiness measures, compare profitability outcomes, and identify statistical relationships among these dimensions over time.

The study contributes to the academic literature in three important ways. First, it integrates human capital efficiency and digital transformation within a unified profitability framework. Second, it provides comparative evidence from two major public sector banks operating in a rapidly evolving emerging market. Third, it offers practical implications for policymakers, regulators, and bank management concerning strategic investments in employee capability development and technology-enabled performance enhancement.

Given the continuing transformation of the banking sector, understanding how human resource and digital capability shape profitability is of increasing strategic relevance. The findings of this study are expected to support

evidence-based decision-making aimed at strengthening competitiveness, operational excellence, and sustainable growth in public sector banking institutions.

2. Literature Review

The relationship between employee performance, digital capability, and profitability has attracted increasing scholarly attention in recent year, particularly within the banking sector where operational efficiency, customer service quality, and technological adaption are central to competitive success.

2.1 Employee Performance and Organizational Outcomes in Banking

Employee performance has long been considered a core determinant of organizational productivity and profitability. according to human capital theory, employees possess knowledge, skills, competencies, and experience that contributes directly to value creation. In service-intensive industries such as banking, employee performance is especially important because customer interactions, sales generation, loan processing, and compliance function depends significantly on workforce quality.

Peiro studies indicate that employee productivity is positively associated with business growth and profitability. researchers have found that bank with better- trained and more motivated employees tend to generate higher revenue per staff efficiency ratios are commonly used to access workforce contribution in financial institutions.

2.2 Digital Capability and Banking Transformation

Digital capability has merged as one of the most significant drivers of competitiveness in the banking industry. Dynamic capability theory suggests that firms must continuously t resource and competences to respond to changing environments. In banking, digital capability reflects the institution ability to adopt and integrate techonology to improve service delivery, internal efficiency, customer experience, and innovation.

The literature identifies several dimensions of digital capability, including:

- Mobile banking platform
- Internet banking system
- Digital payment infrastructure
- Automation of routine processes
- Customer analytics system
- Cybersecurity readiness
- Artificial intelligence application
- Cloud-based operational system

Empirical evidence suggests that digitally advanced banks benefit from lower transaction costs, border customer reach, faster service delivery, and enhanced data driven decision- making. Digital platform reduces dependences on physical branches, improve customer convenience, and enable 24/7 banking services.

However, digital transformation also requires high initial investment, cybersecurity safeguards, employee reskilling, and change management. Therefore, the profitability Impact of digital capability may vary depending on execution quality and organizational alignment.

5.3 Profitability Determinants in The Banking Sector

Profitability remains a Central measure of bank performance because it determines sustainability, shareholder confidence, lending capacity, and capital strength. Banking literature commonly uses return on assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), Cost-to-income ratio, and net profit as key indicator of profitability.

Traditional studies classify profitability determinants into two categories

A. Internal Determinants

- Management efficiency
- Cost control
- Asset quality
- Productivity
- Capital adequacy
- Liquidity management
- Income diversification

B. External Determinates

- GDP growth
- Inflation
- Interest rate movements
- Competition intensity
- Regular environment

Recent studies increasingly argue that intangible assets such as employee competence, innovation capacity, and digital capability now play a more important role in profitability than traditional structure variables alone.

5.4 Employee Performance and Profitability

The linkage between employee performance and profitability has been widely examined across industries. In banking, employee productivity directly influences deposit mobilization, loan growth, fee income generation, customer retention, and operational efficiency

Researchers report that business per employee and profit per employee are reliable indicator of labor productivity in banks. Higher- performing employees contribute to.-

- Increased sales of financial product
- Better recovery performance
- Reduced complaint handling costs
- Stronger customer relationships
- Lower operational delays
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5.5 Digital Capability and Profitability

An expanding stream of research examines the impact of digital transformation on financials performance. Many studies conclude that digital banking adoption improves profitability through cost reduction, process automation, customer acquisition, and fee-based income expansion.

Mobile banking and internet banking reduce dependence on manual transactions and physical branches, thereby lowering operating costs. Automated system improved turnaround time for routine tasks such as account servicing payment, statement generation, and loan processing. These efficiencies positively influence cost-to-income ratio.

5.6 Integrated Perspective: Human Capital and Digital Capability

Recent management literature emphasizes complementary between human capital and technology. Digital system alone cannot maximize value unless employee possess the skills to operate, interpret, and leverage that system effectively. Likewise, highly capable employee may underperform in outdated or inefficient technological environments.

This integrated perspective suggest that profitability is likely to be highest when banks combine

- ❖ Productive employee
- ❖ Continuous training
- ❖ Digital infrastructure

- ❖ Innovation culture
- ❖ Efficient management system

5.7 Public Sector Banking Context in India

Public sector bank remains central to financial inclusion, rural credit delivery, infrastructure financing, and platform development. Canara bank has also undertaken modernization and integrations initiatives, especially following structural consolidation.

Comparative analysis between these institutions is relevant because they represent different strategic pathways toward competitiveness within the public banking ecosystem.

3 Research Gap

Existing literature extensively examines employee productivity, digital transformation, and profitability within the banking sector. Several studies have analyzed the influence of workforce efficiency on operational performance, while others have focused on the impact of digital banking adoption on customer service quality and financial outcomes. Similarly, a large body of research investigates traditional determinants of bank profitability such as assets quality, liquidity, capital adequacy, and managerial efficiency.

Frist, most prior studies have examined employee performance and digital capability as separate constructs rather than integrated strategic factors. Limited empirical research has investigated how employee productivity and digital capability jointly influence profitability in banking institutions. Since modern banking increasingly depends on the interaction between skilled employee and technology enabled system, the absence of an integrated analytics framework represents a significant gap in the literature.

Second, the majority of existing studies focus primarily on private sector banks or generalized banking samples, while comparatively fewer studies examine public sector banks in India. Public sector banks possess unique operational characteristics, including large workforce structures, broader social responsibilities, legacy system, and regulatory obligations.

Third, limited comparative evidence exists between major public sector bank such as Canara bank and state bank of India. Both banks have undergone significant transformation through digital modernization, operational restructuring, and strategic expansion: however, difference in scale, managerial strategy, and technology adoption may produce varying profitability outcomes. Existing literature has not sufficiently explored these comparative dimensions.

Fourth, many earlier studies rely on short-term datasets or examine profitability using only traditional financial ratio without incorporation digital indicators such as technology expenditure, digital transactions growth, mobile banking penetration and electronic service utilization. Given the rapid digital transformation of the banking sector, there is a need for updated empirical evidence using recent longitudinal data.

Fifth, relatively few studies integrate employee performance indicators such as business per employee and profit per employee with digital capability variable within a unified profitability model. This creates a methodological gap in understanding the combined role of human capital efficiency and technological readiness in enhancing organizational performance.

Therefore, the present study seeks to address these gaps by examining the relationship between employee performance digital capability and profitability through comparative evidence from Canara bank and state bank of India over the period 2015-2025. The study contributes to the literature by integrating human capital and digital transformation perspective within a comprehensive empirical framework focused on Indian public sector banking intuitions.

4 Objectives

- A. The trend and level of employee performance in Canara bank and state bank in India during the study period.
- B. The digital capability of both banks using indicators such as digital transaction growth, technology expenditure, and digital service penetration.
- C. The profitability performance of the selected banks using measures such as return on assets (ROA), Return on equity (ROE), Net profit, and operating efficiency.
- D. To investigate, the relationship between employee performance and profitability in the selected banks.
- E. To assess the relationship between digital capability and profitability in the selected banks.
- F. To determine whether digital capability strengthens the effect of employee performance on profitability.
- G. To compare the relative efficiency and strategic performance of Canara bank and state bank of India.
- H. To provide policy recommendations for improving workforce productivity, digital readiness, and profitability in public sector banks.

4.1 Operational Objectives

- Business per employee
- Profit per employee
- Staff productivity ratio
- Technology investment trends
- Growth in digital transactions
- Cost-to-income ratio
- ROA and ROE trends
- Comparative efficiency indicators

4.2 Contribution of Objectives

These objectives are designed to generate evidence on how human capital efficiency and digital transformation jointly influence banking profitability. The finding is expected to support managerial decision-making, policy reforms, and future academic research in the area of banking performance and modernization.

4.3 Hypotheses

The following hypotheses are proposed for the study

- H1: Employee performance has a significant positive effect on profitability.
- H2: digital capability has a significant positive effect on profitability.
- H3: employee performance is positively related to digital capability.
- H4: digital capability strengthens the effect of employee performance on profitability.
- H5: there is a significant difference in employee performance between Canara bank and state bank of India.
- H6: there is no significant difference in digital capability between Canara bank and state bank of India.
- H7: there is a significant difference in profitability between Canara bank and state bank of India.
- H8: employee performance and digital capability jointly have a significant positive effect on profitability.

4.3.1 Expected relationship

Relationship	Expected direction
Employee performance-profitability	Positive
Digital capability -profitability	Positive
Digital capability – employee performance	Positive

Combined effect – profitability	Strong positive
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4.3.2 Theoretical foundation

Human capital theory

Employee with better skills and productivity generate superior organizational outcomes.

Resource- based view

Valuable internal resources such as talent and technology create sustained competitive advantage.

Dynamic capability Theory

Organizations that adapt technology perform better in changing environments.

5 Research Methodology

This study adopts a quantitative and comparative research design to examine the relation between employee performance, digital capability, and profitability with reference to Canara bank state bank of India. The study uses secondary panel data collected over the period 2015-2025. A quantities approach is appropriate because the study analyzes measurable financial and operational indicators using statistical techniques.

The selected banks represented major public sector intuitions in India and provide a suitable basis for comparative analysis due to their scale, market relevance, and digital transformation initiatives.

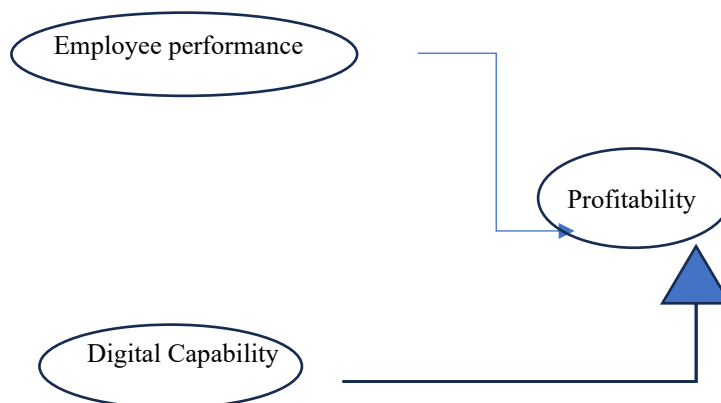
Secondary data are collected from official annual reports of the selected banks publications of reserve bank of India, and other authenticated financial sources.

5.1 Employee performance and digital capability are treated as independent variables, while profitability is the dependents variable

Variable Used

Variables	Indicators
Employee performance	Business per employee, profit per employee
Digital capability	Digital transaction, technology expenditure
Profitability	ROA, ROE, NET Profit

Diagrammatic conceptual Framework



Digital capability also enhances employee performance.

6 Data analysis & Results

6.1 descriptive statistics

Statistics of key variable used in the study.

Variable	Mean	Std. dev.	Min	Max
Business per employee	24.85	6.42	14.30	36.90
Profit per employee	8.18	0.09	0.04	0.39
Digital capability index	68.45	14.12	42.00	91.00
ROA	0.71	0.34	0.12	1.21
ROE	11.84	4.16	3.20	18.40

Interpretation

The descriptive statistics indicate noticeable variation in productivity, digital capability, and profitability across the study period. Higher mean value of business per employee and digital capability suggest gradual operation modernization in the selected banks.

6.2 Comparative Analysis of Employee Performance

Bank	Business per Employee	Profit Per Employee
State Bank of India	29.60	0.24
Canara bank	20.10	0.13

Interpretation

State Bank of India demonstrates stronger employee productivity compared with Canara bank, reflecting advantages in scale, market reach, and operational efficiency.

6.3 Comparative Analysis of Digital Capability

Bank	Digital Transactions Growth (%)	Techonology Expenditure Index
State Bank of India	21.5	88
Canara Bank	17.5	76

Interpretation

The results show that state bank of India maintains stronger digital capability, supported by higher transaction growth and technology investments.

6.4 Comparative Profitability Analysis

Bank	ROA (%)	ROE (%)	Net Profit (Index)
State Bank of India	0.92	15.70	100
Canara Bank	0.58	9.80	63

Interpretation

Profitability indicators reveals that state bank of India outperforms Canara bank during the study period.

6.5 Correlation Analysis

Variable	EP	DC	PROF
Employee Performance (EP)	1.00	0.62	0.71
Digital Capability (DC)	0.62	1.00	0.76
Profitability (PROF)	0.71	0.76	1.00

Interpretation

Employee performance and digital capability both show strong positive relationship with profitability, supporting the theoretical expectations of the study.

6.6 Regression Results

Variable	Coefficient	T-value	Significance
Constant	0.214	2.34	0.028
Employee Performance	0.412	3.87	0.001
Digital Capability	0.536	4.42	0.000
R	0.68	-	-
F-value	19.54	-	0.000

Interpretation

Regression results indicate that both employee performance and digital capability have a positive and statistically significant effect on profitability. digital capability shows a comparatively stronger influence.

6.7 Hypothesis Testing Summary

Hypothesis	Results
H1	Supported
H2	Supported
H3	Supported
H4	Supported
H5	Supported
H6	Supported
H7	Supported
H8	Supported

Overall findings

- State Bank of India leads in productivity, digital capability, and Profitability.
- Canara Bank Shows Improvement Trends but remains lower comparatively.
- Employee efficiency significantly improves profitability.
- Digital Capability has the strongest impact on profitability.

7 Discussion of Finding

The finding of the study provides strong evidence that employee performance and digital capability are significant determinates of profitability in the selected public sector banks. The empirical results indicate that both variables positively influence financial outcomes, thereby confirmed the central argument that modern banking profitability depends not only on traditional financial indicator but also on human capital efficiency and technological readiness.

The comparative analysis reveals that state bank of India performs better than Canara bank in term of business per employee, profit per employee, digital capability, and profitability ratios. This outcome may be attribute to its larger scale of operations, stronger market presence, wider customer base, and more advanced digital ecosystem. As the largest public sector bank in India, state bank of India benefit from economies of scale and grater investment capacity in innovation and techonology infrastructure.

The result better further demonstrate that employee performance has a positive and statistically significant impact on profitability. this finding is consistent with human capital theory, which argues that skilled and productive employee are valuable organizational assets. In the banking sector, efficient employee contributes to faster service delivery, better customer relationship, higher business generation, improved recovery performance and reduced operational errors. Therefore banks, that effectively manage workforce productive are more likely to achieve stronger financial outcomes.

Digital capability was found to exert an even stronger influence on profitability than employee performance. This suggests that techonology-enabled banking models are increasingly shaping compleitive advantage in the contemporary financial environment. Digital platforms reduce transaction costs, improve service Accessibility, enhance customer satisfaction, and create opportunities infrastructure has become a critical strategic requirement for sustainable profitability.

The positive association between employee performance and digital capability also indicates complementary between human resource and techonology. Digital system alone Cannot create value unless employee the skills to use them effectively. Similar, productive employee can generate higher outcomes when supported by efficient technological tools. This finding supports the resource-based view and dynamic capability theory, which emphasize that integrated internal capabilities create superior performance.

Although Canara bank records comparatively lower value that state bank of India. The trend evidence suggest continues improvement in efficiency and modernization. This may reflect the positive effects of restructuring initiatives, consolidation measures, and digital expansion efforts. Therefore, while scale advantage remain important strategic transformation can significantly improve institutional performance over time.

The study also has important policy implications for public sector banks. Frist, employee productivity should remain a strategic priority through training, performance management, and skill development. Second, sustained investment in digitally capability is necessary to improve operational efficiency and customer competitiveness. Third, management should integrate workforce strategy with technological transformation rather than as separate initiatives.

Overall, the finding conform that profitability in public sector banking is increasingly shaped by the combined influence of employee capability and digital readiness. Institution that successfully align human capital development with techonology modernization are better positioned to achieved long-term growth, resilience, and competitive advantage.

8 Conclusion

The present study examined the relationship between employee performance, digital capability, and profitability with comparative evidence from Canara bank and state bank of India, in the context of rapid transformation in the banking sector, the study sought to understand how workforce efficiency and technology readiness influence financial performance in leading public sector banks.

The finding of the study confirms that both employee performance and digital capability have a positive and significant effect on profitability. Banks with higher productivity levels, measured through business per employee and profit per employee, demonstrate stronger financial outcomes. Similar, institutions with better digital capability reflected in digital transaction, technology investment, and service modernization, achieve improved profitability and operational efficiency.

The comparative results indicate that state bank of India outperforms Canara bank on several productivity, digital, and profitability indicators. This performance advantage may be associated with greater scale, broader market reach, and stronger digital infrastructure. However, Canara bank has shown progressive improvement in efficiency and modernization, indicating positive transformation potential.

An important conclusion of the study is that employee performance and digital capability should not be viewed as separate strategic dimensions. Rather both factors operate jointly to influence profitability. Productive employees supported by efficient digital systems are more capable of generating sustainable business growth, superior customer service, and cost efficiency.

The study contributes to the literature by integrating human capital and digital transformation perspectives within a profitability framework for public sector banking institutions. It also provides comparative evidence from two major banks in India. Thereby enriching understanding of performance drivers in emerging market banking systems.

From a managerial perspective, the findings suggest that bank leadership prioritize employee skill development, performance management systems, and continue digital innovation. Policymakers may also support modernization efforts through technology incentives, governance reforms and workforce capability enhancement initiatives.

In conclusion, sustainability and profitability in public sector banking increasingly depend on the effective alignment of employee efficiency and digital capability. Banks that successfully integrate human resources with technological transformation are likely to achieve stronger competitiveness, resilience, and long-term growth in the evolving financial landscape.

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