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Examining the Behavioural Implications of Digital Transformation in Banking: Evidence from Public and Private Sector Banks in Lucknow, India

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Abstract:
AI-enabled services, core process automation, and mobile banking platforms have all accelerated the digital transformation of the Indian banking industry. Although these enhancements improved customer satisfaction and operational efficiency, they also changed workplace dynamics, skill requirements, and employee behaviour. –
This study examines how employee behaviour in public and private sector banks in Lucknow has been affected by the digital transformation. It looks into how employees' motivation, flexibility, work engagement, and stress levels are affected by technology adoption and whether these behavioural responses vary depending on the industry and company culture. The study employs a quantitative methodology, depending on primary data collected from bank employees using standardized questionnaires. Correlation analysis, independent samples t-tests, and descriptive statistics were used to analyse behavioural data and identify variables affecting digital adaptation.
By emphasizing behavioural barriers, opportunities for skill development, and the function of organizational support in managing technological change, the study deepens our understanding of the human aspect of digital transformation in banking. In an increasingly digital banking environment, the study's findings offer useful guidance for improving HR policies, creating training initiatives, and guiding strategic decision-making.

Keywords: Digital transformation, employee behaviour, public sector banks, private sector banks, Lucknow, organizational culture.

1. Introduction

In recent years, India's banking sector has undergone significant digital transformation due to the use of modern technologies including as mobile banking, artificial intelligence, automation, and cloud computing (Sinha, 2024). In addition to increasing operational efficiency and cost-effectiveness, this digital transformation has fundamentally altered how banking services are offered (Saroy, Jain, Awasthy, & Dhal, 2023).
While much of the literature focuses on the customer-centric results of this technology revolution, researchers have identified a deficit in understanding the behavioral outcomes of bank personnel (Kitsios

et al., 2021). For example, Singh and Gupta (2025) claim that digitalization may raise work stress and job discontent among banking employees, particularly when new technologies necessitate continual skill development.

Other studies in India show that digitalization has a big impact on staff performance: when banks provide proper training and learning opportunities, employee productivity improves greatly (Singh, Shrivastava, & Pednekar, 2021).

At the same time, company culture is important: an innovative culture and managerial support can help or hinder employees' adaption to digital tools (Sinha, 2024). According to research on digital transformation in Indian banks, legacy systems and bureaucratic processes, particularly those seen in public sector banks, provide substantial barriers to rapid digital adoption (Sinha, 2024; Dasgupta, 2025).

Given these tendencies, there is a compelling need for empirical research into how staff in public and private sector banks respond to digital change. Understanding disparities in digital preparedness, stress, motivation, and cultural support can lead to practical insights for HR strategies, capacity building, and change management in India's changing banking workforce.

2. Literature Review

Digital transformation has emerged as a strategic priority for banks globally and in India, driven by advances in mobile technologies, AI, automation, and cloud computing. Studies of banking digitalization emphasise that while technological adoption improves operational efficiency and customer experience, it also reshapes work practices and employee roles, creating both opportunities (skill development, efficiency gains) and challenges (job redesign, stress, skill obsolescence). Empirical reviews show that organizational strategy and employee acceptance are central to realizing the benefits of digital change. (F Kitsios, I Giatsidis, M Kamariotou)

In the Indian scenario, various reviews and summaries of policies have pointed out the swift adoption of digital in the financial sector, driven by government initiatives such as Digital India and UPI, but they have also pointed out the uneven level of readiness of institutions, whether it is the public sector banks, which are hindered by their existing infrastructure and organizational structure, or the private banks, which adopt new technologies at a faster pace, thereby impacting the employees (Mundhe, 2024).

Employee digital readiness — encompassing digital literacy, perceived ease of use, and availability of training — is repeatedly linked to smoother behavioural adaptation and higher job performance. Studies focused on e-banking readiness indicate that training, perceived usefulness, and management support significantly affect employee acceptance of new systems. Where digital readiness is low, organizations report higher resistance, stress, and lowered morale among staff during transition periods. (Kothari)

Organizational culture is another critical moderator of behavioural outcomes. Research comparing public and private banks shows differences in cultural attributes such as openness to innovation, autonomy, and proactivity — traits that facilitate digital experimentation and employee initiative in private banks, but are less pronounced in many public banks. These cultural differences can amplify or dampen employees' willingness to adopt and integrate digital tools into daily work. (Aggarwal)

Recent empirical work highlights the human costs of rapid technological change in banks. Several studies document links between technology introduction and work stress, surveillance practices, and job redesign that can negatively affect wellbeing if not managed carefully. Regulatory actions and high-profile incidents (e.g., RBI supervisory directives regarding banks' IT governance) further underscore

that digitalization without robust governance and people-centric change management can create operational and human-resource challenges. (Anoop & Thiyagarajan)

Finally, recent comparative research carried out in India has found that the employees of private banks are more likely to experience perceived digital benefits such as increased efficiency and learning opportunities, along with technostress, whereas the employees of the public sector are likely to exhibit higher levels of organisational commitment, but lower skill adaptation and stress with regard to digital technology (Thakur & Kumari, 2025).

3. Research Gap

While digital transformation in banking has been widely studied, existing research largely focuses on technology adoption, customer outcomes, and overall institutional performance. Limited attention has been given to how employees experience and respond to digital change, particularly in terms of readiness, motivation, adaptability, and stress.

Most comparative studies between public and private sector banks emphasize differences in digital services rather than employee-level behavioural responses. Additionally, many investigations rely on secondary data or examine only one type of bank, leaving a gap in comparative primary research on employee behaviour.

To bridge this gap, the present study examines and compares employee behavioural responses to digital transformation in selected public and private sector banks.

4. Objectives

- To assess the level of digital transformation among employees of public and private sector banks.
- To evaluate the digital readiness of employees working in both banking sectors.
- To examine the behavioural responses of employees—productivity, motivation, technology usage, and stress—towards digital transformation.
- To compare the organizational culture related to innovation and managerial support between public and private banks.
- To investigate the relationship between **digital readiness**, **organizational culture**, and **employee behavioural response** across the two sectors.

5. Hypotheses

- H_{01}: There is **no significant difference** in the mean *Digital Transformation* score between employees of public and private sector banks.
- H_{02}: There is **no significant difference** in the mean *Digital Readiness* score between public and private sector bank employees.
- H_{03}: There is **no significant difference** in the mean *Employee Behavioural Response* score (overall) between the two sectors.
- H_{04}: There is **no significant difference** in the mean *Organizational Culture* score between public and private bank employees.

6. RESEARCH METHODOLOGY

- **Research Design**

The study follows a descriptive and comparative research design. It uses primary data collected through

a structured questionnaire. The study compares employee responses from public and private sector banks.

- **Population and Sample**
- **Population:** Employees of selected public and private sector banks in India.
- **Sample:** 60 employees in total — **30 from public sector banks** and **30 from private sector banks**. The sample includes employees across different job positions such as clerks, officers, and managers.
- **Sampling technique:** Convenience or purposive sampling
- **Data Collection Instrument**

Primary data were collected from bank employees using a **structured questionnaire** prepared on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The questionnaire comprised five sections:

Section 1: Demographic information (age, gender, sector, years of experience, job position)
Section 2: Digital Transformation — 5 items
Section 3: Digital Readiness — 5 items
Section 4: Organizational Culture — 5 items
Section 5: Employee Behavioural Response — 9 items

- **Data Collection Procedure**

The questionnaire was administered to employees through Google Forms. Respondents were informed about the purpose of the study, and participation was voluntary. Confidentiality and anonymity were assured, and no sensitive personal information was collected.

- **Reliability of the Instrument**

To ensure internal consistency, Cronbach's alpha was applied to all multi-item constructs. A value of 0.60 and above was considered acceptable for exploratory studies.

- **Data Analysis Techniques**

The collected data was coded and analysed using SPSS/Excel. The following statistical techniques were applied:

- **Descriptive Statistics** (mean, standard deviation, frequency, percentage) to summarize demographic and variable-level data.
- **Independent Samples t-test** to compare the mean scores of employees in public and private sector banks.
- **Correlation Analysis (Pearson or Spearman)** to examine the relationship between digital readiness, behavioural response, and organizational culture.

- **Ethical Considerations**

Participation was voluntary, informed consent was obtained, and responses were used solely for academic purposes. Identities of the respondents were kept strictly confidential.

7. DATA COLLECTION AND ANALYSIS

The demographic characteristics of respondents were analysed to understand the sample profile. The results are presented in **Table 1**.

Table 1: Demographic Profile of Respondents (N=60)
(Source: Authors' own work)

Variable	Category	Frequency (n)	Percentage (%)
Age	25-34	47	78.3%
	35-44	4	6.7%
	Below 25	9	15.0%
Gender	Female	25	41.7%
	Male	35	58.3%
Educational Qualification	Graduate	24	40.0%
	LLB	1	1.7%
	Postgraduate	23	38.3%
	Professional Degree (CA/MBA/etc.)	12	20.0%
Bank Type	Private Sector	30	50.0%
	Public Sector	30	50.0%
Job Level	Clerical	8	13.3%
	Manager/Senior Officer	17	28.3%
	Officer	35	58.3%
Work Experience	<2	34	56.7%
	>16	2	3.3%
	11-15	2	3.3%
	2-5	17	28.3%
	6-10	5	8.3%

The demographic analysis (Table 1) demonstrates that most of the respondents were aged 25–34 years (78.3%) and male (58.3%). A large proportion held graduate or postgraduate qualifications (78.3%), and respondents were evenly distributed between public sector (50%) and private sector (50%) banks. Most participants worked at the officer or managerial level and had less than 5 years of work experience. This indicates a young and digitally active workforce, relevant to the study of digital transformation in the banking sector.

Reliability analysis was conducted to test the internal consistency of the constructs. The results of Cronbach's alpha values for all variables are presented in **Table 2**.

Table 2: Reliability of Scales
(Source: Authors' own work)

Construct	No. of Items	Cronbach's Alpha
Digital Transformation	5	0.942
Digital Readiness	5	0.932
Organisational Culture	5	0.959
Employee Behavioural Response	9	0.895

All four constructs demonstrated strong internal consistency, with Cronbach's alpha coefficients exceeding the acceptable threshold confirming that all scales used in the study are reliable.

The descriptive statistics for all items measuring digital transformation, readiness, organizational culture, and employee behavioural response are presented in **Table 3**.

Table 3: Descriptive Statistics for all items

(Source: Authors' own work)

Item	N	Mean	Std. Deviation
My branch has adopted new digital technologies (mobile apps, online platforms, automation) in recent years.	60	4.15	1.147
Digital transformation has improved operational efficiency in my department.	60	4.05	1.141
The pace of digital change in my bank is satisfactory.	60	3.78	1.180
Digital tools are used regularly in my day-to-day tasks.	60	4.05	1.199
Customers increasingly prefer digital channels over physical visits.	60	3.63	1.301
I have received sufficient training to use new digital systems.	60	3.65	1.087
I feel confident using the digital tools required for my job.	60	3.92	1.124
My bank provides timely technical support when digital problems arise.	60	3.80	1.176
There are structured programs for upskilling staff in digital skills.	60	3.75	1.129
I am willing to learn and adapt to new digital processes.	60	4.23	1.110
My bank encourages employees to try new digital methods and tools.	60	4.18	1.017
Management communicates clearly about digital initiatives and expectations.	60	3.98	.983
There is a supportive environment for learning from digital failures.	60	3.97	1.041
My supervisors motivate employees to adopt new technology.	60	4.15	1.005
I quickly adapt to changes in digital processes at work.	60	4.18	.948
Digital transformation has encouraged me to develop new skills.	60	4.35	.936
Performance evaluation considers digital competencies.	60	4.00	1.042
I actively seek out information/resources to improve my digital skills.	60	4.20	.898
Digital tools have made my work more interesting.	60	4.17	.994
I feel more motivated when I can use digital solutions to help customers.	60	4.32	.930
Digital transformation has increased my job satisfaction.	60	4.17	.942
The introduction of new digital systems sometimes increases my work-related stress.	60	3.43	1.184
Technical glitches in digital systems create significant pressure to meet targets.	60	3.83	.994
I have adequate time and resources to learn new systems without added stress.	60	3.50	1.200

The descriptive statistics show that employees generally hold **positive perceptions** of digital transformation and related dimensions.

Items such as *"Digital transformation has encouraged me to develop new skills"* (M = 4.35), *"I am willing to learn and adapt to new digital processes"* (M = 4.23), and *"I feel more motivated when I can use digital solutions to help customers"* (M = 4.32) indicate strong digital adaptability and motivation among respondents.

However, certain challenges were also observed, particularly related to stress from digital systems (M = 3.43) and lack of adequate time for learning new systems (M = 3.50). These highlight areas where banks need to improve training support.

To compare responses between public and private sector bank employees, descriptive statistics by bank type were analysed and presented in **Table 4**.

Table 4: Descriptive Statistics of Items by Bank Type

(Source: Authors' own work)

Item	Bank Type	Mean	S.D.
My branch has adopted new digital technologies (mobile apps, online platforms, automation) in recent years.	Public	4.23	1.040
	Private	4.07	1.258
Digital transformation has improved operational efficiency in my department.	Public	3.97	1.033
	Private	4.13	1.252
The pace of digital change in my bank is satisfactory.	Public	3.63	1.098
	Private	3.93	1.258
Digital tools are used regularly in my day-to-day tasks.	Public	3.97	1.033
	Private	4.13	1.358
Customers increasingly prefer digital channels over physical visits.	Public	3.40	1.133
	Private	3.87	1.432
I have received sufficient training to use new digital systems.	Public	3.47	1.042
	Private	3.83	1.117
I feel confident using the digital tools required for my job.	Public	3.93	0.980
	Private	3.90	1.269
My bank provides timely technical support when digital problems arise.	Public	3.67	1.124
	Private	3.93	1.230
There are structured programs for upskilling staff in digital skills.	Public	3.50	1.137
	Private	4.00	1.083
I am willing to learn and adapt to new digital processes.	Public	4.40	0.894
	Private	4.07	1.285
My bank encourages employees to try new digital methods and tools.	Public	4.27	0.944
	Private	4.10	1.094
Management communicates clearly about digital initiatives and expectations.	Public	3.97	0.928
	Private	4.00	1.050
There is a supportive environment for learning from digital failures.	Public	3.83	0.986
	Private	4.10	1.094
My supervisors motivate employees to adopt new technology.	Public	4.13	0.937
	Private	4.17	1.085
I quickly adapt to changes in digital processes at work.	Public	4.07	1.048

	Private	4.30	0.837
Digital transformation has encouraged me to develop new skills.	Public	4.33	0.994
	Private	4.37	0.890
Performance evaluation considers digital competencies.	Public	3.87	0.973
	Private	4.13	1.106
I actively seek out information/resources to improve my digital skills.	Public	4.17	0.986
	Private	4.23	0.817
Digital tools have made my work more interesting.	Public	4.13	1.074
	Private	4.20	0.925
I feel more motivated when I can use digital solutions to help customers.	Public	4.30	0.952
	Private	4.33	0.922
Digital transformation has increased my job satisfaction.	Public	4.10	0.960
	Private	4.23	0.935
The introduction of new digital systems sometimes increases my work-related stress.	Public	3.13	1.167
	Private	3.73	1.143
Technical glitches in digital systems create significant pressure to meet targets.	Public	3.77	1.104
	Private	3.90	0.885
I have adequate time and resources to learn new systems without added stress.	Public	3.00	1.174
	Private	4.00	1.017

4. Comparison Between Public and Private Sector Banks (Independent Samples t-test)

Independent samples t-tests were conducted to examine sector-wise differences across the four constructs.

4.1 Digital Transformation (DT_Score)

No significant difference was found between public and private sector employees ($t(58) = –0.668$, $p = 0.507$).

H_{o1} (No difference in DT between sectors) — Accepted.

This indicates that public and private sector employees perceive digital transformation at a **similar level**, reflecting parallel progress in digital initiatives across both sectors.

4.2 Digital Readiness (DR_Score)

No significant difference was observed ($t(58) = –0.592$, $p = 0.556$).

H_{o2} (No difference in DR between sectors) — Accepted.

Employees across both banking sectors feel **equally confident**, adequately trained, and prepared to work with digital tools.

4.3 Organisational Culture (OC_Score)

The results showed no significant difference ($t(58) = –0.353$, $p = 0.725$). This indicates that both banking sectors offer similar support environments for digital adoption, innovation, and capability building.

H_{o3} (No difference in OC between sectors) — Accepted.

This implies both sectors offer a **comparable level of managerial support, encouragement, innovation climate, and training environment** for digital adoption.

4.4 Employee Behavioural Response (EBR_Score)

No significant difference was recorded ($t(58) = -1.341$, $p = 0.185$).

Thus, employees of both sectors demonstrate similar levels of behavioural response to digital transformation.

H_{04} (No difference in EBR between sectors) — Accepted.

Employees across both banking sectors demonstrate **similar levels of motivation, adaptability, productivity, and stress** in relation to digital transformation.

Overall Interpretation:

Across all four constructs, public and private sector banks do not differ significantly. This suggests that digital transformation efforts in the Indian banking sector have evolved uniformly and that that both categories of banks have achieved a comparable level of digital transformation, responsiveness, organizational capability, and employee behavioural response. The Independent Samples t-test revealed no statistically significant difference between public and private sector bank employees on all four constructs. This indicates that both categories of banks have achieved a comparable level of digital transformation, responsiveness, organizational capability, and employee behavioural response.

Correlation analysis was conducted to examine relationships between digital transformation, digital readiness, organizational culture, and employee behavioural response. The results are presented in **Table 5**.

Table 5: Correlation Analysis Table

(Source: Authors' own work)

	DT_Score	DR_Score	OC_Score	EBR_Score
DT_Score	1	.707	.766	.481
DR_Score	.707	1	.782	.527
OC_Score	.766	.782	1	.635
EBR_Score	.481	.527	.635	1

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

Correlation results indicate strong and positive relationships among all variables:

- DT ↔ DR: r = 0.707 (strong)
- DT ↔ OC: r = 0.766 (strong)
- DR ↔ OC: r = 0.782 (strong)
- OC ↔ EBR: r = 0.635 (strong)
- DT ↔ EBR: r = 0.481 (moderate)
- DR ↔ EBR: r = 0.527 (moderate)

Interpretation:

- Higher digital transformation is strongly related to better digital readiness and organizational culture.
- Organizational culture has the strongest relationship with employee behavioral response, which means that a supportive culture has a significant positive effect on employees' willingness to adapt, learn, and respond to digital processes.

- Digital transformation and responsiveness have a moderate positive effect on employees compared to the effect of organizational culture.

8. FINDINGS AND CONCLUSION

Findings:

Based on the analysis, the key findings are:

- A lot of workers believe that the digital transition has made their jobs more efficient and pleasurable.
- The digital transformation, readiness, culture, and employee behaviour of banks in the public and private sectors are comparable, suggesting a comparable rate of digital growth.
- Digital transformation has an impact on business culture and digital readiness, indicating a win-win relationship between organizational development and technology.
- Improving employee behaviour, which is influenced by company culture, requires the creation of a supportive and educational environment.
- Technology difficulties, insufficient training, and rapid digital transformation are linked to moderate levels of digital stress.
- Workers are prepared to pick up new skills and adjust to digital technologies, creating a positive atmosphere for upcoming initiatives.

Conclusion:

This paper scrutinised the effects of digital transformation on behaviour of employees in selected public and private sector banks in Lucknow, with an emphasis on digital preparedness, organizational culture, and behavioural reactions. The findings of the independent samples t-test revealed no statistically significant differences between the two banking sectors in the main variables of digital transformation, digital readiness, organizational culture, and employee behavioural reaction. However, descriptive statistics show some variability in mean scores and standard deviations at the item level, implying minor differences in employee experiences. Employees in private banks, for example, had slightly higher mean scores on training availability, technical support, and adequate time for skill development, whereas public bank employees had higher adaptability and motivation levels but higher stress levels as a result of the digital transformation.

The results clearly show that employees have a good opinion toward digital transformation, demonstrating strong adaptability, motivation, and a keenness to learn across both industries. The correlation study reported that corporate culture is the most important predictor of employee behavioural responses, emphasizing the importance of supportive leadership, good communication, and well-designed training programs in stimulating digital adoption. However, notwithstanding the benefits of increased efficiency and job satisfaction, moderate digital stress, brought about by system problems, performance pressures, and the velocity of change, remains a major issue.

In conclusion, while digital transformation operations appear to be the same for both public and private sector banks in terms of statistics, dissimilarities in descriptive data indicate different employee experiences, demanding separate HR and training interventions. Upgrading employee support systems, managing digital stress, and focusing on continual digital skill development are critical for improving the effectiveness of digital transformation and developing a strong workforce in the Indian banking business.

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