

Digitalizing Performance Appraisals in State Bank of India: Effects on Appraisal Accuracy and Employee Outcomes

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Abstract

The current research analyzed the role of digitalized performance appraisal systems on the accuracy of the appraisal and the employee performance in the State Bank of India. Primary data were used to conduct research with the help of a quantitative research design, and 412 employees of the chosen regional branches were taken into account. The correlation between Digital Appraisal System Effectiveness, Appraisal Accuracy, Perceived Fairness, and Employee Outcomes was analyzed with the help of SEM. The results found out that digital appraisal systems had a great impact on fairness that was perceived ($b = 0.58$, $p = 0.001$) and accuracy in appraisal ($b = 0.64$, $p = 0.001$). The two variables were greatly affecting employee outcomes that comprised of engagement, motivation, and productivity and accounted 56% of its variance. The mediation analysis proved that the relationship between digital systems and employee outcomes was partly mediated by appraisal accuracy and fairness. The outcomes show that IT-based appraisal systems enhance the effectiveness of performance management with managerial competency and clear implementation practice underpinning these systems. The research paper adds to the body of literature on digital HRM and organizational justice by empirically supporting socio-technical role of technology-based appraisal reforms within a large government-based banking organization.

Keywords: Digital performance appraisal, HRIS, appraisal accuracy, perceived fairness, employee engagement, structural equation modeling, banking sector, digital HRM.

Introduction

However, performance appraisal has always been a focal HR activity in aligning individual performance with organizational strategy, which however, has long been tainted by rater bias, administrative overload, and feedback delays (DeNisi and Pritchard, 2006). Digital transformation in the form of HRIS, e-Performance Management Systems (e-PMS), analytics and AI will offer a way to decrease measurement error, hastens feedback loops, and spurred more transparency (Ullah, 2021; Anitha, 2020). In the case of large geographically dispersed, and complexity of job role, public sector banks like the State Bank of India (SBI), digital appraisal platforms have an opportunity to standardize criteria, combine multi-source data, and enable more rapid talent decisions to be made. However, the empirical data on whether digitalization indeed has a positive effect on appraisal accuracy and offers superior employee results (motivation, engagement, perceived fairness, training allocation and retention) is ambivalent and context-specific (Aguinis, 2012; Awan, 2020). This paper discusses the implication of the shift of SBI to electronic appraisal tools on the accuracy of rating and downstream employee results placing the study in the context of the existing discourse on e-HRM, organizational justice, and socio-technical fitting in large public organizations.

Literature review

There is an increasing literature on the argument that IT-based appraisal systems can be used to increase objectivity by automating rating computation rules and recording behaviourally anchored incidents, as well as computing multiple data sources (Ullah, 2021; Sumardjo, 2022). In his research on adoption of e-PMS in organizations of emerging economy, Ullah (2021) discovered that employees reported that electronically generated ratings were more accurate in comparison to manual platforms. Similarly, according to Raja (2025), the integration of HRIS decreases the number of administrative mistakes and enhances promptness of appraisal reports in financial institutions. Nevertheless, the validity cannot be ensured only by technology: the motivational framework created by DeNisi and Pritchard introduces system design, rater training, and the quality of feedback as the most important constraints to the proper performance measurement (DeNisi and Pritchard, 2006; Aguinis, 2012). Fairness (procedural and informational justice) are perceived to mediate casualties of employee reactions to appraisal results very intensively (Flint, 1999; Farndale et al., 2014). It has been observed in banking and service industries that e-PMS has the capacity to become more perceived procedural fairness when systems make visible appraisal and audit trails, in which there are publicized criteria, records and audit trails (Linking performance appraisal fairness study, 2024). On the other hand, a number of researchers oppose the idea that opaque algorithms or inadequately described analytics are likely to destroy trust and create resistance (AI-driven review, 2024; van Woerkom et al., 2020). The South Asian bank studies are based on empirical results that show that higher acceptance of IT-based appraisal correlates with transparency characteristics (e.g., competency maps could be seen) (Anitha, 2020; Perceived fairness studies, 2024).

Metabolic and field research studies relate the quality of appraisal with employee motivation, engagement, and learning orientation (Aguinis, 2013; Awan, 2020). Online systems that can provide transfer feedback and connect the outputs of the appraisal intervention with custom learning paths are promising more development-inducing outcomes (Al-Kharabsheh et al., 2023; Anitha, 2020). A case study analysis of banks indicates that automated competency mapping will help more quickly locate training requirements, augment learning intervention relative and relevant to more learning (Sumardjo, 2022). Still, there are also some signs of potential negative outcomes: reaching a level of constant surveillance or algorithmic control may cause the experience of being monitored to rise and the motivation intrinsic to a task to decrease in case of the absence of supportive HR practices (van Woerkom et al., 2020; AI-ethics literature, 2024).

The organizational size, unionization, and regulatory limitations determine the mechanisms of digital appraisals in the banks of the public sector (Chaudhary and Krishna, 2013; India sector studies, 2019). Research on Indian and other emerging-market banks ascribes some challenges pertaining to the extent of implementation, such as lack of connectivity with the

internet, digitization among the managerial staff, and conservatism among long-term employees-factors that reduce the anticipated accuracy improvements of IT interventions (E-PMS India framework, 2022; State Bank of India case studies, 2019). Notably, studies indicate that socio-technical alignment (training, change communication and redesigning appraisal processes) should be done to transform technical gains into employee results (measured) (Raja, 2025; Awan, 2020).

The available literature presents strong theoretical assertions and a number of cross-sectional analyses, but longitudinal data, particularly of large publicly traded commercial banks turbocharging digitization progressively, is scarce (Ullah, 2021; E-PMS comparative studies, 2022). Not many studies use the objective measures of accuracy (interrater reliability, centrality of rating distributions) and the results at employee level (engagement, turnover intentions) in the same sample. The proposed research is able to fill this gap by testing the moderating conditions of the role of digital manager competency and perceived transparency and by assessing the digital appraisal implementation of SBI through mixed indicators of accuracy and workforce results.

Objectives

The purpose of the study was to determine the effects of using digitalized performance appraisal systems on the appraisal accuracy, perceived fairness, and employee outcomes; test the correlation between IT-enabled appraisal features and employee engagement, motivation, and productivity; and determine the moderating role of digital competency on part of managers and system transparency in the bank.

Methodology

The research design was quantitative design by the use of a structured questionnaire which was distributed to both the managerial and non-managerial employees of State Bank of India in the chosen branches with the help of stratified random sampling. The analysis of primary data involved the application of descriptive statistics, reliability tests, correlation analysis, multiple regression analysis, and SEM to test hypotheses of the correlations between digital appraisal features, accuracy of appraisal, and perceived fairness and employee outcomes. Contextual interpretation was supported with the use of secondary data comprised of policy documents and HR manuals.

Results and Discussion

There were 5 clusters of employees of State bank of India who gave 412 valid responses. These included 58 percent, which were officers, 27 percent clerical and 15 percent managers. Mean tenure period was 9.6 years. Sixty one percent of the respondents indicated that more than two appraisal cycles used the digital performance appraisal systems actively.

Confirmatory Factor Analysis

The constructs included:

- Digital Appraisal System Effectiveness (DAS)
- Appraisal Accuracy (AA)
- Perceived Fairness (PF)
- Employee Outcomes (EO)

Table 1 Factor Loadings, Composite Reliability, and AVE

Construct	No. of Items	Factor Loadings Range	Composite Reliability (CR)	AVE
DAS	5	0.71 □ 0.87	0.91	0.67
AA	4	0.73 □ 0.85	0.89	0.65
PF	4	0.69 □ 0.83	0.87	0.63
EO	5	0.72 □ 0.88	0.92	0.70

The indicator reliability indicated that all the factor loadings were greater than the threshold of 0.60. Internal Consistency was confirmed by Composite Reliability values of more than 0.70. The values of AVE exceeded 0.50, and this showed convergent validity. The square root of AVE of each construct was found to be greater than inter-construct correlations, hence established as discriminant validity.

Table 2 Model Fit Statistics

Fit Index	Obtained Value	Recommended Threshold
Chi-square/df	2.14	< 3.00
CFI	0.95	> 0.90
TLI	0.94	> 0.90
RMSEA	0.052	< 0.08
SRMR	0.041	< 0.08

SEM model was found to fit well. The ratio of Chi-square/df (2.14) is not too large. CFI (0.95) and TLI (0.94) have higher cut-offs than recommended ones. The high absolute model fit is confirmed by RMSEA (0.052) and SRMR (0.041). Thus, the structural model is found to be statistically satisfactory.

Table 3 Standardized Path Coefficients

Hypothesis	Path	Beta (β)	t-value	p-value	Result
H1	DAS → AA	0.64	11.87	<0.001	Supported
H2	DAS → PF	0.58	10.12	<0.001	Supported
H3	AA → EO	0.41	7.56	<0.001	Supported
H4	PF → EO	0.37	6.98	<0.001	Supported
H5	DAS → EO	0.29	5.44	<0.001	Supported

The findings indicate a high positive relationship between Effectiveness of Digital Appraisal System ($b = 0.64$) and Appraisal Accuracy, which means that electronic scoring, paperwork, and integration of the system have a tremendous influence on accuracy in ratings. In the same way, DAS has a significant contribution to Perceived Fairness ($b = 0.58$), which indicates that employee confidence in the appraisal processes is enhanced by the standardized evaluation criteria and the transparency. There is a substantial Appraisal Accuracy Effect on Employee Outcomes ($b = 0.41$), and it proves that precise ratings lead to increased engagement, motivation, and productivity. Employee Outcomes also depend on the influence of Perceived Fairness ($b = 0.37$) which substantiates the organizational justice theory.

The evidence that DAS has a direct influence on Employee Outcomes ($b = 0.29$) shows that it is partially mediated by Accuracy and Fairness.

Mediation Analysis

Bootstrapping (5000 samples) was conducted.

Table 4 Indirect Effect

Indirect Path	Beta	95% CI	Significance
DAS → AA → EO	0.26	(0.18, 0.34)	Significant
DAS → PF → EO	0.21	(0.14, 0.29)	Significant

Both conceptualizations showed a significant correlation that confirmed the presence of Appraisal Accuracy or Perceived Fairness who served as a complexing variable to the relationship between Digital Appraisal Systems and Employee Outcomes. The mediation accounts 47% of the total effects variation.

Table 5 Explained Variances

Construct	R ²
Appraisal Accuracy	0.41
Perceived Fairness	0.34
Employee Outcomes	0.56

In Appraisal Accuracy and Perceived Fairness 41 and 34 percent of variance is explained by digital systems respectively. There is a high predictive power by the combined predictors who explain 56% of Employee Outcomes.

The SEM findings warrant that digitising the performance appraisal systems in State Bank of India leads to great appreciation of appraisal accuracy and fairness perceptions which consequently leads to the employees being well motivated, engaged and productive. Mediating outcomes also suggest that the effective system translates to the employee outcomes mostly in terms of enhanced accuracy and perceived justice systems.

Discussion

This paper has studied how digitalized performance appraisal systems can affect appraisal accuracy and employee performance in the State Bank of India through SEM. The results support the hypothesis that IT-based appraisal systems are very useful in improving the accuracy of appraisal, perceived fairness and task accomplishments on the general part of employees.

An initial finding of the results was that Digital Appraisal System Effectiveness (DAS) was found to have a positive significant effect on Appraisal Accuracy ($b = 0.64$, $p < 0.001$). This implies that subjectivity and rating misjudgments are minimised via automation of assessment criteria, real-time records, standardised rating systems and audit trails which are generated by the system. Digital systems seem to reduce leniency bias, central tendency errors, and gaps in documentation in big setting in the banking industry that requires a high degree of uniformity in appraisal across different branches. The reported explained variance ($R^2 = 0.41$) proves the fact that the impact of digital features on rating precision is enormous.

Second, DAS had a big impact on Perceived Fairness ($b = 0.58$ and $p < 0.001$). Transparency characteristics including exposure of the appraisal criteria, online feedback systems, and systematic performance dashboards helped to improve the experiences of procedural and informational justice among employees. Since the perceptions of fairness are critical factors contributing to acceptance of appraisal outcomes, this finding means a lot in hierarchical public banking organizations whose appraisal credibility has influence on morale and trust.

Third, the predictors that were significant in Employee Outcomes (engagement, motivation, and productivity) were the Accuracy in the Appraisal ($b = 0.41$) and the perceived Fairness ($b = 0.37$). This concurs with the argument that the appraisal systems do not have direct relationship with increasing the performance, but instead it has the relationship with the behavioural outcome occasioned by the cognitive judgment of the accuracy and fairness. The mediation analysis also established that appraisal accuracy and fairness partially mediate between digital systems and employee outcomes for the relationship. The opportune effects were statistically significant and it describes almost half the total variance that was passed to employee outcomes.

The model has a high degree of predictor validity as it is able to explain 56% of Employee Outcomes variance. This indicates that digitalization as executed well turns out to be an HR strategy and not an administrative improvement. Nevertheless, the

partial mediation exists which proves that technology is not enough. System effectiveness is probably moderated by managerial digital competency, communication quality, and practices of change management.

In practical terms, the findings can be used to suggest that digital transformation programs at SBI in terms of performance management may improve the productivity provided that they are supported by proper training, open-ended communication, and the constant refinement of the system. The institutions are to focus on the ease of use of a system, the promptness of feedback, and the combination with training and career development modules in order to improve the maximum number of employees.

Conclusion

The current research found that the introduction of digitalization of performance appraisal systems in the State Bank of India leads to considerable achievements in the accuracy of the appraisal system, the perceived fairness, and the outcomes of the employees. The findings of Structural Equation Modeling proved that the Digital Appraisal System Effectiveness has a direct and indirect impact on employee engagement, motivation, and productivity. Mediation by technological systems was found to be high in terms of accuracy of appraisal and perceived fairness which are mediating variables reflecting that technological systems improve employee outcomes mostly by minimizing errors in ratings and maximizing transparency. The model demonstrated a high percentage of variance of employee results ($R^2 = 0.56$), which validated the importance of IT-based performance management system in huge public-sector banking institutions.

The results indicate that digital transformation of appraisal is not just an administrative process of modernizing but a performance-enhancing intervention when conducted in the form of a systematic intervention. Nevertheless, there exists the aspect of partial mediation which means that technological infrastructure will not work; its performance will be assessed by the competency of managers, the ability of their communication, and organizational preparedness. On this basis, the digital appraisal systems should be assisted with the systematic governance systems, ongoing training, and ethical data management to maintain the performance enhancement over time.

Recommendations

- Enhance the System Transparency and Audit Capabilities. In order to promote procedural justice perception and employee trust further, SBI ought to improve the dashboard visibility, the reason behind the ratings, and audit logs.
- General Managerial Training Programs: Trumpeter digital literacy and rater calibration training need to be conducted continuously to reduce accidents on subjectiveness and making performances comparable.
- Learning and Development System Integration: Digital appraisal outputs must also be connected to competency-based training models and development progression channels as this would make the most use of them in terms of development.
- Periodical System Review and Feedback System: System usability and regular user-feedback survey should become part of the institution to ensure that functionality is refined and opposition diminished.
- Data Protection and Ethics Governance Model: As the use of analytics and algorithmic evaluation grows, SBI would need to adhere to an information privacy policy, role-based access control, and compliance audit.
- Embrace Constant Feedback System: The change of annual reviews into a regular series of digital feedback will enhance responsiveness and employee involvement.
- Follow up Result Measures Over Time: SBI ought to carry out longitudinal research periodically to evaluate the enduring effect of digital appraisal systems on productivity, retention, and performance of organizations.

To summarize, the digitalization of performance appraisal in SBI can provide the organization with an opportunity to act as a strategic enabler of the effective operation under the condition that technological systems will be correlated with human resource development practices, principles of fairness, and well-developed governance frameworks.

Theoretically, the work reinforces the theory of socio-technical systems, as well as the theory of organizational justice since it establishes the fact, that the interventions involving technologies can influence the performance results in terms of the perceptual and behavioural processes. Digital appraisal systems can also be considered additive increase in the standardization of structure but it depends on the conception of fairness and trust of the staff to accept it.

In general, the discussion establishes that digitalizing performance appraisals in SBI has a statistically significant, practically significant influence on the quality of appraisal and employee outcomes, in case the technological implementation is correlated with the human and organizational factors.

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