

DIGITAL HR AS A STRATEGIC CAPABILITY: E-HRM, ORGANIZATIONAL EFFICIENCY AND THE ROLE OF TECHNOLOGY, LEADERSHIP AND CULTURE IN INDIA'S IT SECTOR

Prajjwal

Research Scholar, Amity Business School, Amity

University, Greater Noida, Uttar Pradesh

Email: Prajjwal.arjariya@s.amity.edu

Saloni Pahuja

Associate Professor, Amity School of Business, Amity

University Uttar Pradesh

Email: Spahuja1@amity.edu

Ruchika Gupta

Director, Mangalmay Institute of Management and

Technology, Greater Noida

Email: Guptaruchika81@gmail.com

ABSTRACT

This study examines electronic Human Resource Management (e-HRM) as a strategic organisational capability rather than merely a mechanism for automating routine HR transactions. Drawing on evidence from the Delhi/NCR information technology sector, the study investigates how e-HRM influences operational efficiency and decision-making and how technology, leadership support and organisational culture jointly shape successful adoption. A sequential explanatory mixed-methods design was used. The quantitative phase analysed 280 valid responses from employees and managers in IT and IT-enabled service organisations, followed by semi-structured interviews with 12 purposively selected senior HR and IT/operations managers. The quantitative analysis employed reliability testing, exploratory factor analysis, Pearson correlation and multiple linear regression, while the qualitative phase used thematic analysis to interpret implementation dynamics. The findings indicate substantial operational benefits: 78% of respondents reported improvements in the time and accuracy of routine HR activities, while 72% reported easier access to HR information for decision-making. Strategic use of e-HRM analytics was positively associated with the quality of talent-related decisions ($\beta = 0.61$, $p < 0.01$). Leadership support and an innovative organisational culture were also strongly associated with adoption success ($r > 0.70$).

The qualitative evidence further identifies employee and managerial resistance, the need for continuous and practice-oriented training, and integration with other organisational systems as central implementation issues. Based on these findings, the study proposes a Success Triangle perspective in which user-centred technology, visible leadership and an innovative, trust-based culture operate as mutually reinforcing conditions for e-HRM value creation. The study argues that successful e-HRM implementation should therefore be treated as a socio-technical transformation and organisational change programme, not as a standalone technology deployment.

Keywords: e-HRM; Digital HRM; HR Analytics; IT Sector; Organizational Efficiency; Technology Acceptance; Leadership Support; Innovative Culture; Strategic HRM

1. INTRODUCTION

Digital transformation has altered the role of the human resource function, particularly in knowledge-intensive industries where employees, skills and organisational learning are central to competitive performance. In India's IT sector, this transformation is especially visible in Delhi/NCR, where organisations operate under intense competition, rapid technological change and continuing pressure to attract and retain specialised talent. Under these conditions, HR cannot remain confined to transactional administration; it increasingly needs to provide timely information, support workforce decisions and contribute to business strategy.

Electronic Human Resource Management (e-HRM) represents an important part of this transition. By using digital systems to manage recruitment, employee records, payroll, attendance, benefits, communication and analytics, e-HRM can reduce repetitive work and make HR information more accessible. Its strategic potential, however, extends beyond automation. When HR data are integrated and analytically usable, HR professionals can move from reporting historical activity toward identifying workforce patterns and supporting decisions concerning talent, performance and retention.

Technology adoption does not automatically produce strategic value. An e-HRM system may underperform when users perceive it as difficult or irrelevant, when processes are poorly aligned with system functionality, or when organisational leaders fail to communicate its strategic importance. Employee resistance, limited training and weak integration with other information systems can further reduce adoption. These issues suggest that e-HRM should be understood as a socio-technical intervention in which technology interacts continuously with users, leadership and organisational culture.

This study therefore focuses on the Delhi/NCR IT sector and examines the relationship between e-HRM adoption, HR operational efficiency and decision-making quality. It gives particular attention to three enabling conditions: user-oriented technology, leadership support and innovative organisational culture. The study's central argument is that the strategic effectiveness of e-HRM emerges from the configuration of these conditions rather than from technology alone.

The study addresses the following research question: How does e-HRM influence HR processes and organisational efficiency in IT organisations, and what organisational conditions are critical for successful adoption?

2. MATERIAL AND METHODS

Resource-Based View and e-HRM as a strategic capability

The Resource-Based View (RBV) provides a strategic explanation for why an organisation's e-HRM capability can contribute to sustained advantage. From this perspective, resources become strategically valuable when they are difficult to replicate and can be effectively embedded within organisational processes. A sophisticated e-HRM environment can support this capability by integrating HR information, enabling workforce analytics and improving the organisation's ability to attract, develop and retain talent. The strategic value is therefore not located in software alone but in the organisational capability created through its effective use.

Technology Acceptance Model

The Technology Acceptance Model (TAM) explains the user-level dimension of adoption. Perceived usefulness and perceived ease of use shape an individual's willingness to use a technology. In e-HRM, usefulness can be reflected in faster approvals, easier access to employee information and reduced administrative effort, while ease of use concerns whether employees can operate the system without excessive difficulty. The model is particularly relevant to the resistance identified in the qualitative findings: users are more likely to adopt e-HRM when its practical value is visible and its use is supported.

An integrated socio-technical perspective

RBV and TAM explain different levels of the e-HRM problem. RBV clarifies how digital HR capability can become strategically valuable, while TAM explains individual acceptance. The findings suggest that neither perspective alone fully captures implementation dynamics in the IT sector. Leadership and organisational culture provide the connecting conditions through which a technically capable system becomes accepted, embedded and strategically useful.

From transactional automation to strategic HRM

Research on e-HRM describes a progression from the digitisation of transactional activities toward relational and transformational applications. Transactional systems can automate payroll, benefits and attendance activities, generating savings in time and administrative effort. Relational applications can support recruitment and employee interaction, while transformational applications use integrated data and analytics to inform workforce strategy. This progression is important because operational automation creates the information and process infrastructure from which strategic HR analytics can develop.

Operational efficiency and decision support

The literature reviewed in the source study indicates that e-HRM can improve process speed, reduce administrative workload and increase access to HR information. E-recruitment can broaden candidate sourcing, while digital HR information systems can support analysis of turnover, skills and other workforce indicators. The strategic value of these capabilities arises when information is used not only to report what has happened but also to inform decisions about future workforce requirements.

Technology acceptance and user adoption

Technology effectiveness depends on actual adoption. The TAM perspective highlights perceived usefulness and perceived ease of use as central determinants of acceptance. In practice, this means that implementation should communicate concrete benefits to users and provide adequate support. A technically advanced system may fail to deliver value if employees regard it as burdensome, poorly designed or disconnected from their daily work.

Leadership and organisational culture

Leadership support influences e-HRM through resource allocation, strategic communication and visible participation. Organisational culture influences whether employees are encouraged to experiment, learn and use data in decision-making. A culture characterised by trust, flexibility and innovation is more likely to accommodate digital HR transformation than a rigid environment that treats new systems as externally imposed.

Indian IT-sector context and research gap

Although international research on e-HRM is extensive, the source study identifies a relative lack of contextual evidence concerning the interaction of technology, leadership and culture within India's IT sector, particularly Delhi/NCR. IT organisations present a distinctive context because technology is both a core business product and a routine part of employee work. Employees may therefore have

relatively high expectations of digital systems while organisations simultaneously face strong cost and innovation pressures. The research gap lies not in the individual importance of technology, leadership or culture, but in understanding their configuration and joint influence on e-HRM effectiveness.

The conceptual framework in the supplied manuscript positions technology acceptance, leadership support and cultural enablement as inputs surrounding the e-HRM effectiveness problem. It highlights the Delhi/NCR IT-sector context and motivates the study's Success Triangle perspective.

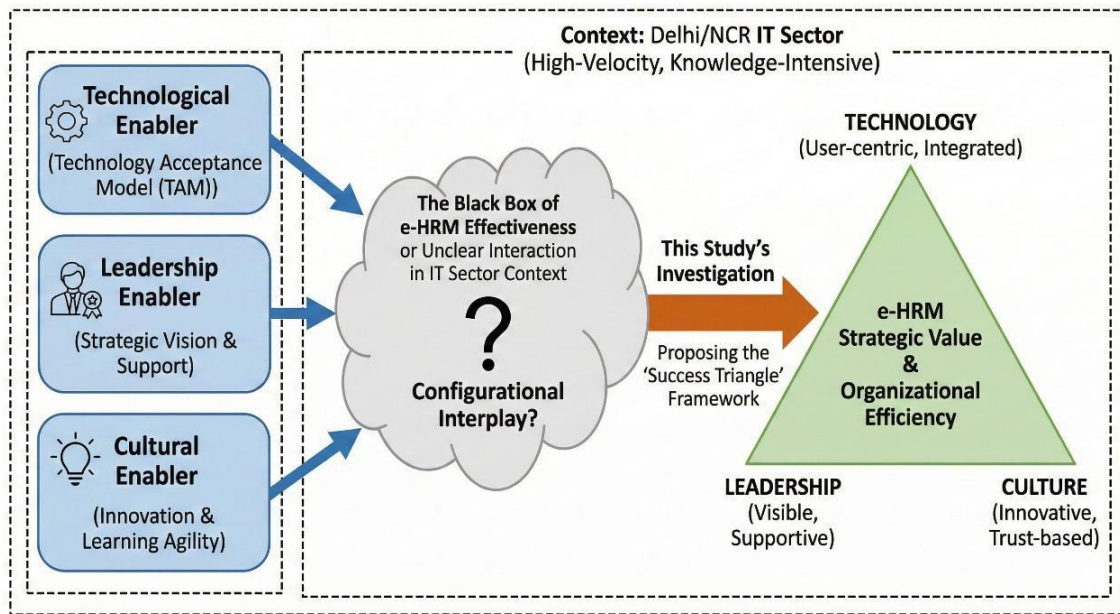


Figure 1. Conceptual framework for the study. Reproduced from the supplied manuscript.

The study addresses a contextual and configurational gap. Existing literature establishes the importance of technology capability, leadership and culture separately, but provides less clarity on how their interaction affects e-HRM effectiveness in Delhi/NCR's IT sector. The study therefore moves beyond a technology-only explanation and investigates whether the joint presence of user-oriented technology, visible leadership and innovative culture provides a stronger explanation of adoption and performance. This study will cover the following objectives:

- To assess the effect of e-HRM on HR operational efficiency in Delhi/NCR IT organisations.
- To examine the relationship between e-HRM analytics and the quality of talent-related decision-making.
- To investigate the influence of leadership support and innovative organisational culture on e-HRM adoption.

- To use qualitative evidence to explain resistance, training and integration issues encountered during e-HRM implementation.
- To develop an integrated Success Triangle framework explaining how technology, leadership and culture jointly contribute to e-HRM strategic value.

The study uses a sequential explanatory mixed-methods design. Quantitative evidence was collected and analysed first to identify patterns and relationships, followed by qualitative interviews designed to explain the quantitative findings. The final phase integrated both forms of evidence.

The methodology diagram in the supplied manuscript presents three phases: Phase 1 quantitative survey and statistical analysis; Phase 2 purposive selection and semi-structured interviews with thematic analysis; and Phase 3 integration and interpretation of the findings.

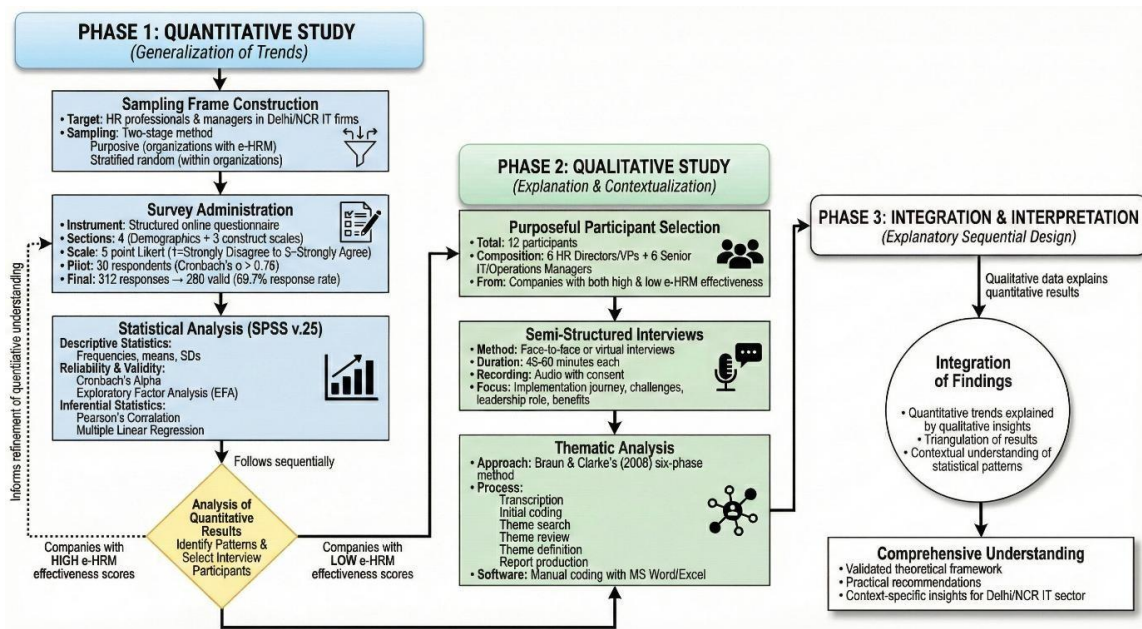


Figure 2. Sequential explanatory mixed-methods research design. Reproduced from the supplied manuscript.

A pragmatic research approach was adopted, with the research problem determining the combination of quantitative and qualitative methods. The quantitative component followed a descriptive and correlational orientation, while the qualitative component was used to interpret implementation dynamics and organisational experiences.

The target population comprised HR managers, department heads and project managers involved in IT and IT-enabled service organisations operating in Delhi/NCR or maintaining an operational office in the region. Firms were purposively restricted to organisations that had used an e-HRM or HRIS system for at least one year. Within this frame, respondents were stratified between HR and non-HR functions before random selection.

A structured, self-administered online questionnaire was used. Measures were recorded on a five-point Likert scale from Strongly Disagree to Strongly Agree. The constructs covered perceived usefulness, perceived ease of use, operational efficiency, decision-making quality, leadership support and innovative culture. A pilot study involving 30 participants produced Cronbach's Alpha values above 0.78 for all scales. The final survey produced 312 responses, of which 280 were considered reliable, yielding an approximately 89.7% response rate.

Following the quantitative analysis, 12 respondents were purposively selected for semi-structured interviews: six HR Directors/Vice Presidents and six senior IT/Operations managers from organisations displaying higher and lower levels of e-HRM effectiveness. Interview themes included implementation processes, resistance, integration, leadership involvement, training and perceived benefits.

3.DISCUSSION

Quantitative data were analysed using SPSS version 25. Internal consistency was examined through Cronbach's Alpha and construct validity through Exploratory Factor Analysis. Pearson correlation was used to examine relationships among variables, while multiple linear regression assessed whether perceived usefulness, leadership support and innovative culture predicted operational efficiency and decision-making quality. The qualitative data were transcribed, coded, grouped into higher-order themes, reviewed and interpreted. Participants provided informed consent and were assured of anonymity and confidentiality. Participation was voluntary, with the right to withdraw. The collected data were treated confidentially and used for educational research purposes.

Table 1 Measurement Model

Construct	Items	Source/Development	Reported reliability
Perceived Usefulness	4	Davis (1989)	> 0.82
Perceived Ease of Use	4	Davis (1989)	> 0.80

Operational Efficiency	5	Marler & Fisher (2013)	> 0.81
Decision-Making Quality	4	Developed from literature	> 0.83
Leadership Support	5	Bondarouk & Ruël (2009)	> 0.86
Innovative Culture	5	Bondarouk & Ruël (2009)	> 0.80

The quantitative sample comprised 280 valid respondents. HR professionals represented 52.1% of the sample and non-HR respondents from IT, project delivery and operations represented 47.9%. The majority (65.0%) had more than five years of professional experience. In terms of organisation size, 23.9% worked in firms with fewer than 500 employees, 40.0% in firms with 500–2,000 employees and 36.1% in firms with more than 2,000 employees.

Characteristic	Category	Percentage
Job function	HR professionals	52.1%
Job function	Non-HR (IT, project delivery, operations)	47.9%
Experience	Less than 3 years	15.0%
Experience	3–5 years	20.0%
Experience	More than 5 years	65.0%
Firm size	Less than 500 employees	23.9%
Firm size	500–2,000 employees	40.0%
Firm size	More than 2,000 employees	36.1%

Nearly 78% of respondents agreed or strongly agreed that e-HRM reduced the time required for routine administrative activities such as payroll and leave management while improving accuracy. This result indicates a strong perceived operational benefit from digital HR processes.

Seventy-two percent of respondents reported that digitalisation improved access to HR information, including information on turnover and employee skills. The regression analysis showed a statistically significant positive relationship between strategic use of e-HRM analytics and talent-related decision-making quality ($\beta = 0.68$, $p < 0.01$).

Leadership commitment and innovative culture were both strongly associated with adoption success, with reported Pearson correlations above 0.70. The results indicate that adoption is not simply an employee-level technology choice; it is also influenced by the organisational environment in which the system is introduced.

Overall satisfaction with e-HRM systems was high, with a reported mean score of 4.19 on a five-point scale and a standard deviation of 0.67.

Relationship / indicator	Statistic	Interpretation
Operational efficiency	78% agreement/strong agreement	Strong consensus on time and accuracy benefits
e-HRM analytics → talent decision quality	$\beta = 0.68$, $p < 0.01$	Strong positive significant relationship
Leadership support → adoption	$r > 0.79$	Very strong positive correlation
Innovative culture → adoption	$r > 0.79$	Very strong positive correlation
System satisfaction	Mean = 4.19; SD = 0.67	High overall satisfaction

The thematic analysis identified three implementation themes: resistance, training and integration. Resistance was reported among both operational employees and middle managers accustomed to traditional procedures. The evidence indicates that resistance was more effectively addressed when users could see concrete benefits, particularly actionable reports that helped managers perform their work more effectively. Successful implementation was associated with training understood as an ongoing learning process rather than a one-time event. Just-in-time learning, peer networks and continuing support were identified as useful mechanisms for helping users adapt to the system. Participants repeatedly identified integration as an implementation challenge. e-HRM systems need to interoperate with other organisational software so that HR information can contribute to a coherent organisational view rather than remain isolated within a

separate HR platform. The qualitative framework in the supplied manuscript visually connects resistance, training and ongoing support, and integration as the principal implementation dynamics.

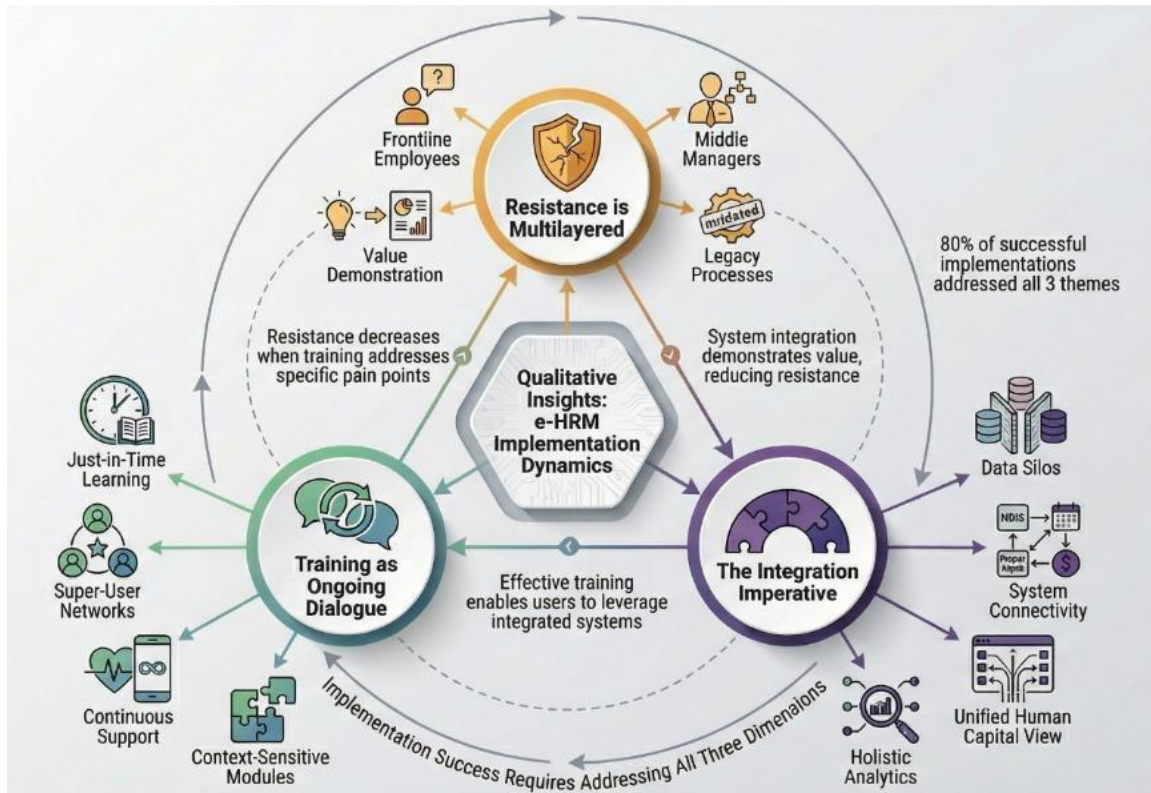


Figure 3. Qualitative insights framework for e-HRM implementation in the IT sector. Reproduced from the supplied manuscript.

The findings reinforce the view that e-HRM can support HR operational excellence while also creating the information infrastructure required for strategic HRM. The 78% operational-efficiency response and the significant relationship between e-HRM analytics and talent decision quality suggest that digital HR systems can extend beyond administrative automation into decision support.

At the same time, the results indicate why technological capability alone is insufficient. RBV explains how embedded e-HRM capability can become strategically valuable, but TAM explains why users must perceive the system as useful and manageable. The qualitative evidence adds a further organisational layer: leaders must actively support implementation, while culture must permit experimentation, learning and data-driven problem solving.

The interaction among these factors is central to the study's Success Triangle. User-centred technology provides the technical foundation; leadership supplies direction, resources and visible sponsorship; and an innovative culture creates the conditions for adoption and experimentation.

When these three elements reinforce one another, e-HRM is more likely to become embedded in organisational processes and contribute to strategic value.

The findings also clarify the meaning of resistance. Resistance should not automatically be interpreted as opposition to digital transformation. It can indicate that users do not yet understand the value of the system, have insufficient training, or experience poor process integration. Change management should therefore respond to the source of resistance rather than simply mandate adoption.

The Success Triangle figure in the original manuscript places technology, leadership and culture around e-HRM strategic value and organisational efficiency. Its logic is retained here as the central integrative interpretation of the empirical results.

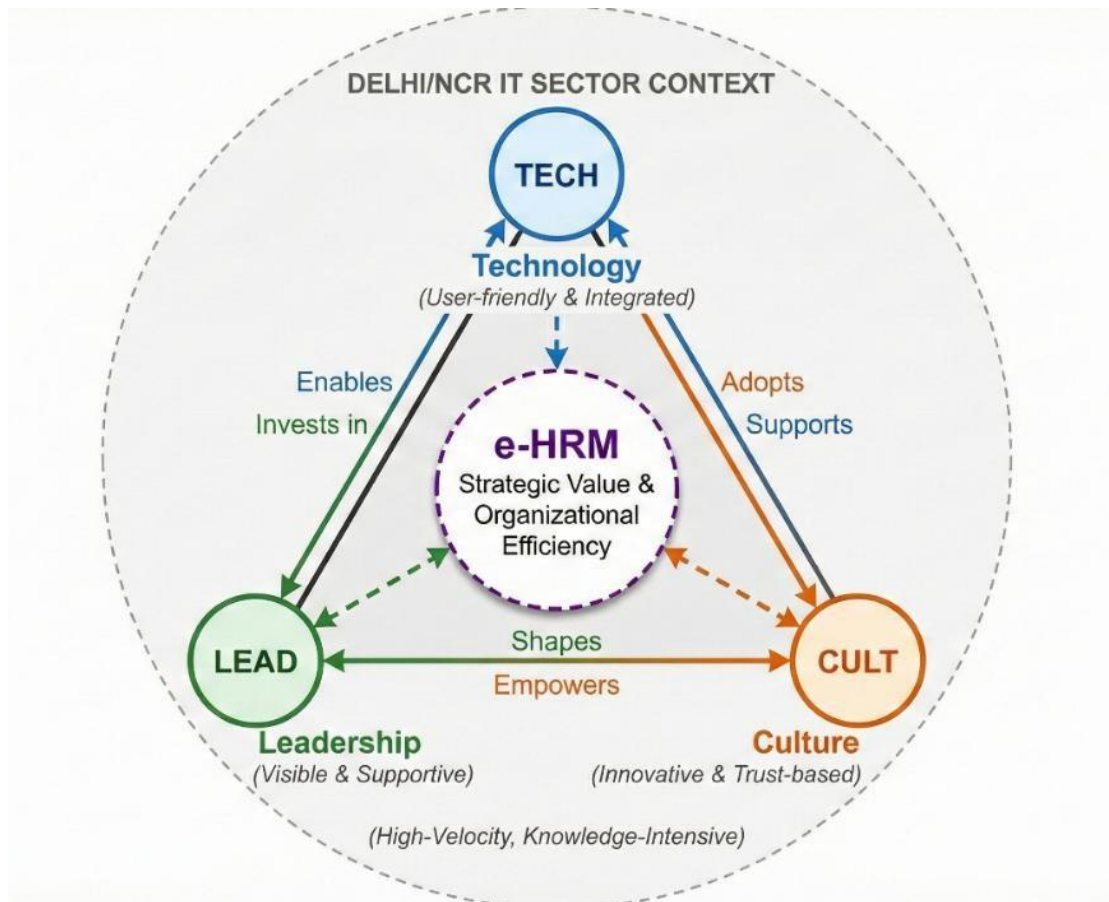


Figure 4. Success Triangle framework for e-HRM implementation. Reproduced from the supplied manuscript.

4. IMPLICATION

The study contributes by integrating RBV and TAM with a socio-technical interpretation of e-HRM implementation. RBV explains strategic capability, TAM explains user acceptance, and the empirical evidence demonstrates the importance of leadership and organisational culture in connecting the two. The resulting Success Triangle provides a configurational explanation of why technically strong e-HRM systems may produce different outcomes across organisations.

- Treat e-HRM implementation as an organisational change programme rather than an isolated software installation.
- Ensure senior leaders visibly use and advocate the system and connect implementation to strategic business objectives.
- Design e-HRM interfaces and processes around user needs and communicate concrete benefits to different user groups.
- Provide continuous, role-specific training, including just-in-time learning and peer support.
- Integrate e-HRM with other organisational systems to prevent data silos and improve the usefulness of workforce information.
- Build analytical capabilities so HR teams can use e-HRM data for strategic workforce decisions rather than only administrative reporting.

Based on the empirical results, the study can be expressed as an integrated implementation logic: user-centred technology increases perceived usefulness and ease of use; leadership support provides resources, direction and legitimacy; innovative culture encourages experimentation and learning; these conditions increase adoption and effective use; effective use improves operational efficiency and decision-making; and these outcomes contribute to the strategic value of e-HRM.

Success-triangle element	Primary organisational role	Expected contribution
Technology	User-centred, integrated and usable e-HRM/HRIS	Adoption, process efficiency, data accessibility
Leadership	Visible sponsorship, resources and strategic direction	Legitimacy, implementation momentum, decision use
Culture	Innovation, trust, learning and experimentation	User engagement, adaptation, data-driven problem solving

Combined configuration	Mutually reinforcing technology, leadership and culture	Strategic e-HRM value and organisational efficiency
------------------------	---	---

- Adopt e-HRM through a phased implementation process that includes user consultation, testing, training and iterative improvement.
- Use leadership sponsorship to communicate why the system matters and demonstrate its use in actual management decisions.
- Measure adoption not only through system availability but through actual usage, perceived usefulness, satisfaction and decision-making outcomes.
- Establish continuous learning mechanisms rather than relying on one-time implementation training.
- Prioritise interoperability with other organisational information systems to create a unified workforce-information environment.
- Strengthen HR analytics capabilities so digital HR data can support talent planning, retention and performance decisions.
- Monitor the organisational culture surrounding digital HR transformation and address resistance through communication, support and evidence of practical value.

5. CONCLUSION

This study demonstrates that e-HRM can contribute substantially to HR operational efficiency and strategic decision-making in the Delhi/NCR IT sector. The empirical evidence shows strong perceived benefits in reducing administrative effort and improving accuracy, while the regression results indicate a significant positive association between strategic e-HRM analytics and talent-related decision quality.

The central contribution of the study, however, is the argument that these benefits depend on more than technology. The Success Triangle shows that user-centred technology, committed leadership and an innovative organisational culture must work together. Technology provides the capability, leadership provides direction and organisational legitimacy, and culture provides the conditions for adoption, experimentation and continuous learning.

The practical implication is that organisations should approach e-HRM as a socio-technical transformation. Implementation should therefore include change management, continuous training, system integration, visible leadership support and the development of analytical capability. When these elements are aligned, e-HRM can move HR from transaction processing toward a more strategic role in workforce and business decision-making.

6. FUTURE RESEARCH AND LIMITATIONS

The study is geographically focused on the Delhi/NCR IT sector and uses a cross-sectional design, which limits the ability to observe how e-HRM adoption and its organisational effects develop over time. The findings should therefore be interpreted as evidence of relationships within the study context rather than as universal causal effects.

Future research should use longitudinal designs to examine changes in e-HRM adoption and performance over extended periods. Comparative studies across major Indian IT centres such as Bengaluru, Hyderabad and Pune could test whether the Success Triangle operates similarly across different labour markets and organisational ecosystems. Future studies could also examine sector differences, employee-level adoption patterns and objective business performance indicators.

REFERENCES

- Biswas, T. R., Hossain, M. Z., & Comite, U. (2024). Role of Management Information Systems in Enhancing Decision-Making in Large-Scale Organizations. *Pac J Bus Innov Strateg*, 1(1), 5-18. <https://doi.org/10.70818/pjbis.2024.v01i01.03>
- Babu, Dr & Suhasini, Nallam. (2026). DIGITAL TRANSFORMATION OF HR FUNCTIONS: AN EMPIRICAL STUDY ON E-HRM SYSTEMS. 2. 1-17. <https://doi-doi.org/101555/ijrpa.4515>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Dr. A. Madhuri, Dr. B. R. Kumar, (2025) HR Analytics and Decision-Making: A Data-Driven Approach to Employee Performance Management. *Journal of Neonatal Surgery*, 14 (7s), 409-423. <https://doi.org/10.52783/jns.v14.2425>
- Gupta, P., Gupta, D. and Gupta, M. (2025). Unleashing Human Capital Analytics for Data-Driven Workforce Management. In *Human Capital Analytics* (eds D. Gupta, M. Gupta, P. Budhwar, J. Westerman, R.K. Dhanaraj and B. Balusamy). <https://doi.org/10.1002/9781394238354.ch7>

- Marler, J. H., & Fisher, S.L. (2013). AN evidence-based review of e-HRM and strategic human resources management. *Human Resources Management Review*, 23(1), 18-36 <https://doi.org/10.1016/j.hrmr.2012.06.002>
- Nyathi M, Kekwaletswe R (2024), "Electronic human resource management (e-HRM) configuration for organizational success: inclusion of employee outcomes as contextual variables". *Journal of Organizational Effectiveness: People and Performance*, Vol. 11 No. 1 pp. 196–212, doi: <https://doi.org/10.1108/JOEPP-08-2022-0237>
- Pavithran MS and Vadivel SM (2026) Explainable attrition risk scoring for managerial retention decisions in human resource analytics. *Front. Big Data* 8:1699561. doi: 10.3389/fdata.2025.1699561
- Strohmeier, S. (2007). Research in e-HRM: Review and implications. *Human Resource Management Review*, 17(1), 19–37. <https://doi.org/10.1016/j.hrmr.2006.11.002>