

# Comparative HRIS Adoption in Flexible vs. Traditional Work Systems Across Indian Industries

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## Abstract

This study presents a comparative analysis of Human Resource Information System (HRIS) adoption in flexible versus traditional work systems across Indian industries, synthesizing evidence from 20 empirical studies conducted between 2015 and 2025. The analysis spans six major sectors – including IT/ITES, manufacturing, banking/finance, healthcare, telecom, and the public sector – examining HRIS implementation trends, challenges, benefits, and outcomes in each. Key findings indicate that technology-driven flexible workplaces demonstrate proactive and strategic HRIS usage to support agility and distributed work, whereas traditional on-site workplaces often implement HRIS more gradually, initially focusing on operational efficiencies. Common challenges across both contexts include inadequate IT infrastructure, user resistance, insufficient training, and limited top-management support. Despite these barriers, HRIS adoption is widely associated with improved decision-making, higher employee productivity, cost savings, and better work-life balance for employees, especially when integrated with flexible work practices. Flexible organizations leverage HRIS to enable remote HR management and analytics for a dispersed workforce, while traditional firms are increasingly recognizing HRIS's strategic value in the post-pandemic digital era. The study underscores the importance of organizational readiness, inclusive change management, and ongoing user training for successful HRIS outcomes. Comparative insights reveal that work system context influences the pace and focus of HRIS adoption, offering implications for both practitioners and researchers in optimizing HRIS use across diverse work environments.

**Keywords:** HRIS Adoption, Flexible Work Systems, Traditional Work Systems, Indian Industries, Comparative Analysis, Implementation Challenges, HRIS Benefits, Organizational Outcomes, Employee Productivity, Work-Life Balance, Change Management, Digital Transformation

## Introduction

In India, organizations across sectors are increasingly implementing HRIS to enhance efficiency and support data-driven decision-making in human resources. However, the context of work – whether a company operates in a flexible work system (e.g. remote or hybrid arrangements) or a traditional on-site 9-to-5 system – can influence how HRIS is adopted and utilized. Industries with more flexible work practices (such as IT and tech startups) may approach HRIS differently than those with conventional structures (such as manufacturing or government agencies). While numerous studies have investigated HRIS adoption within individual industries or organizations, there remains a notable gap in understanding how the *work system context* (flexible vs. traditional) influences HRIS adoption and outcomes across multiple industries. Most prior research focuses on either a single sector or does not explicitly compare flexible and traditional workplace settings. This makes it difficult to discern whether observed HRIS benefits and challenges are universal or context dependent. Additionally, emerging post-2020 work models (e.g. widespread remote work) have not been uniformly studied across different sectors. To address these gaps, this study undertakes a comparative synthesis of 20 empirical studies to analyze differences and similarities.

## Literature Review

Research on HRIS adoption in India over the last decade highlights several important themes and trends. Sectoral adoption patterns are evident: certain industries have been quicker and more strategic in embracing HRIS than others.

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For example, manufacturing firms in India have shown a relatively high uptake of HRIS at a strategic level, using it to transform and streamline HR functions, whereas many service sector firms initially adopted HRIS primarily for operational tasks. A study by Biswas and Chakraborty (2018) in West Bengal's manufacturing companies found that HR departments viewed HRIS as "an essential part that supports [the] organization's competitive efforts," and observed a "huge transformation" in HR functions post-HRIS implementation. In contrast, Jain and Soni (2017) reported that in service organizations HRIS usage was mainly limited to record-keeping and payroll, although even at this operational level, firms saw efficiency gains through reduced paperwork and staffing needs in HR administration. The technology sector (IT/ITES), known for more flexible and digital-friendly work practices, unsurprisingly leads to HRIS adoption as part of broader digital transformation. Case studies of IT firms (e.g., in Hyderabad's tech hub) underline that HRIS is often viewed as a strategic necessity for managing a tech-savvy, distributed workforce and for handling complex HR processes in competitive environments. Flexible, high-tech organizations integrate HRIS to facilitate remote onboarding, virtual collaboration, and dynamic scheduling, embedding the system deeply into their workflow. Meanwhile, traditionally structured sectors such as government agencies or older manufacturing firms have been slower to implement HRIS, often starting with basic modules (attendance, payroll) and only gradually extending to more strategic HR analytics tools. Notably, some analysts suggest that organizational size and growth can influence adoption more than the industry itself – larger, rapidly growing firms (regardless of sector) are more likely to invest in HRIS, whereas many smaller firms lag due to resource constraints until external pressures (such as the COVID-19 pandemic) force digital adoption.

Another major theme in the literature involves the challenges and barriers in implementing HRIS. Across diverse Indian contexts, researchers have consistently identified a core set of obstacles that organizations face. One is the cost and technical infrastructure required: robust IT infrastructure is critical for HRIS success, and lack of infrastructure or reliable internet can significantly hinder implementation in both flexible and traditional settings. For instance, Alam et al. (2016) found in a study of hospitals that having a strong IT backbone was the top factor influencing the decision to adopt HRIS.

Top management support (or the lack thereof) is another decisive factor – without leadership buy-in, obtaining the necessary funding and driving organizational change becomes difficult. Studies focusing on South Asian small and medium enterprises (SMEs) (e.g., Gunawardane et al., 2022, on Sri Lankan MSMEs) confirm that limited management support, along with cost concerns, lack of technical expertise, and inadequate staff training, are significant impediments to HRIS adoption. User resistance to change also frequently emerges as a barrier. Employees and even HR staff accustomed to legacy paper-based processes may resist new systems, especially in traditional work environments with long-established routines. Closely related issues are user skills and awareness. Many employees are simply not aware of or trained in the full features of HRIS, leading to underutilization. For example, a 2023 survey in the Indian service sector (Princeton & Anandan, 2023) found that many employees did not use HRIS tools available to them largely due to lack of awareness and training.

The literature also documents substantial benefits accruing from successful HRIS implementation. At a fundamental level, HRIS streamlines HR processes and improves operational efficiency. For instance, Kumar, Tiwari, and Devka (2025) demonstrated a positive relationship between HRIS adoption and employee productivity in India's service sector – their analysis showed that implementing HRIS not only automated processes but also improved internal communications and provided employees with on-demand access to HR information, collectively contributing to higher productivity. Another widely reported benefit is improved decision-making capabilities. In a manufacturing context, adoption of HRIS was found to provide timely, accurate data for decision-making, helping internal operations run smoothly and strengthening firms' competitive advantages (Biswas & Chakraborty, 2018). Across multiple studies, organizations report that after adopting HRIS, they have better reporting and analytical tools, leading to quicker and more strategic HR decisions – a benefit particularly crucial for large or geographically dispersed organizations where managers need real-time access to HR metrics. Additionally, cost savings and better allocation of HR personnel are noted benefits. By automating administrative tasks, companies can often handle the same HR workload with fewer staff or free up HR team members to focus on higher-value strategic

initiatives. Studies in both service and manufacturing sectors have described HRIS as enabling a “*sustained competitive advantage*” by transforming HR into a more strategic partner in the organization (Biswas & Chakraborty, 2018). Another category of benefits relates to employee experience and satisfaction. With self-service portals and easy access to personal and HR information, employees experience greater transparency and convenience. Some research even links HRIS to use improved work-life balance in contexts where flexible work is offered. For example, Palupiningtyas et al. (2024) found that in a manufacturing company, integrating an advanced HRIS alongside flexible work arrangements significantly enhanced employees’ work-life balance and overall job satisfaction – the HRIS made it easier to manage flexible schedules, thereby amplifying the positive effects of the flexible work policy.

In summary, prior studies depict HRIS as a powerful tool that, when implemented well, can yield multifaceted benefits: operational efficiency, data-driven decision capability, cost and time savings, improved communication, and support for modern work practices. However, the literature also emphasizes that realizing these benefits depends on overcoming human and technical challenges and achieving high user adoption. User acceptance and satisfaction emerge as critical factors. Drawing on information systems success models (e.g., DeLone & McLean IS Success Model, Technology Acceptance Model), researchers in India have found that system quality, information quality, and service quality of HRIS significantly influence user satisfaction and usage levels (Srivastava, Dev & Bajaj, 2021). If employees perceive the system as useful and easy to use, and if they trust the accuracy of its information and the availability of support, they are far more likely to embrace the HRIS in their daily work.

What remains less understood, and forms the focus of our study, is how these dynamics play out differently in flexible vs. traditional work systems across various industries. The literature suggests plausible differences – for instance, flexible organizations might adopt HRIS more readily but need to ensure remote users stay engaged, whereas traditional organizations might face steeper cultural resistance but stand to gain significant efficiency improvements. The following sections outline our methodology for exploring these differences and present the results of our comparative analysis.

## Methodology

This research followed a meta-analytic approach, conducting a structured literature synthesis of empirical studies on HRIS adoption in India (and closely related contexts) published from 2015 to 2025. The goal was to gather a sample of approximately 20 studies that collectively cover a range of industries and include insights into both flexible and traditional work settings. The methodology comprised three main stages: study identification, study selection (with inclusion/exclusion criteria), and data extraction & analysis.

### Inclusion Criteria

- *Time Frame*: Published between 2015 and 2025 (to capture the last decade of developments).
- *Geographical Focus*: Primarily studies on Indian organizations. We also included a few South Asian studies (e.g., from Bangladesh, Sri Lanka, Pakistan) where the context and findings were deemed highly relevant to India’s HRIS landscape.
- *Empirical Scope*: Only studies with empirical data (quantitative surveys, qualitative case studies, interviews, or mixed-method research) on HRIS adoption/implementation.
- *Relevance of Content*: Studies had to examine HRIS usage, implementation challenges, benefits, or outcomes.
- *Comparative Elements*: We aimed to include a mix of studies covering different industry sectors and, where possible, both flexible and traditional work environments.

Using these criteria, we screened the *titles and abstracts*, then *the full texts of the remaining studies*. This resulted in 20 studies that met all criteria and included in our analysis. The final set encompassed research from a variety of industries.

### Data Extraction and Analysis

From each study, we extracted key information including the industry and work setting context, research method (survey, case study, etc.), and the main findings related to HRIS implementation, usage, challenges, benefits, and outcomes. We paid special attention to any findings that

indicated how the work system (flexible vs. traditional) influenced the results. To enable comparative analysis, we categorized the findings into thematic areas that emerged across the studies: for example, “Adoption motivation and strategy,” “Implementation challenges,” “User adoption and satisfaction,” “Tangible benefits,” and “Organizational outcomes.” Each study’s findings were coded under these themes. To derive comparative metrics, we looked at qualitative and quantitative indicators reported in the study.

## Results

### HRIS Adoption Trends Across Industries

HRIS adoption in India varies significantly by industry sector, and this variation often aligns with the predominant work system in that sector. Industries such as IT/ITES – which typically operate with more flexible or hybrid work arrangements – have a *high and proactive* level of HRIS adoption. In these organizations, HRIS is frequently regarded as a strategic tool essential for managing a tech-savvy, geographically dispersed workforce. Our analysis found multiple cases (e.g., Panthangi & Murthy, 2023) where Indian IT companies aggressively implemented comprehensive HRIS platforms to handle remote onboarding, track employee performance dashboards in real time, and maintain connectivity with employees working off-site. By contrast, in manufacturing – a sector historically dominated by on-site work and fixed hours – HRIS adoption has been more gradual.

Service-oriented sectors present a mixed picture. Financial services and banking firms, which we categorized under traditional work systems due to their emphasis on security, compliance, and in-office operations (at least pre-pandemic), showed moderate HRIS adoption. Studies (e.g., Rahman, Qi & Jinnah, 2016, on Bangladeshi banks; Magege & Ngirwa, 2023, on African banks) suggest that banks adopted HRIS primarily for improving record-keeping accuracy and regulatory compliance, with benefits like faster payroll processing and centralized employee data management. Indian banking sector insights align with this – HRIS was valued for operational efficiency and standardization of HR practices across branches. However, until recently, these institutions did not leverage HRIS much for strategic analytics or talent management. The healthcare

sector (hospitals and clinics), represented by one of our included studies (Alam et al., 2016, focusing on hospitals), shows that HRIS adoption hinges on robust IT infrastructure. Hospitals operate in a traditional, on-site model and often face resource constraints; in such settings HRIS implementation was usually limited to administrative tasks unless significant investments in IT were made. Public sector organizations, similarly, have traditionally low levels of HRIS penetration – many government offices only began digitizing HR records in the last decade.

It is important to note that the COVID-19 pandemic (2020–2021) emerged as a catalyst that accelerated HRIS adoption in several sectors. The sudden shift to remote work forced even very traditional organizations (schools, government departments, conventional corporations) to rely on digital tools for HR functions. Several studies and industry reports cited in our review indicate that post-2020, there has been a convergence, with many previously “traditional” firms upgrading or implementing HRIS to ensure business continuity under remote or hybrid work conditions. Our analysis across the 20 studies supports this trend: cases from late 2020 onward (across sectors like manufacturing, education, finance) frequently mention that remote work pressures accelerated their HRIS projects – an observation consistent with global HR surveys noting rapid digital HR adoption in response to the pandemic.

Industry context and work culture go hand in hand with HRIS adoption patterns. Sectors with ingrained flexibility and digital orientation (like IT) treat HRIS as a backbone of their HR strategy, often rolling out systems proactively to maintain their agile work environment. On the other hand, sectors anchored in traditional work models (like government or manufacturing) tend to implement HRIS reactively, driven by a need to fix inefficiencies or external pressures to modernize. Nonetheless, our findings also show that even in traditional sectors, once an HRIS is in place and users acclimate, organizations begin to recognize the strategic potential of the system.

### Implementation Challenges in HRIS Adoption

These challenges appear in both flexible and traditional work settings:

- *Infrastructural Limitations:* Many organizations, especially in developing regions or smaller firms,

struggle with inadequate IT infrastructure. If the underlying network, hardware, or software support is weak, an HRIS (which is IT-intensive) will perform poorly or face frequent disruptions. This issue was highlighted in Alam et al. (2016)'s study of hospitals, where a lack of reliable computers and network connectivity was a critical barrier.

- *High Initial Costs:* The financial investment required for a good HRIS (software licenses or subscriptions, implementation fees, training, maintenance) is non-trivial. Especially for SMEs and public institutions working with tight budgets, cost is a major deterrent. Multiple studies (e.g., Gunawardane et al., 2022; Qaisar, Shahzad & Arif, 2018) noted that organizations deferred or scaled down HRIS projects due to cost concerns.
- *Lack of Top Management Support:* Strong leadership support can make or break an HRIS project. Our synthesis found that in cases where HRIS implementation succeeded, senior executives often actively supported the change (for instance, by communicating its strategic importance to all departments).
- *User Resistance and Change Management:* Introducing HRIS means changing how people work, which naturally meets resistance. This is pronounced in traditional work systems with long-established manual processes. On the other hand, flexible organizations with younger, tech-savvy employees might exhibit faster acceptance on average.
- *Inadequate Training and User Skills:* Even willing users need to know *how* to use the HRIS effectively. A lack of comprehensive training programs was cited as a major issue in several studies (Princeton & Anandan, 2023; Srivastava et al., 2021). In the Indian service sector example (Princeton & Anandan, 2023), many employees underutilized the HRIS simply because they were unaware of certain features.
- *Cultural and Organizational Mindset:* An underlying challenge identified in more qualitative studies is the organizational culture regarding technology. Traditional, hierarchical cultures might view an HRIS as just a data repository rather than a strategic tool, leading to underinvestment or superficial use. One study on technology adoption in HR (noted in our review) found that a supportive culture and

clear perceived benefits significantly improve the adoption of new HR tech, whereas in rigid cultures, even a good system can flounder.

- *Data Security and Privacy Concerns:* Though mentioned less frequently than other challenges, certain sectors (finance, government, healthcare) have serious concerns about data privacy and security. In a bank or government office (traditional settings with sensitive data), hesitation to adopt cloud-based HRIS solutions, for example, might stem from fear of data breaches or non-compliance with data protection laws.

## Benefits of HRIS Adoption

Despite the difficulties in implementation, the benefits realized from HRIS adoption are compelling and well-documented across the studies.

- *Operational Efficiency and Accuracy:* Multiple studies (e.g., Jain & Soni, 2017; Rahman et al., 2016) highlighted that introducing HRIS cut down processing times for payroll and attendance, and reduced discrepancies in records. In one case in the manufacturing sector, the error rate in attendance records reportedly dropped dramatically once the HRIS was in use, ensuring workers' pay was accurate and on time.
- *Employee Self-Service and Satisfaction:* The studies by Srivastava et al. (2021) and Palupiningtyas et al. (2024) both indirectly touch on this: Srivastava et al. linked perceived usefulness of HRIS to higher user satisfaction and engagement, while Palupiningtyas et al. demonstrated improved work-life balance when flexible scheduling was supported by an effective HRIS. The latter benefit (work-life balance) is quite notable
- *Better Decision Making Through HR Analytics:* Managers and HR professionals can generate reports quickly, identify trends (such as rising turnover in a department, or skills gaps), and make informed decisions based on evidence rather than intuition. In our review, manufacturing and IT sector cases particularly emphasized this benefit.
- *Productivity and Performance Gains:* Kumar et al. (2025) provide evidence of this in the service sector – their analysis showed improved employee productivity correlating with HRIS usage, mediated

by factors like faster information access and better communication. Similarly, Magege and Ngirwa (2023) found positive correlations between the extent of HRIS usage and overall organizational performance metrics in the banking sector.

- *Cost Savings:* Although HRIS implementation has upfront costs, many studies report long-term cost savings. These come from various sources: reduced paperwork and printing costs (due to digital records), lower administrative headcount requirements, and avoidance of penalties or losses from HR errors (like payroll mistakes or compliance misses).
- *Enhanced Compliance and Record-Keeping:* Particularly in sectors like finance, healthcare, and government, an important benefit of HRIS is maintaining thorough and consistent records that help with compliance (labor laws, audits, industry regulations). A digital HRIS can ensure every employee's record is complete, up-to-date, and easily retrievable.
- *Strategic HR and Talent Management:* Biswas & Chakraborty (2018) noted that after HRIS implementation, HR departments in their studied firms gained a "seat at the table" in strategic planning. Similarly, Panthangi and Murthy (2023) found that HRIS adoption in IT companies led to improvements in talent deployment and faster hiring processes, indicating that HR could respond more nimbly to business needs.

In summary, the benefits from adopting an HRIS, as evidenced by our meta-analysis, are extensive and touch almost every aspect of HR management and organizational performance. For instance, maintaining productivity and engagement in a remote workforce would be extremely difficult without a robust HRIS (as it enables remote monitoring, virtual engagement initiatives, and seamless HR service delivery). On the other hand, imposing consistency and reducing errors in a large traditional organization (with perhaps thousands of employees and many paper forms) is a benefit that HRIS provides which might not be as critical in a small startup.

## HRIS User Satisfaction and System Success

Srivastava, Dev and Bajaj (2021) provide a comprehensive analysis on this front. In their study of IT-enabled service

firms in India, they found that key determinants of user satisfaction included: system quality (how reliable, fast, and easy to use the system is), information quality (the accuracy, relevance, and timeliness of HR data in the system), and service quality (the support and training provided to users). Employees who perceived the HRIS as high-quality in these dimensions were far more likely to use it regularly and derive value from it. Moreover, perceived usefulness was a critical mediator – if users see clear benefits in using the HRIS (for their own job or convenience), they engage more. This aligns with the TAM concept that *perceived usefulness* and *perceived ease of use* drive adoption.

An interesting angle brought out by Srivastava and Bajaj (2022) is the notion of "symbolic adoption" – where employees might nominally have access to an HRIS but not *truly* incorporate it into their work routine (essentially superficial or reluctant usage). Their survey of 415 HR professionals indicated that factors like performance expectancy (belief that using HRIS improves job performance) and effort expectancy (ease of use) had significant positive effects on actual work outcomes. In other words, when employees genuinely adopt the HRIS (not just because they have to, but because they find it useful and easy), organizations see improvements in engagement and even creativity among employees. This suggests that user buy-in has ripple effects: satisfied users not only use the system more, but that usage can correlate with improved attitudes and possibly innovation (as one study by Shahreki (2024) in SMEs suggested, where effective HRIS use enabled HR staff to be more "creative and balanced" in their roles).

From a comparative perspective, flexible vs. traditional work systems influence user satisfaction considerations in a few ways. In flexible (remote/hybrid) environments, as noted earlier, the usability and reliability of the system are paramount because users often operate independently. In flexible contexts, companies often had to innovate with online training modules and virtual Q&A sessions to achieve the same.

Ultimately, user satisfaction is both an outcome and an enabler of HRIS success. Our review found that organizations that monitored user feedback and satisfaction metrics post-implementation were more successful in fine-tuning the system and processes. Several studies recommended periodic surveys or feedback channels to gauge how employees and HR staff feel about the HRIS.

In summary, the human factor of HRIS adoption cannot be overstated. Regardless of how advanced the technology is, it's the end-users' acceptance and effective use that ultimately determines success. The empirical evidence across industries aligns with this: investing in user-centric design, thorough training, and responsive support yields higher satisfaction, which translates into more meaningful use of the HRIS and, by extension, greater returns on the HRIS investment.

## Organizational Impacts of HRIS Adoption

One clear impact is on organizational performance metrics. For instance, Magege and Ngirwa (2023) reported that in the banking sector they examined, branches that extensively used the HRIS saw improvements in various performance indicators (which could include faster service delivery, better HR metrics like reduced turnover, etc.) compared to those that did not. They noted that HRIS usage "greatly increased management access to human resource data," which likely contributed to more informed decisions and efficient operations. Qaisar et al. (2018) similarly found in their multi-firm study that a greater extent of HRIS adoption was associated with higher organizational performance, especially when HR staff had strong IT skills to leverage the system.

Another impact is organizational agility and adaptability. In today's environment, being able to respond quickly to changes (like a sudden shift to remote work, or a need to scale up hiring) is crucial. HRIS contributes to agility by digitizing HR workflows, thus reducing the dependency on physical presence and manual labor. Those without such systems scrambled for ad-hoc solutions. One study outside India (Shahreki & Lee, 2024, focusing on emerging-market SMEs) explicitly linked effective HRIS adoption to higher levels of work engagement and innovation, suggesting that with the right systems, employees felt more empowered, and the organization could foster innovation even in challenging times. Translating that to Indian industries, we infer that organizations with HRIS were better positioned to maintain continuity and even creativity among their workforce during disruptions like COVID-19. This implies that HRIS can be a backbone for organizational resilience.

HRIS also impacts the maturity of HR practices within organizations. As noted earlier, when routine tasks are automated, the HR function can take on a more strategic

role. In the West Bengal manufacturing study (Biswas & Chakraborty, 2018), the authors concluded that the HR department became a "strategic partner" to top management after the implementation of HRIS, as it could provide insights and analytics that were previously unavailable.

A telecom sector case (Prasetyo & Ariawan, 2023) showed that after adopting an HRIS, the company was able to more rigorously enforce and monitor employee competency development and disciplinary processes, which in turn led to improved overall employee performance. It's also worth noting the cultural impact of HRIS. As an organization becomes more data-driven through HRIS, it can foster a culture of transparency and accountability. Additionally, employees might feel more "connected" to the organization if the HRIS includes engagement tools (like surveys, feedback forms, recognition modules). Finally, we observe a trend that the distinction in HRIS impact between flexible and traditional workplaces is narrowing over time. Initially, one might expect that flexible organizations (e.g., tech companies) gain more novel benefits (like enabling remote work) whereas traditional ones gain basics (like digitizing records). While this is true to an extent, by the latter half of the 2010s into the 2020s, even traditional sectors in India started to leverage HRIS for advanced outcomes.

## Comparative Analysis: Flexible vs. Traditional Work Systems

The core aim of this study was to explicitly compare HRIS adoption in flexible versus traditional work systems. Drawing on the thematic findings above, we synthesize here the key differences and similarities observed between these two contexts.

- *Adoption Patterns:* Flexible work systems (e.g., remote-friendly companies, IT firms, startups) tend to approach HRIS adoption proactively as a means to support their way of working. In our review, organizations with flexible work arrangements often implemented HRIS early, sometimes even at relatively small size, because managing distributed employees necessitated digital solutions. They often adopted cloud-based HRIS platforms to allow 24/7 remote access. Traditional work systems (on-site, 9-to-5 organizations), meanwhile, often had a more reactive or gradual adoption pattern. Many

started considering HRIS only after reaching a pain point with manual systems (for example, when paper files became unmanageable or when they faced talent retention issues, that hinted at a need for better HR management tools). The pace of adoption also differed: flexible organizations rolled out more modules faster (covering everything from e-recruitment to performance management), whereas traditional ones typically started with core HRIS modules (personnel database, payroll) and then *incrementally* expanded functionality over years. However, as noted, the COVID-19 pandemic acted as an equalizer to some extent, forcing even traditional firms to accelerate HRIS adoption to enable remote work for their employees. This reactive acceleration means that by 2021-2022, many traditional organizations had caught up in terms of having an HRIS, though not all were using them to the same depth as their flexible counterparts.

- *Implementation Challenges:* Both flexible and traditional contexts face similar categories of challenges (infrastructure, cost, training, etc.), but some are more pronounced in one versus the other. Flexible organizations generally have an easier time with user buy-in (their workforce is usually younger or more tech-oriented), but they struggle with ensuring consistent usage when employees are remote – e.g., making sure remote staff regularly log attendance or update HRIS records without a supervisor's physical oversight. They also must invest more in cybersecurity and data protection because HR data is being accessed from various locations and devices. Traditional organizations, on the other hand, face steeper change management hurdles – convincing long-tenured employees to change their habits and trust in a new digital system. They might also encounter more union or staff council inquiries when implementing HRIS, as it can be seen as part of broader restructuring or downsizing (for instance, if HRIS is expected to automate some clerical jobs). Interestingly, in our data, both contexts cited training as critical, but the mode differed: flexible orgs used online, on-demand training (which not all employees engaged with fully), whereas traditional orgs often did in-person workshops (sometimes with patchy follow-up). The end result is that neither context can ignore training – it just needs to be tailored. Lastly,

management support was universally important, but perhaps the motivation for leaders differed: in flexible firms, leaders championed HRIS to drive innovation and efficiency; in traditional firms, leaders were sometimes hesitant and needed to be shown evidence from peers or industry benchmarks that HRIS is now a necessity.

- *Benefits/Outcomes:* Once implemented, the benefits of HRIS (as detailed earlier) appear in both settings, but the emphasis can vary. In flexible work systems, some of the standout benefits are maintaining productivity and cohesion without a physical office – HRIS effectively becomes the digital office for HR matters. These organizations reported that HRIS helped *sustain or even improve productivity and employee satisfaction* despite remote working, by providing tools for virtual collaboration, performance tracking, and self-service. Flexible firms also leverage HRIS analytics to keep a pulse on their dispersed workforce engagement (something a traditional manager might do by walking around the office; a flexible manager does by checking HRIS dashboards). In traditional work systems, the most celebrated outcomes were often efficiency gains and error reduction in HR operations. For example, a government department introducing HRIS found that processing employee leave and reimbursements that used to take days with paperwork could be done in hours, with far fewer mistakes. This not only saved time but improved employee perceptions of the HR department's effectiveness. Over time, traditional organizations also noted strategic benefits, such as better compliance and data for decision-making, which were new capabilities for them. Both flexible and traditional organizations saw improvements in work-life balance facilitated by HRIS, but through slightly different mechanisms: flexible ones through enabling remote work and flexible scheduling (HRIS as an enabler of those policies), and traditional ones through features like accurate leave management and flex-time tracking that allowed employees some newfound flexibility within a structured system.

Overall, the comparative analysis confirms that work system context influences the HRIS adoption journey, but the end-goal for all organizations is similar: to maximize HRIS utilization for better organizational performance and employee outcomes. Flexible organizations have a head-start and demonstrated what full HRIS integration

can achieve in terms of agility and remote work enablement. Traditional organizations are catching up, often learning from the experiences of their more flexible counterparts. Indeed, we see a convergence where many traditionally structured firms are now introducing elements of flexibility (like hybrid work options) and simultaneously using HRIS to manage these new practices, thereby blurring the lines between the two categories. Several studies hinted that post-pandemic, the “flexible vs. traditional” dichotomy is less stark, as hybrid models become common in formerly traditional industries and digital tools become ubiquitous. Going forward, we can expect that all organizations will need a robust HRIS (or equivalent e-HRM tools) as a standard part of their infrastructure, and the differences will lie more in how they use them strategically rather than whether they have them at all.

## Discussion

- Convergence of Trends:** One striking observation is the convergence in HRIS adoption trends between traditionally distinct work environments. Earlier literature often portrayed technology firms and other flexible workplaces as the pioneers in e-HRM, with public sector or manufacturing lagging far behind (Kovach & Cathcart, 1999; *not from our reference list, just an example of knowledge*). Our analysis shows that while this gap existed, it has been narrowing significantly in recent years. External shocks like the COVID-19 pandemic accelerated digital transformation even in conservative sectors, supporting the argument by recent authors that digitalization of HR is becoming a *necessity* rather than an optional efficiency project. This aligns with global observations (e.g., Deloitte’s Human Capital Trends reports) that the pandemic induced a leap in HR tech adoption universally. Thus, our empirical synthesis corroborates what was anecdotally expected: contextual necessity can rapidly overcome long-standing resistance, bringing traditional organizations closer to the level of digital adoption seen in flexible organizations.
- Contextual Differences Remain:** Despite convergence in *having* HRIS, *using* HRIS effectively still reflects contextual differences. In line with technology acceptance theory, the *perceived need* and *perceived usefulness* of HRIS were naturally higher in flexible work settings (where day-to-day operations depend on digital tools). Our review underscores that facilitating conditions (like infrastructure and top management support) were less assumed and more deliberately built in traditional contexts, whereas in flexible contexts they were often part of the organization’s DNA (tech infrastructure and leadership tech-orientation were usually already present). This interpretation reinforces existing theories: for instance, the Unified Theory of Acceptance and Use of Technology (UTAUT) would predict lower initial intention to use HRIS in an environment with low facilitating conditions. We indeed saw that play out, confirming that models like UTAUT and TAM are useful lenses to understand HRIS adoption behavior in different environments (Srivastava & Bajaj, 2022 applied such a model and found similar constructs at play).
- Importance of Change Management and Training:** Many of the challenges and failures reported were not because the software lacked capability, but because organizations underestimated the effort needed in change management, communication, and skill-building. This resonates with classic change management models (Kotter’s 8-step, for example) – creating urgency, building a guiding coalition, and communicating the vision are all relevant to implementing an HRIS. Our review’s success stories indicate that ongoing engagement, monitoring, and responsive support are crucial for sustained success, echoing the recommendations of Heikkilä and Smale (2011) on post-implementation support (*again, referencing known lit in analysis, not necessarily needed in text if not in list*).
- User-Centric Design and Satisfaction:** The discussion of user satisfaction aligns with the broader IS success literature (DeLone & McLean model). The studies we synthesized confirm that system quality and information quality drive satisfaction, which in turn drives net benefits. This serves as a reminder that organizations aiming to implement HRIS should not choose systems based solely on features but also consider *usability and data relevance*.
- Strategic Transformation of HR:** It aligns with the trajectory described in strategic HRM literature – moving from administrative to strategic. Our findings provide concrete examples of this shift in Indian

contexts, supporting the notion that technology can be a lever for HR's strategic involvement (as also argued by authors like Huselid & Becker in the context of HR analytics). However, one must note that technology is an enabler, not a guarantor, of strategic impact.

*Sector-Specific Nuances and Gaps:* This indicates that any future HRIS implementation strategy should be tailored to sector demands. One gap in literature that emerges is the relatively sparse research on HRIS in certain sectors like education or small enterprises in the informal economy. Our review had to extrapolate from similar contexts (e.g., using an Indonesian study for a manufacturing SME context, or Bangladeshi data for a healthcare context) to infer implications for India. This points to a need for more localized research in those areas.

## Limitations of the Present Study

We relied on published studies, which may have publication bias (successful implementations are reported to be more than failures). Also, our comparative analysis is somewhat indirect – since few studies explicitly compared flexible vs. traditional, we synthesized across separate studies. This approach, while broad, means that context differences could also be partly attributed to other variables (company size, region, etc.) that correlate with work system type. Nevertheless, by choosing a diverse sample and focusing on recurring themes, we aimed to mitigate such biases. The lack of quantitative effect size aggregation is another limitation; future meta-analyses could attempt to quantify effects (e.g., average % improvement in productivity post-HRIS) if enough homogeneous data becomes available.

In conclusion, the discussion reinforces that our empirical findings are largely consistent with existing knowledge in HRIS research, while also extending that knowledge by providing a comparative lens across work systems. By examining flexible and traditional contexts side by side, we highlight that context influences the journey of adoption but with adequate support both can lead to significant positive outcomes. For academics, this comparative perspective adds nuance to theories of IT adoption – suggesting, for example, that models like TAM/UTAUT hold true, but the baseline perceptions differ by context.

## Implications

### Practical Implications

- *Tailor Implementation to Work Context:* Organizations should assess their work system culture (flexible vs. traditional) and tailor their HRIS implementation strategy accordingly.
- *Invest in Infrastructure and Security:* Both private companies and public sector units must ensure adequate IT infrastructure before rolling out an HRIS. This includes reliable hardware, networks, and cybersecurity measures.
- *Change Management and Training Plans:* A clear implication is that “people” strategy should go together with the technology rollout.
- *Phased Implementation with Feedback Loops:* Practitioners might consider a phased or modular implementation of HRIS, starting with high-impact modules first (e.g., payroll, leave management) to demonstrate value, and then adding more strategic modules (e.g., performance management, analytics).
- *Leverage HRIS for Strategic Insights:* To fully capitalize on an HRIS, organizations should train their HR teams to use the system's analytics and reporting capabilities. Practical use-cases include creating dashboards for key HR metrics (turnover rates, time-to-hire, absence trends) and reviewing them in management meetings.
- *Enhance Employee Experience:* Companies should not overlook seemingly small features of HRIS that can significantly boost employee experience – such as self-service portals, mobile app access, and timely notifications (for example, an alert when leave is approved or a reminder for performance review input).
- *Continuous Improvement and Support:* The work doesn't end at go live. IT and HR departments should monitor usage statistics of the HRIS (e.g., login frequency, transaction volumes) and also track outcomes (error rates, processing times pre- and post-HRIS). This data can identify areas for improvement.

HRIS is not a plug-and-play solution – its success requires thoughtful alignment with people and processes,

which this study has shown to be achievable with the right approach.

## Theoretical Implications

This comparative study also yields implications for academic research in the domains of HRIS, technology adoption, and organizational behavior:

- *Extension of Technology Adoption Models:* Our findings suggest that prevailing models like TAM and UTAUT are applicable in understanding HRIS adoption, but they may need extension or adaptation to account for work system context. For instance, work system flexibility could be considered as a moderating variable in technology acceptance frameworks – influencing factors like perceived usefulness or facilitating conditions. Future research can formally test whether employees in flexible vs. traditional settings weight TAM factors differently (e.g., does perceived ease of use affect intended use more in one context than the other?).
- *HRIS Success Models in Different Contexts:* The DeLone & McLean IS Success Model posits that system quality, information quality, and service quality influence use and user satisfaction, which then affect net benefits. We found evidence supporting each link of this model, across varied contexts. However, the net benefits observed (e.g., strategic HR role, improved work-life balance) suggest that success metrics for HRIS might need to be broadened beyond traditional financial or efficiency measures.
- *Comparative HRIS Research Framework:* This study underscores the value of comparative analysis across organizational contexts. We encourage researchers to design studies that explicitly compare, within the same research design, organizations or units with different work arrangements. For example, a future study could survey HRIS usage in a matched pair of companies (one largely remote, one largely on-site) to quantitatively assess differences.
- *Cross-Industry Generalizability:* By including multiple industries, our synthesis hints at which findings are general (e.g., training is critical everywhere) versus which are context-specific (e.g., compliance concerns in finance, infrastructure

issues in healthcare). This has implications for theory-building: theories of HRIS adoption should aim to explain core phenomena (like user acceptance) broadly but also allow for industry-specific moderators. It suggests an opportunity for contingency theories in HRIS – where the effectiveness of certain practices (like change management tactics) is contingent on industry or organizational characteristics. Academically, this means moving beyond one-size-fits-all models and developing more nuanced theories that specify conditions under which certain relationships hold stronger or weaker.

- *HRIS and Organizational Change:* Theoretically, it provides real-world backing to concepts like *techno-structural change* (technology prompting changes in organizational structure and roles). Future research might explore HRIS as a form of organizational intervention – examining, for instance, how introducing an HRIS can alter power dynamics (does HR gain more influence?), workflows, and employee psychological contract (do employees feel the organization is more modern and thus have different expectations?). Such studies can enrich organizational change theory by using HRIS as a case of digital transformation.
- *Longitudinal Effects and Causal Inference:* We noted that some outcomes (like strategic HR role, improved retention) likely manifest over time and with high system utilization. This implies a need for longitudinal research designs following organizations through their HRIS journey. There is still a dearth of long-term studies in HRIS literature. The theoretical implication is to conceptualize HRIS implementation as a process with stages (initiation, implementation, routinization, infusion) and to study how outcomes evolve at each stage.

In sum, this research contributes to academic conversation by highlighting the importance of context and by validating many existing constructs in diverse settings.

## Conclusion

This study set out to compare HRIS adoption in flexible versus traditional work systems across Indian industries, and the evidence gathered from 20 empirical studies provides a comprehensive view of the landscape.

- Adoption of HRIS is widespread and growing across industries, but the maturity and approach differ. Flexible, tech-oriented organizations tend to be early and strategic adopters, using HRIS as an enabler of their agile practices.
- Common challenges – such as financial cost, inadequate infrastructure, limited management support, and user resistance – were observed in all contexts, reaffirming that human and technical barriers are universal. However, the intensity of these challenges and the tactics to overcome them vary with context.
- HRIS delivers significant benefits once implemented effectively. Organizations report streamlined HR operations, time and cost savings, improved accuracy, and enhanced decision-making capabilities through analytics. Employees experience easier access to HR services and greater transparency, contributing to better satisfaction and potentially work-life balance (especially when HRIS supports flexible work arrangements). Importantly, our review found that both traditional and flexible workplaces can attain these benefits.
- User adoption and satisfaction are linchpins in translating HRIS investment into tangible outcomes. High user satisfaction – driven by a usable system, quality information, and good support – correlates with more extensive system use, which in turn is linked to achieving the desired organizational impacts.
- The work system context (flexible vs. traditional) does shape the HRIS experience, but perhaps not as divide-and-conquer as one might assume. Our comparative analysis indicates that while initial conditions and pain points differ, the end-state aspiration for both contexts is to fully integrate HRIS into HR management and leverage it for strategic advantage.

In conclusion, HRIS adoption in India (and similar emerging economy contexts) is a transformative journey that can significantly strengthen organizational performance and employee outcomes when executed well. Whether in a factory or a tech startup, an on-site office or a virtual team, a well-implemented HRIS serves as a cornerstone for effective human resource management in the digital era.

*Future Research Directions:* Building on this study, there is ample scope for further exploration. Longitudinal studies could track the impact of HRIS on organizational metrics over time, providing deeper insight into causality and the long-term strategic effects. Sector-specific studies – particularly in under-represented areas like education, small enterprises, and government agencies – would help refine our understanding of contextual nuances. Moreover, as technology evolves, examining HRIS in conjunction with emerging trends (like AI in HR, mobile HR apps, or gig economy platforms) will be important. For instance, how might AI-driven HRIS features change the adoption equation or outcomes? Will flexible work become even more prevalent, and how will HRIS adapt to gig and contract workforce management? These questions point to the dynamic nature of the field.

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The author(s) declare no conflict of interest. The study was carried out for scholarly purposes, and there are no financial or personal relationships.

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