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MAPPING THE FUTURE: OPPORTUNITIES & PITFALLS OF AI IN TALENT MANAGEMENT IN THE TELECOM SECTOR OF BANGLADESH

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ABSTRACT

The rapid advancement of Artificial Intelligence (AI) is quick to reshape the Talent Management practices worldwide, with the telecom sector in Bangladesh beginning to embrace this transformation faster than most others. This study explores the integration of AI in 03 critical Talent Management functions: (a) Recruitment and Selection, (b) Training, and (c) Performance Management, through a qualitative inquiry. Data were collected via a focus group discussion with 08 HR managers representing leading telecom firms in Bangladesh. The findings of the study revealed that AI has streamlined: (a) Recruitment processes by supporting job description development, candidate sourcing, and initial screening, though reliance remains partial due to concerns about contextual accuracy and potential bias. (b) In training, AI tools are being leveraged to design personalized learning paths and identify skill gaps, yet human oversight remains vital to ensure relevance and mitigate risks of reduced coaching. (c) In performance management, AI-driven analytics are increasingly used for tracking, reviewing, and summarizing employee performance, helping reduce managerial workload and enhance objectivity. However, barriers such as data privacy concerns, subscription costs, and dependence on third-party platforms constrain full adoption. The study recommends a phased, hybrid adoption model, emphasizing

affordable, task-specific solutions, robust data governance, and employee reskilling. The study also suggested gradual but structured integration of AI in HR functions, investment in context-specific AI solutions, and clear data governance frameworks. These steps are crucial for maximizing efficiency while safeguarding employee trust and organizational integrity in Bangladesh's telecom sector.

Keywords: *Artificial Intelligence; Talent Management; HRM; Telecom Sector; Bangladesh.*

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1. INTRODUCTION

The global business landscape around us is changing for a long time due to the influences of ever-evolving technologies. Recently, with the rapid development of Artificial Intelligence (AI) technologies, this change has received a new stream. With AI Technology promising a paradigm shift toward enhanced operational efficiency, reduced cognitive bias, and sophisticated data-driven talent strategies, the Talent Management (TM) function reflects a heavy adoption of it. Research also confirms that the application of AI can now span through the entire TM lifecycle: from recruitment and selection (R&S) to training & development (T&D) and performance management (PM) (Rajesh et al., 2018). This transition is often being cited with the term "algorithmic management," and shows the possibility of moving from manual, paper-based processes to data-intensive, automated systems (Martorell et al., 2025).

Globally, the use of AI in HR is increasing exponentially. Organizations are seen to leveraging AI for tasks from candidate screening to performance prediction (Shikha et al., 2024). This adoption comes with its own drawbacks such as:

- Embedded algorithmic bias that perpetuates historical discrimination (Zheng et al., 2024),
- Lack of transparency and explainability (XAI) in AI-driven decisions (Faqihi & Miah, 2023), and
- Substantial data privacy and security risks, especially when sensitive employee information is processed on third-party platforms (Azhar & Khan, 2024).

This global enthusiasm is also tempered by a handful of global, high-profile failures, that warn us that rushed or ungoverned implementation often leads to severe regret, a theme critically explored in contemporary discourse (ColdFusion, 2025).

Bangladesh, an emerging economy, is characterized by its rapid urbanization trends, a large population of youngsters, and intense market & global competition. Organizations in the Telecom industry (Telco) are subject to adopting new technologies to meet global standards. While the industry itself contributes about 7% to the national GDP, this sector is the backbone of several other technology-heavy industries, such as healthcare, ecom, finance. These industries are known for their fast-paced nature, with lean operation/agility demands. Thus, pressure of firms to optimize talent acquisition and retention is immense (Adekoya et al., 2024). This results in a stark contrast in adoption contexts. Developed countries are combatting the

ethical dilemmas and integration challenges of formal enterprise AI systems, while developing ones such as Bangladesh are still combatting their resource-constrained environment (Madanchian & Taherdoost 2025).

The cost of such a formal, enterprise-level AI integration, poses a foundational barrier. To cope with exceeding demands, this is causing people to rely on informal, general-purpose AI tools, a phenomenon this study terms "Shadow HRIS." Adopted from Shadow IT, this refers to the formal use of any IT solutions that is not sanctioned by a company's IT department that grows its reliance over an employee due to its effectiveness/convenience. However, this practice welcomes security risks, compliance violations, and data leaks because the IT department cannot manage or protect these unapproved resources. While this study's original scope was focused on the telecom sector, supplementary data also revealed how the country's dynamic corporate environment is subject to this dual-mode adoption, as presented in Table 1 (See appendix 1).

This specific phenomenon has a significant paucity of work. More so, there is an absence of empirical research investigating the nuanced duality of AI adoption in the Bangladeshi, or even, Global South's corporate landscape, especially around the rise in use of Shadow HRIS and its implications (Adekoya et al., 2024). This gap maps out the necessity & originality of this present study. While the pressure to integrate AI into TM functions persists, this gap also underscores the absence of understanding how such adoption in a resource-constrained context of an emerging economy like Bangladesh manifests itself. The available models of digital maturity are often

exclusively focused on formal enterprise system adoption (Madanchian & Taherdoost, 2025), which fails to account for the widespread, informal use of Shadow AI. This results in a dual challenge:

a. Formal AI adoptions are constrained due to the cost and infrastructure barriers (TOE factors).

b. To cope exceeding demands, simultaneously accumulating unmanaged risks through the pervasive, unsanctioned use of general-purpose AI tools like ChatGPT for sensitive HR tasks (Faqihi & Miah, 2023).

The current study, therefore, investigates this duality to map the real-world integration of AI in TM functions across Bangladesh, by identifying its actual efficiency gains & drawbacks. It does that by identifying how global firms are managing the same shift, into practical, localized applications. Its data specifically highlights the distinctions between formal, enterprise-level AI integrations and informal, general-purpose AI (e.g., ChatGPT, CanvaAI) in day-to-day HR operations. The focus on this duality helps unveil the current stage of digital maturity of the nation as well as the practical challenges of integrating AI within a resource-constrained environment such as ours.

Therefore, the broad objective of this study is to examine the adoption pattern of Artificial Intelligence (AI) in Talent Management (TM) functions in the Telecommunication industry of Bangladesh. These would pose the following specific objectives:

- To assess the adoption pattern of AI across three (03) core functions of Talent Management [Recruitment & Selection (R&S), Training & Development (T&D), and Performance Management (PM)] across the Bangladeshi Telcos.
- To map out the key opportunities derived from the formal & informal AI adoptions in TM functions within the same subject.
- To investigate the critical pitfalls & barriers associated with AI adoption in TM functions within the same subject.

2. REVIEW OF LITERATURE

2.1 The Algorithmic Transformation of Human Resource and Talent Management

The rise of algorithmic management has been influencing a transition in HR functions. This incorporates computational systems that streamline labor-intensive processes, such as pre-screening candidates, predictive hiring and complex workforce management (Martorell et al., 2025). The objective is simple, to transition from a manual approach of work into a more data-intensive one, promising greater objectivity and efficiency (Nikoloudakis et al., n.d.). This transformation not only hints toward technological shifts, but a fundamental one in how organizations manage and relate to their human capital (Martorell et al. 2025).

2.2 The Imperative of Ethical AI, Bias, and Explainability (XAI)

With AI solutions assuming greater influence in HR decision makings, the imperative for ethical frameworks and their understanding becomes critical (Azhar & Khan, 2024). Algorithmic bias is one of them, triggered by inheriting imbalanced historical data during the training of machine learning models. This bias is more prominent across the mass available Large Language Models (LLMs) (Gunawan, 2024). If data used to train the AI reflects discriminatory practices, AI's outcome can perpetuate or even amplify these inequalities. This severely damages any diversity efforts an organization may have in place, and lowers employee trust (Zheng et al., 2024), as starkly illustrated by the case of Amazon's recruiting tool (BBC News, 2018). At the same time, current LLM solutions lack transparency and explainability (XAI), which goes against the core principles of transparent HR practices. Most AI solutions till this date, function as "black boxes," making it difficult for HR professionals to trace the rationale behind a recommendation (Faqihi & Miah, 2023).

2.3 AI Adoption in Emerging Economies (The Global South)

Adoption patterns of AI in the Global South vary significantly from their developed economy counterparts. This is influenced by unique factors such as the pace of technological development, limited infrastructure, cost barriers, and distinctive regulatory environments (Adekoya et al., 2024). A very alarming finding is that the developing economies are grossly lagging behind in establishing Comprehensive National

AI Strategies (NAISs). This places the burden of ensuring AI competency on the organizational human resource division (The Debrief, n.d.) and makes it a scattered effort. This also underscores why cost constraints and internal resource constraints become the narrowest bottlenecks in determining the success or failure of formal AI integration in these regions.

2.4 The Requirements and Positive Implications of AI in™

According to Madanchian & Taherdoost, 2025; successful AI adoption in the TM functions require a handful of foundational elements:

a. Robust data infrastructure,

b. Organizational readiness for change, and

c. Strategic alignment with business goals.

Once these requirements are met, AI can offer significant positive outcomes for the TM functions:

- Recruitment and Selection (R&S): Dramatically enhance efficiency by automating the screening process of a large number of applicant pools, significantly reducing time-to-hire & eventually CTC. This also improves quality of hire through data-driven candidate matching (Johnson et al., 2021).

- Training and Development (T&D): Enable hyper-personalization of learning opportunities for employees by identifying individual skill gaps and recommending

tailored content. This accelerates employee growth and competency development (Shikha et al., 2024).

- Performance Management (PM): Enables real-time-data collection along with vast amounts of performance data processing to provide managers with unbiased insights. Not only does this reduce the pain-staking hours spent by managers & employees during their performance appraisal seasons, this also has the potential to move from subjective annual reviews to a continuous, feedback-driven process that enhances objectivity and employee development (Mir, 2024).

2.5 The Risks and Negative Implications of AI in™

Subsequently, negative implications of AI adoption come with a heavy toll. While AI has the potential to remove bias, it can also amplify societal, cultural biases in R&S, which significantly damages the candidate pool by systematically downgrading qualified candidates from certain demographics, perpetuating inequality (Zheng et al., 2024). At the same time, over reliance on AI may lead to the "de-skilling" of managers and HR professionals, if wrong processes are handed over to the AI to oversee and have the final say on, potentially eroding essential human analytical, and leadership skills (Martorell et al., 2025). But the most significant risk is related to data privacy and security concerns. AI systems handling sensitive employee data, especially unvetted through 3rd-party platforms, lays the ground for catastrophic data breaches and loss of employee trust (Azhar & Khan, 2024).

This yields another unique challenge for the organizations to deal with, and it's a big one, which is data governance and integration. Most organizations are struggling with siloed and low-quality data, preventing seamless flow of information across the TM functions, from R&S to T&D and PM. This therefore is limiting the potential for holistic talent analytics (Wiblen, 2021). Beyond that, AI's "black box" nature, especially with existing LLMs, presents a significant challenge for explainability (XAI). This makes the job for HRs more difficult as they fail to justify automated decisions to employees and regulators, which may create even more legal and reputational risks (Faqihi & Miah, 2023). Finally, a major hurdle is balancing automation with human touch. Automating the wrong processes may lead to immediate efficiency, but damages employee experience, trust, and the core human elements of empathy and contextual understanding gets removed from the picture (Madanchian & Taherdoost, 2025).

2.6 Algorithmic Bias and Discrimination (Amazon's Recruiting Tool)

Amazon's AI recruiting tool broke the news as it notoriously learned to penalize applications containing any mention of the word "women's" (example: women's chess club captain). This stemmed from the recruiting tool being trained on decade of historical selection practices. This case clearly demonstrates how AI can both perpetuate & amplify societal, cultural biases present in its training data under the guise of machine objectivity (Zheng et al., 2024). This case can be framed as a direct warning for the context of Bangladesh, as while refining job description & screening applicants using unsanctioned LLM-

based Ai solutions carries the unmanaged risk of inheriting and amplifying regional gender, socioeconomic, or cultural biases, leading to discriminatory outcomes and reputational damage.

2.7 Accountability and Liability (Air Canada Chatbot)

Air Canada was held liable for them not holding up to promises made by its customer service chatbot. It promised one of the airline's customers a waived fare that contravened the company's actual policy in place. The court ruled in favor of the customer, citing that the airline itself was liable for actions of its automated agent (CBC News, 2023). Now, applying the same precedent in Bangladeshi context, such as using an unsanctioned LLM-based AI tool to draft HR communications and/or legal documents and it "hallucinates" or provides erroneous information, the organization retains full legal and financial accountability for the output.

3. RESEARCH METHODOLOGY

3.1 Research Design

The present study has followed a qualitative research design applying an inductive approach to support the findings. Inductive methods take empirical data and help identify patterns to develop theoretical understanding. This approach is appropriate for navigating through complex, real-world situations, where existing theory is insufficient. For the current study, it helped investigate the nuanced adoption patterns of AI across TM functions within the under-researched context of Bangladesh (Creswell & Poth, 2018).

To delve deeper into the specific context and experiential realities of the interviewed eight (08) senior HR managers

across leading telcos (Grameenphone Ltd., Robi Axiata Ltd., Banglalink Digital Communications Ltd., and Airtel Bangladesh Ltd), a qualitative exploratory design was employed. This method is recognized as effective for gaining deeper understanding of managerial practices & challenges. The primary method for identifying, analyzing and reporting patterns is thematic analysis, which is a widely adopted approach, as it provides a flexible & detailed account of the data (Faqihi & Miah, 2023).

3.2 Data Collection Procedure

A semi-structured Focus Group Discussion (FGD) was employed in collecting data. The FGD was designed following an extensive literature review available on AI in HRM & Talent Management (Rajesh et al., 2018; Shikha et al., 2024). This helped capture sector-wide perspectives, practical challenges, and nuanced, experiential insights through group interaction, which can result in rich data that might be inaccessible through quantitative methods (Adekoya et al., 2024). The session lasted for about 90 minutes, was thoroughly recorded & transcribed verbatim.

The key informants consisted of Senior HR managers as it was essential to engage individuals with comprehensive understanding of prevailing TM practices and strategic decision-making regarding their current & future technology adoption. Previous researches with High-performing firms also have set the same standard, due to the informants' central role in policy determination and execution AIHR Case Studies (2022).

3.3 Data Analysis

Due to the exploratory nature of the current study, a thematic analysis was conducted to inductively derive key themes from the data. This incorporated systematically coding, recoding, and categorizing data from key informants using 14 software (Paulus & Bennett, 2017). Nvivo helped enhance the analysis's trustworthiness, by rigorously & transparently organizing the data (Ngulube, 2015).

3.4 Theme Identification & Interpretation:

In order to enhance accuracy and consistency using NVivo, an iterative process of reading and re-reading the transcript was employed, which helped identify recurring phrases, concepts, and latent patterns that aligned with the research objectives (Tong et al., 2014). The workflow looks like this:

- Familiarization: Revealing actionable data by repeatedly & thoroughly reading the transcripts,
- Coding: Initial codes were generated from interesting data features across the complete dataset,
- Generating Themes: Codes were collated into potential themes and data relevant to each of the themes were gathered,
- Reviewing the Themes: Crosscheck of identified themes in relation to the coded extracts and the entire dataset,

- Defining & Naming Themes: Specifics of each theme were refined along with the overall story reflected by the analysis,

- Report Production: The final analysis, involving selecting vivid, compelling exact examples & relating the findings back to the original research question & literature.

In order to maintain anonymity, participant identifiers were replaced using unique participant identifiers (e.g., P1, P2). Overall, the analysis helped us reach three major thematic clusters, which concerns the functional integration & barriers as identified. It also helped us identify a crucial cross-cutting theme: the pervasive nature of informal AI usage, or "Shadow HRIS." This is represented in Table 2 below.

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Table 2. Identifiers and themes

Main Theme	Sub-Themes	Representative Codes (Condensed from NVivo Nodes)	Illustrative Meaning or Insight
1. Advanced but Siloed Integration in R&S	• Use of AI in initial screening and scheduling • LLM-assisted drafting of job descriptions • Fragmented data systems & "Data Trap"	- *AI-driven shortlisting*, - *ATS efficiency*, - *ChatGPT for rephrasing JD*, - *Time-to-hire reduction*, - *Data not linked to T&D/PM*	Formal AI adoption is most visible in R&S; however, integration remains isolated, limiting data continuity across the rest of the TM functions.
2. Nascent Integration in T&D & PM	• Early-stage experimentation with AI-based learning tools • Performance analytics via hybrid platforms (Task management tools, spreadsheets) • "De-skilling" risk through over-automation	- *Personalized learning paths*, - *Skill-gap mapping*, *External LMS use (Coursera)*, - *ClickUp dashboards*, - *Loss of mentoring function*	T&D and PM functions exhibit hybrid, partial adoption. While efficiency improves, reliance on AI may erode essential human leadership skills.
3. Critical Barriers to AI Adoption (TOE factors)	• Technological Context: High cost, integration complexity • Organizational Context: Vendor lock-in fear, lack of expertise • Environmental Context: Weak data governance, privacy concerns	- *High subscription fees*, - *Lack of local AI vendors*, - *Leadership resistance*, - *Unclear ROI*, - *Regulatory void*	TOE barriers jointly restrict formal AI deployment, pushing firms toward informal or improvised adoption patterns.

4. The Rise of Informal AI as "Shadow HRIS"	• Pervasive use of general-purpose tools (ChatGPT, Zapier, CanvaAI) • Improvised automation for HR tasks • Misclassified or unmanaged risk	- *Unapproved AI for reports*, - *ChatGPT for Excel formulas*, - *Ad-hoc data uploads*, - *Ethical ambiguity*, - *Data leakage incidents*	Employees compensate for system limitations through informal AI use. While unlocking efficiency, introducing compliance and ethical risks.
Cross-Cutting Theme: Human–AI Balance & Governance Tension	• Need for "human-in-the-loop" oversight • Balancing innovation with policy control	- *Trust in AI recommendations*, - *Maintaining empathy in digital HR*, - *Governance vs agility dilemma*	Highlights the dual challenge of ensuring human judgment remains central while scaling digital transformation responsibly.

Source: The authors' own work.

4. ANALYSIS AND FINDINGS

4.1 Theme 1: Advanced but Siloed Integration in Recruitment and Selection (R&S)

Recruitment & selection seems to be the most advanced function that's been subject to AI Integration. Companies are leveraging AI to streamline the labor-intensive processes. With the help of AI-enabled formal Applicant Tracking Systems (ATS) for screening, scheduling etc. At the same time, informal LLM-based AI solutions like ChatGPT are being used to refine job descriptions and "rephrasing" job ads (Johnson et al., 2021).

However, these advancements are often siloed. A key finding here has been the repeated sentiment across key informants, "everything else is on spreadsheets," which indicates that advancements in AI Integration have been limited to the R&S processes. This harbours a phenomenon called "Data Trap" where data derived from R&S processes cannot directly inform

processes across T&D & PM, further preventing holistic talent analytics (Mir 2024).

4.2 Theme 2: Nascent Integration in Training & Development (T&D) and Performance Management (PM)

Both with T&D & PM have less mature applications of AI. While the promises of AI in these processes are lucrative: e.g. hyper-personalization of learning & development tracks for each employee, these benefits are often derived from external platforms such as Coursera Coach, an AI Enabled LMS.

Similarly, with PM, AI has the capacity to capture live performance metrics and analyze a vast amount of data within a short period of time to track performance, but implementation is hybrid. A key finding here is that companies use external AI-enabled tools such as Jira/Clickup to track performance across job-related tasks. But they are heavily reliant on using spreadsheets to process these data as these platforms are not cost-friendly options for most Bangladesh enterprises.

More so, a significant revelation was the growing reliance on shadow-HRIS for "back-office HR support," such as using ChatGPT to construct complex spreadsheet formulas. This points to a risk of "Erosion of Soft Skills," where delegating interpretive tasks to AI could reduce essential human coaching and mentoring (Martorell et al. 2025).

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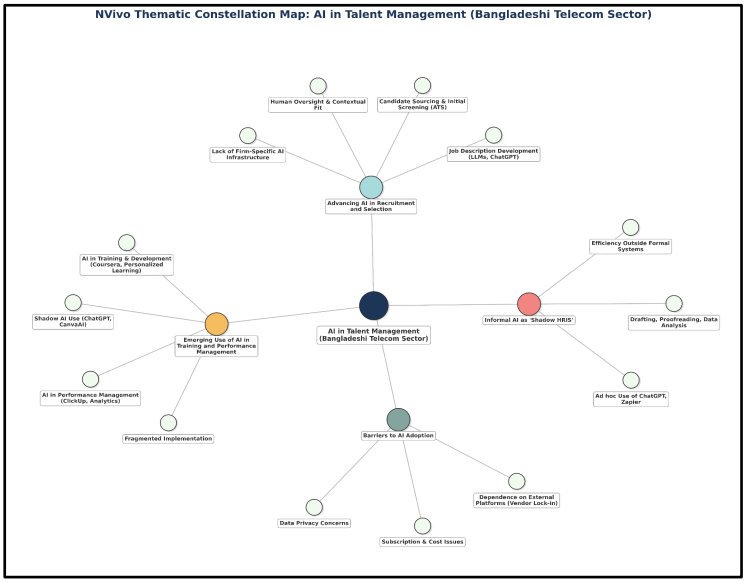

Figure 1. NVivo Thematic Constellation Map

4.3 Theme 3: Critical Barriers to AI Adoption (TOE factors)

All firms have reported three (03) critical barriers, which aligns with the 1990 Technology-Organization-Environment (TOE) framework developed by Tornatzky and Fleischer. This model is able to provide a systematic lens to analyze technological adoption at the organizational level (Madanchian & Taherdoost, 2025). The barriers identified in this study map directly onto the framework's core dimensions as represented in Table 3.

Table 3. Critical barriers

Technological Context	The prohibitive Subscription Costs of available enterprise AI solutions
Organizational Context	Organizations are reluctant to build intellectual property on closed, external systems with the fear of vendor lock-in
Environmental Context	The lack of local, national-level data governance mandate

Source: The authors' own work.

4.4 Cross-Cutting Theme: The Rise of Informal AI as "Shadow HRIS"

A prominent theme across the key informants was the unsanctioned use of 3rd-party LLM-based AI solutions, which here is being referred to as shadow HRIS. The practice of shadow HRIS is, however, able to provide immediate, task-specific efficiency. However, it is also a producer of profound "Misclassification of Risk." The risk is not just operational inefficiency but also compliance and ethics. For example, uploading employee data to a public LLM for analysis risks catastrophic data leakage and violates compliance mandates (Faqihi & Miah, 2023), echoing global failures where ungoverned AI led to liability and reputational damage.

5. DISCUSSION

This section will weigh the opportunities and pitfalls of AI adoption in TM functions.

5.1 Opportunities: Strategic Leaps and Augmentation in a Resource-Constrained Context

With the certain pitfalls of Shadow-HRIS remaining persistent, our findings also reveal that AI integration in TM functions unveils transformative opportunities for Bangladeshi firms to achieve global agility standards in the fast-paced industries like telco. The unique dual nature of adopting both formal and informal AI solutions is definitely yielding to major risks, but, we still have the opportunity to reframe this as a pragmatic, bottom-up pathway to digital maturity.

5.1.1 The Opportunity to "Leapfrog" Legacy Systems through Shadow AI

The heavy reliance on shadow-HRIS, while being risky, also presents a unique opportunity by demonstrating a powerful underlying force: the democratization of advanced technology. In a resource-constrained context such as Bangladesh's, these low-cost bypasses provide a gateway from the slow, capital-intensive procurement of legacy HRIS. Employees are proactively augmenting their capabilities, achieving productivity gains that would otherwise be delayed for years (Wiblen, 2021). This grass room adoption indicates that a ready-made user base for more formalized AI tools in the future are already being groomed, which may also promise a high degree of adaptability, reducing the need for future training investment needs for the same.

5.1.2 Data-Driven Insights and Operational Efficiency

This study found concrete evidence of AI solutions driving tangible efficiency. The use of AI enabled ATS for screening and LLMs for refining job descriptions streamlines labor-intensive processes, enabling HR professionals to focus more on strategic tasks (Johnson et al., 2021; Rajesh et al., 2018). At the same time, the nascent use of AI in T&D to design personalized learning paths presents an opportunity to move from a one-size-fits-all training model to a dynamic, skill-based development system. This can also directly address the need for upskilling in a competitive market, a critical imperative for the Global South (Adekoya et al., 2024).

5.1.3 Foundation for a Holistic Talent Management System

However siloed current AI integrations are, besides the obvious drawback of data trap, lays a foundation for future, integrated Talent Management System by developing digital footprint of talent data from today. With the right governance in place, and a proper implementation plan, this footprint, if used properly, can be leveraged for high-fidelity predictive analytics, enabling functions like predicting employee flight risk, identifying hidden talent for succession planning, and creating a truly strategic, data-driven HR function (Mir, 2024).

5.1.4 Enhancing Objectivity and the Employee Experience

Key informants have unanimously acknowledged that the theoretical benefit of AI in PM can benefit by enhancing objectivity. This presents a unique opportunity to mitigate the traditional biases of subjective performance appraisals. If implemented & used in the right manner, AI-driven analytics can

focus on objective performance metrics, leading to fairer evaluations. Also, AI's contribution in automating mundane tasks can significantly improve the employee experience by reducing bureaucratic friction and allowing managers to focus on human-centric aspects like coaching and mentorship (Zel & Aydın, 2020).

5.2 The Pitfalls: Barriers, Ethical Risks, and Implementation Failure

The findings must be framed within the global narrative that recognizes both the promise of AI and the potential for severe regret when implementation is rushed (ColdFusion, 2025). In a developing country such as Bangladesh, pitfalls in the subject matter are majorly derived from the unmanaged risk accumulated through decentralized adoption & use of Shadow HRIS. The path to an effective and secure AI integration is obstructed by structural barriers and governance failures, which threaten to undermine the potential gains and expose organizations to severe risk.

5.2.1 The TOE Barriers

Adoption of shadow-HRIS is not a random occurrence, but a direct behavioral response to the structured barriers that are hindering the availability of a formal one. The Technology-Organization-Environment (TOE) framework, in our context, effectively prevents organizations from investing in secure, formal AI solutions (Madanchian & Taherdoost, 2025).

5.2.2 Financial Barriers

The most affecting barrier is a financial one. Specialized, enterprise-level AI solutions for TM functions require a significant capital expenditure. For resource-constrained environments, this prohibits organizations from successfully adopting such a solution and motivates the users/employees to seek out a free/low-cost solution, fueling the Shadow HRIS phenomenon (Madanchian, 2024). This represents the Technological Context of the TOE factor.

5.2.3 Organizational Barriers

From the Organizational context, it does not make sense to build core TM processes on closed, external systems. Not only does this threaten the idea of Intellectual Properly, but also surfaces the fear of vendor lock-in and a loss of control over critical HR data and algorithms, making organizations hesitant to fully commit to formal enterprise solutions (Adekoya et al., 2024).

Besides, ongoing data privacy concerns, such as the lack of robust local data governance frameworks and regulatory assurance pose significant barriers to a complete AI adoption. All our key informants have expressed heavy concerns over migrating highly sensitive employee data to 3rd-party platforms, fearing exposure and a lack of recourse in case of a breach (Faqihi & Miah, 2023).

Overall, while there's a high need for more efficiency through the means of AI in these functions, the TOE constraints show us how the feasibility of secure, formal systems is low.

5.2.4 Global Failures as Early Warning System

The risks inherited from our Shadow HRIS practices are not just theoretical, they are also well reflected in high-profile global failures that can provide an early warning for us against rushed and ungoverned AI implementation. Examples such as Amazon's recruiting tool or Air Canada chatbot incident underscore that the pitfalls of integrating AI in TM functions are fundamental issues of governance, ethics, and accountability that are directly relevant to the adoption patterns observed in Bangladesh.

5.3 Recommendations

In reflection to this study's analysis & findings, three key recommendations are proposed for organizations in developing economies:

5.3.1 Phased, Task-Specific Hybrid Adoption

Organizations must abandon the immediate pursuit of costly, monolithic, comprehensive AI-enabled HRIS adoption. Rather, a phased, task-specific, "human-in-the-loop" implementation of AI should be pursued (Madanchian & Taherdoost, 2025). This approach will benefit the organizations by enabling them to strategically leverage the proven efficiency of low-cost LLMs for specific tasks to augment, dedicating resources toward a secure, organizational data governance.

This implementation strategy underscores the need to utilize LLMs strictly for high-efficiency, non-sensitive, repetitive administrative tasks. To maintain contextual accuracy and ensure adherence to organizational standards, a mandatory

human-review process must be implemented for all LLM-generated outputs. This strategy, while maximizing the low-cost gains of Shadow HRIS, helps minimize its risk exposure, moving toward a securely managed digital employee experience (Zel & Aydın, 2020).

5.3.2 Establishing Robust Data Governance for Informal AI Use

Governance policies must shift focus from banning the use of general-purpose AI tools to effectively managing their inherent risks (Faqihi & Miah, 2023). This requires a dedicated framework for AI governance focused to take action on the following:

- Data Classification and Policy: Organizations must establish clear, explicit policies immediately that classify sensitive HR Data and completely prohibit the input of such confidential information into external, unapproved generative AI tools to prevent data leakage and compliance breaches (Azhar & Khan, 2024).

- Rapid Vetting Program: To combat the cause of the rise of Shadow HRIS, organizations must establish a swift, low-friction vetting process for low-cost GenAI tools requested by business units (Madanchian & Taherdoost, 2025). Without an effective vetting process in a fast-paced environment like telco, we will be back to square one. As Peter Drucker is famously remembered for saying: "culture eats strategy for breakfast"

- Shadow AI Auditing: Monitoring must be implemented to detect & prioritize the use of high-risk Shadow AI applications within the organization network, specifically looking for unmanaged data outflow and potential privacy infringement (Faqihi & Miah, 2023). Without this proactive auditing, mitigating the "compliance blind spots" influenced by decentralized AI usage becomes impossible.

5.3.3 Reskilling HR Professionals for Algorithmic Management

Finally, in order to successfully mitigate the associated risks of algorithmic bias & accountability failures, HR professionals must be reskilled to manage & interpret outputs by an AI system instead of simply accepting them (Madanchian, 2024). This involves to take action on the following:

- XAI Training: Dedicated training efforts must be in place to interpret and ethically question algorithmic recommendations (Faqihi & Miah, 2023). This skill is essential in order to establish transparent, & accountable HR practices.

- Bias Awareness: Dedicated training efforts must also ensure that HR professionals are able to identify potential LLM biases, including gender, cultural, and linguistic biases (Zheng et al., 2024). This helps implement the maker-checker process by proactively screening AI outputs for fairness before implementation, effectively mitigating the risks of

perpetuating historical inequalities as seen in global case studies.

- Technical Know-how: HR practitioners must be equipped with training that focuses on them actively maintaining & emphasizing the core human elements of TM, coaching and mentoring. This is because these are the areas where AI integration is at the highest (Martorell et al., 2025). This mitigates the risk of managerial soft skill erosion and helps preserve employee trust as they see technology in augmenting roles rather than replacing critical human interaction.

5.4 Limitations of the Study

While this study was developed on sound methodological ground to bring in valuable insights along with rigor, findings must be framed within certain limitations. Initially, the qualitative research type and the small sample size, limits the statistical generalizability (external validity) of the findings across Bangladesh's entire corporate sector. Besides, the study's focus has been with the Telecom sector of Bangladesh, a relatively resource-intensive, and digitally mature sector. This may mean that the adoption pattern observed within this industry's practices may not completely represent the less-resourced ones.

Also, the study was developed on self-reported data from senior HR managers, which is not immune from social desirability bias, where the informants may tend to underreport the true extent to which they have observed the unsanctioned use of Shadow HRIS (Madanchian & Taherdoost, 2025). At the

same time, this study focused on a time snapshot when the technological landscape is rapidly evolving. This may mean that the types & avenues of identified risks associated with it may also evolve, which calls for the need of ongoing research (Shikha et al., 2024).

6. CONCLUSION

The influence of AI reshaping the Talent Management function is undeniable, be it through the distinct Duality of Adoption. Its formal integration, although advanced in select areas, but siloed, constrained by the TOE factors. At the same time, although pervasive, the informal adoption of Shadow HRIS seems to be delivering immediate efficiency at the cost of unmanaged compliance and ethical risks. Focusing on the challenges of adoption, is being influenced by the absence of strategic governance. Future successes of integrating AI in TM functions in Bangladesh now relies heavily on how a secure, ethical, and hybrid operational model is established that's able to leverage the benefits of affordable augmentations while implementing enterprise-grade data governance. Without this, navigating through its pitfalls and successfully harnessing the opportunities of AI implementation will fail.

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APPENDICES

Table 1. Key Contextual Differences: Global vs. Bangladesh

Aspect	Global Context (Developed Economies)	Bangladeshi Context (Emerging Economy)
Primary Focus & Adoption	Implementation and optimization of complex, formal enterprise AI systems (Madanchian & Taherdoost, 2025).	Navigating the duality between unaffordable formal systems and high-risk, informal "Shadow HRIS" (Faqihi & Miah, 2023).
Key Risk Profile	Algorithmic bias, integration complexity, and measuring Return on Investment (ROI) (Zheng et al., 2024).	Data governance failure and compliance blind spots from uncontrolled "Shadow HRIS" usage, leading to potential data leakage (Azhar & Khan, 2024).
Main Adoption Driver	Achieving competitive advantage through strategic process optimization and data-driven decision-making (Shikha et al., 2024).	Immediate, task-specific efficiency and cost avoidance, driven by resource constraints (Adekoya et al., 2024).
Primary Barrier	Lack of in-house expertise, data quality issues, and unclear use cases (Madanchian & Taherdoost, 2025).	Prohibitive subscription costs, lack of local regulatory assurance, and strategic fear of vendor lock-in (Madanchian & Taherdoost, 2025).

Source: The authors' own work.