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The Impact of Generative AI on HR Functions and Workforce Skills

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Abstract *– Generative AI (GenAI) is rapidly transforming human resource (HR) functions by enabling new forms of automation and augmentation across the employee lifecycle. This paper provides an analytical, evidence-based review of GenAI's impact on core HR processes—recruitment, onboarding, performance management, learning and development (L&D), employee relations, payroll/benefits, and compliance—while mapping the associated shifts in workforce skills. Using a structured search strategy focused on the last five years of peer-reviewed literature, official regulatory guidance, and primary vendor/employer documentation, we synthesize findings from global reports and real-world deployments. Evidence suggests that GenAI delivers highest immediate value in high-volume, text-intensive HR work (drafting job descriptions, summarizing policies, answering employee queries, generating learning content), but introduces significant risks related to bias, privacy, security, and legal compliance, particularly where AI materially influences employment decisions. Case analyses across retail, technology, banking, healthcare, and logistics indicate that measurable outcomes are achievable through retrieval-augmented generation (RAG) and workflow integration, provided strong governance and human oversight exist. We conclude with a risk-based adoption framework and practical recommendations for policy, training, and AI governance to align productivity gains with fairness, trust, and regulatory readiness.*

Keywords*: Generative AI, Human Resource Management, HR Analytics, Talent Acquisition, Workforce Skills, AI Governance, Employee Experience*

I. Introduction

Generative AI refers to AI systems capable of producing new content—text, code, images, or audio—based on patterns learned from large datasets. In HR, GenAI's practical value often comes from LLMs embedded into HR platforms (HRIS/HCM), service management systems, and productivity suites, where models can draft content, summarize information, classify cases, and interact conversationally with employees and managers. Vendors are explicitly positioning GenAI as an accelerator for HR work—for example, Workday's Illuminate is described as using GenAI to speed content creation and summarization for artifacts such as job descriptions and talent highlights.

Two forces make GenAI especially consequential for HR. First is **task exposure**: research on labor market impact potential suggests that a large portion of tasks across occupations could be affected or accelerated by LLM capabilities, reinforcing HR's need to anticipate job redesign and reskilling. Second is **skills volatility**: WEF estimates that workers can expect **39% skill instability** (skills transformed/outdated) during **2025–2030**, while **59% of the workforce** will need training by **2030**, positioning HR as a primary orchestrator of enterprise upskilling.

At the same time, HR is exposed to distinctive risks: employee and candidate data are sensitive; employment decisions are legally regulated; and trust is a core currency of people functions. Regulators increasingly emphasize that existing anti-discrimination obligations apply to AI-enabled employment decisions, including recruiting, monitoring performance, wage setting, promotions, and termination decisions. In the EU, "employment, workers' management and access to self-employment" are explicitly identified as high-risk AI use cases (e.g., recruitment/selection and performance monitoring/evaluation).

II. Literature Review

Qingsong GenAI as augmentation technology in organizational work. The ILO's cross-country analysis argues that the dominant effect of GenAI is likely to be augmentation rather than full automation, while still creating material exposure—especially in occupations with high shares of clerical tasks. Complementary work on LLM task exposure reaches a similar conclusion: LLMs can accelerate a meaningful share of tasks and

affect task composition across wage groups, reinforcing the role of organizational redesign rather than simplistic "job replacement" narratives.

AI (including GenAI) in recruitment and selection. Systematic reviews of AI in recruitment emphasize efficiency benefits (resume parsing, chatbot screening), but stress persistent ethical concerns—especially algorithmic bias and transparency. Research focused on GenAI (e.g., ChatGPT) in recruitment suggests process automation mediates improvements in efficiency and candidate handling; however, it also highlights risks if organizations treat AI outputs as authoritative assessments.

GenAI in talent management, performance, and L&D. Reviews of GenAI in talent management identify use cases across talent identification, recruitment, training, and performance appraisal, while repeatedly flagging the need to upskill HR professionals and manage privacy and bias risks. Practical HR-facing scholarship underscores that GenAI can serve as an HR assistant across multiple HR domains only when users are trained to craft and verify outputs, explicitly calling for verification processes and "dos and don'ts."

Enterprise platforms embedding GenAI in HR workflows. HR technology vendors are building GenAI into HCM suites and employee service delivery. Workday, Oracle, and ServiceNow provide examples: Workday describes GenAI-assisted creation and summarization of HR artifacts; Oracle outlines embedded assisted authoring and summarization for Cloud HCM (and states that no customer data is stored/persisted in the OCI generative AI service and is not used to train the LLMs in that context); ServiceNow describes administrative configuration for GenAI "skills" within HR Service Delivery.

Governance, security, and legal/regulatory framing. The compliance landscape is tightening. The EU AI Act identifies employment AI systems (recruitment/selection; performance monitoring/evaluation; decisions affecting work relationships) as high-risk use cases, and also introduces an AI literacy expectation for providers and deployers to ensure staff have sufficient AI literacy. In the US, the EEOC emphasizes that anti-discrimination laws apply to AI in recruiting, performance monitoring, wage setting, promotion, and termination decisions; it has released technical assistance on adverse impact considerations under Title VII. At the municipal level, New York City's AEDT enforcement regime requires bias audits and notices for covered automated employment decision tools.

From a governance standpoint, organizations increasingly rely on cross-sector frameworks and standards: NIST's AI RMF is positioned as a resource to help organizations manage AI risks and promote trustworthy AI, and ISO/IEC 42001 defines requirements for an AI management system (AIMS) addressing responsible development and use. Security threats specific to LLM applications (prompt injection, insecure output handling, training data poisoning, etc.) are synthesized in OWASP's Top 10 for LLM Applications, which is directly relevant to HR assistants that query internal policy stores. Privacy regulators have also issued AI guidance; for example, the UK ICO updated its guidance to clarify expectations around fairness in AI and data protection, and the EDPB's 2024 opinion addresses legal basis and anonymity questions for AI models where personal data is involved.

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III. Proposed Methodology

The Research design. This paper is a structured secondary study combining (a) a targeted literature review and (b) cross-case evidence synthesis of real-world GenAI implementations in HR-relevant contexts.

Data sources. We used three classes of evidence:

Peer-reviewed and scholarly sources (journals, open-access articles, and reputable preprints).

Primary/official documentation from regulators and standards bodies (EU AI Act Service Desk and Eur-Lex link-outs; EEOC; NIST; ISO; NYC DCWP; privacy regulators).

Primary employer/vendor documentation and credible trade publications for case studies (IBM case studies; Walmart corporate releases; NatWest Group; AWS case study; major IT/HR publications).

Search strategy. Searches were conducted using keyword combinations such as: "generative AI" AND HR / "human resource management"; "LLM" AND recruitment; "GenAI" AND onboarding; "AI" AND "HR service delivery" AND chatbot; "performance management" AND generative AI; "learning and development" AND generative AI; "HR compliance" AND AI Act / EEOC / AEDT. We also searched named platforms (Workday Illuminate, Oracle Cloud HCM generative AI, ServiceNow Now Assist for HRSD) and governance sources (NIST AI RMF, ISO/IEC 42001, OWASP LLM Top 10).

Inclusion criteria.

Publication date primarily within the last five years (2021–2026), except where a source is a foundational governance artifact still within this window (e.g., NIST AI RMF 2023; ISO/IEC 42001:2023).

Direct relevance to GenAI/LLMs in HR functions or workforce skills, or to governance/security/compliance that materially constrains HR use cases (e.g., employment AI as high-risk).

Preference for primary/official sources (regulators, standards bodies, employer case studies) and recent peer-reviewed publications.

Exclusion criteria.

Sources focused exclusively on non-GenAI AI (e.g., older rule-based chatbots) without relevance to current LLM/GenAI workflows.

Non-credible or unverifiable claims (e.g., sensationalized layoff narratives without primary corroboration).

Case study selection. We intentionally selected 5 organizations across sectors with public documentation indicating GenAI/AI assistants used for employee enablement or HR service contexts: retail (Walmart), technology/services (IBM), banking (NatWest), healthcare (Lumeris), and logistics (DHL).

IV. Findings and Discussion

Conceptual model of GenAI value creation in HR

GenAI creates value in HR primarily through four mechanism families:

1. **Content generation** (policy drafts, job descriptions, outreach, training content),
2. **Content transformation** (summarization, translation, rewriting),
3. **Knowledge access** (Q&A grounded in HR policies/benefits), and
4. **Workflow orchestration** (creating tickets, routing requests, initiating HRIS actions via tools/APIs).

This mechanism view aligns with vendor positioning: Workday cites accelerated content creation and summarization for job descriptions and other HR artifacts, while Oracle describes assisted authoring, summarization, and suggestions embedded in Cloud HCM to reduce task completion time.

The inclusion of governance checkpoints and monitoring is consistent with NIST's emphasis on managing AI risks across design, deployment, and use, and with ISO/IEC 42001's concept of an organizational AI management system.

AI integration flow for HR processes

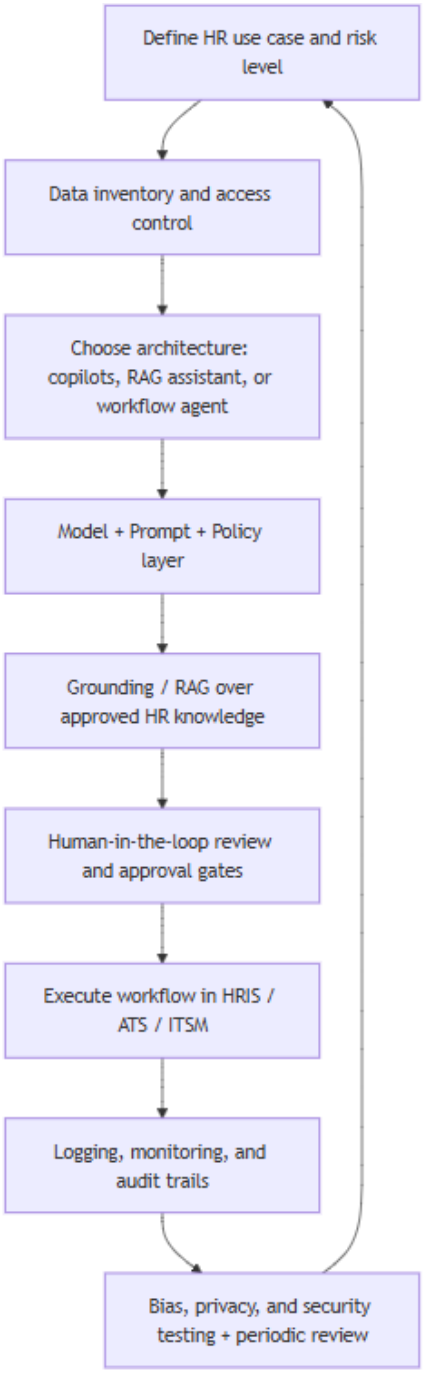

Figure 1: HR processes

HR functions affected

Table I. HR functions, GenAI use cases, expected gains, and primary risks

HR Function	High-impact GenAI use cases (illustrative)	Expected operational gains	Primary risks and control priorities
Recruitment	Drafting job descriptions; summarizing candidate profiles; recruiter	Faster drafting and screening support; improved consistency of candidate	Employment AI high-risk classification in EU for recruitment/selection;

HR Function	High-impact GenAI use cases (illustrative)	Expected operational gains	Primary risks and control priorities
	outreach templates; ATS triage	comms	bias/adverse impact; transparency obligations; auditability
Onboarding	Onboarding agents; policy Q&A; guided journeys; checklist automation	Shorter cycle times; fewer manual queries; consistent onboarding experience	Identity/access security; hallucinations in policy guidance; secure "grounded" answers (RAG)
Performance management	Drafting goals; summarizing feedback; manager evaluation support	Less administrative burden; faster narratives; more consistent documentation	Risk of perceived "algorithmic judgment"; data minimization; human oversight; explainability
Learning & Development	Personalized learning content; learning path generation; microlearning creation	Faster content creation; personalized development plans	IP/copyright risks; inaccurate content; need for AI literacy training
Employee relations	Policy interpretation support; employee query triage; sentiment summarization of employee feedback (where appropriate)	Reduced case handling time; improved self-service	Privacy sensitivity; risk of disclosure; need for escalation to human experts
Payroll/benefits	Benefits Q&A; payroll access guidance; case summary automation	Reduced tickets; faster answers; improved employee experience	High sensitivity of payroll data; access control; strong grounding and logging
Compliance	Drafting policy updates; summarizing regulatory changes; assisting documentation and record-keeping	Time savings; improved consistency of documentation	Regulatory obligations (e.g., AEDT notice/audit; EEOC disparate impact); documentation quality and retention

Tool ecosystem comparison

Enterprise adoption is increasingly shaped by "embedded GenAI" inside systems that already hold HR data or HR workflows. This reduces friction but raises the bar for governance because the same tool can shift from drafting content to influencing decisions.

Table II. Comparison of prominent GenAI-enabled platforms relevant to HR

Platform	GenAI capability scope (HR-relevant)	Architecture / integration implication	Notable governance signals from source
Workday Illuminate	GenAI for content creation and summarization (e.g., job descriptions, talent highlights), plus insights and automation tools	Embedded GenAI in HCM workflows; user-facing assistance within HR processes	Focus on streamlining tasks across HR artifacts indicates strong need for human review gates on decision-adjacent content
Oracle Fusion / Oracle Cloud HCM GenAI	Assisted authoring, suggestions, summarization; recruiting and performance-related AI assistance features described in Oracle Cloud HCM context	Embedded HCM assistance; may rely on chosen LLM providers and cloud service; feature enablement as part of HCM releases	Oracle Cloud HCM blog notes "no data is stored or persisted" in OCI GenAI service and "no customer data is used to train the LLMs" in that described approach; still requires access controls and review in customer context
ServiceNow Now Assist for HRSD	Configurable GenAI "skills" via admin console; supports HR service delivery workflows and employee self-service	Workflow-centric approach: GenAI tied to triggers/skills in employee workflows; suited for ticket/case manageme	Admin console and skill-based configuration highlights the need for role-based control, audit logs, and change management for each skill activation

Platform	GenAI capability scope (HR-relevant)	Architecture / integration implication	Notable governance signals from source
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SAP SuccessFactors Joule (documented via SAP materials)	Conversational assistance across HR tasks and modules (e.g., HR policy questions, profile/feedback/approvals); roadmap toward agentic capabilities	Embedded assistant in SuccessFactors; conversational interface over HR data	SAP documentation emphasizes integrated assistant usage; when used for pay statements/policy answers, requires grounding and access control
Microsoft Copilot ecosystem + custom onboarding agents	HR-adjacent onboarding agents and enterprise copilots built using Copilot Studio/Power Platform	Enables custom "agents" integrated with enterprise apps; HR can build task-focused experiences	Custom agents increase need for LLM security controls (prompt injection defense, output validation)

Workforce skills impact

Across the evidence base, GenAI does not simply add "one more tool"; it changes the skill mix required to produce quality HR outcomes.

Macro-level skills volatility and training demand. WEF estimates 39% skill instability over 2025–2030 and that 59% of the workforce will need training by 2030. These aggregate measures matter to HR because HR designs workforce development processes and policy systems that scale across roles.

Observed adoption intensity and hiring signals. Microsoft/LinkedIn's Work Trend Index reports 75% of people already use GenAI at work; 78% of AI users bring their own tools (BYOAI), and 66% of leaders would not hire someone without AI skills—implying that AI literacy is moving from "nice-to-have" to baseline employability.

Regulatory framing of AI literacy. The EU AI Act includes an AI literacy expectation for providers and deployers (staff and others operating AI systems should have sufficient AI literacy given context and impact), formalizing training responsibilities in regulated environments.

Table III. Skill shifts driven by GenAI in HR and recommended development actions

Skill domain	HR role implications	Example "new" tasks/processes	Recommended training interventions
Technical skills (workflow + tools)	HR operations becomes partly "product operations"	Configuring GenAI skills in service workflows; testing prompts; managing knowledge bases	Platform-specific enablement (HRSD skills, HCM AI features) with sandbox practice and change-control
Digital literacy	HR staff must navigate a mixed tool ecosystem	Evaluating tool outputs; managing secure collaboration; avoiding unsafe data sharing	Organizational guidance to reduce BYOAI risks and standardize safe usage
AI literacy	HR must understand limitations and model behavior	Calibrating trust; recognizing hallucinations; deciding when to escalate to humans	Mandatory AI literacy modules aligned to EU AI Act expectation (even if outside EU, good practice)
Data literacy	HR decisions become increasingly data-augmented	Interpreting model outputs; validating against HRIS facts; monitoring drift	Data governance training plus basic evaluation metrics for assistants (accuracy, containment, escalation)
Risk/compliance literacy	HR must operationalize legal boundaries	Documenting AI usage; adverse impact considerations; AEDT notices/audits	Bias and compliance workshops referencing EEOC and AEDT requirements; audit readiness drills
Soft skills (judgment, empathy, communication)	Human elements remain differentiators	Handling sensitive relations; applying empathy; coaching managers	Reinforce counseling, conflict resolution, and ethical judgment; define when AI must never be used

V. Conclusion

GenAI is already altering HR work through embedded copilots, HR service chatbots, and workflow agents. The most reliable near-term impact is the acceleration of HR knowledge work and service delivery—especially drafting, summarization, and grounded Q&A—while decision-making applications require stricter governance due to bias, privacy, and legal constraints. Workforce skills impacts are substantial: credible global surveys indicate sustained skill disruption (39% skill instability) and large training requirements (59% of workers needing training by 2030), while rapid adoption and BYOAI behaviors increase the urgency of governance and structured upskilling. Implemented responsibly—aligned to risk frameworks (NIST AI RMF), management system standards (ISO/IEC 42001), legal guidance (EEOC/AEDT/EU AI Act), and LLM security practices (OWASP)—GenAI can shift HR capacity from administrative burden toward higher-value human work: judgment, ethics, and employee experience at scale.

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