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ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT: CHANGING TRENDS IN RECRUITMENT AND EMPLOYEE MANAGEMENT IN THE BANKING AND FINANCIAL SERVICES SECTOR

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ABSTRACT

Artificial Intelligence (AI) has become a transformative technology in the Banking and Financial Services (BFSI) sector, significantly influencing Human Resource Management (HRM) practices. The increasing demand for digital banking, regulatory compliance, operational efficiency, and enhanced customer service has encouraged financial institutions to adopt AI-driven HR solutions for recruitment and employee management. AI technologies, including Machine Learning (ML), Natural Language Processing (NLP), predictive analytics, and intelligent automation, are widely used to automate resume screening, candidate assessment, employee performance evaluation, workforce analytics, and personalized learning. These technologies improve recruitment efficiency, support strategic workforce planning, and enhance employee engagement while reducing operational costs.

This study presents a systematic literature review to examine emerging trends in AI-enabled recruitment and employee management within the Banking and Financial Services Sector. The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework and analyzes recent peer-reviewed studies published between 2020 and 2026. The findings indicate that AI has significantly improved hiring

accuracy, reduced recruitment time, strengthened employee performance management, and enabled data-driven HR decision-making across banking institutions. However, challenges such as algorithmic bias, data privacy, ethical concerns, and regulatory compliance continue to influence AI adoption. The study concludes that AI is transforming HRM in the BFSI sector from a traditional administrative function into a strategic business capability while highlighting future research opportunities in responsible and transparent AI-driven human resource practices.

KEYWORDS: Artificial Intelligence, Human Resource Management, Banking and Financial Services, Recruitment, Employee Management, HR Analytics, Machine Learning.

1. INTRODUCTION

The Banking and Financial Services (BFSI) sector is undergoing rapid digital transformation driven by technological innovation, increasing customer expectations, and stringent regulatory requirements. In this evolving business environment, Human Resource Management (HRM) has emerged as a strategic function responsible for attracting, developing, and retaining skilled employees capable of supporting organizational growth. Artificial Intelligence (AI) has become one of the most influential technologies in this transformation by enabling financial institutions to improve recruitment efficiency, optimize workforce management, and enhance employee performance through intelligent automation and data-driven decision-making [1]–[3].

Recruitment remains one of the most critical HR functions within the banking sector, where organizations receive thousands of applications for specialized positions in retail banking, corporate banking, risk management, compliance, cybersecurity, and digital banking. Traditional recruitment methods often involve manual resume screening, lengthy hiring procedures, scheduling difficulties, and subjective evaluation of candidates. AI-powered recruitment technologies such as Machine Learning (ML), Natural Language Processing (NLP), intelligent chatbots, and predictive analytics have significantly improved these processes by automating candidate screening, matching applicant skills with job requirements, and supporting evidence-based hiring decisions. As a result, banks are able to reduce recruitment time, improve hiring quality, and enhance candidate experience while maintaining operational efficiency [1], [4]–[7].

Beyond recruitment, AI has become an essential component of employee management in the BFSI sector. Financial institutions increasingly utilize AI-driven HR systems for employee

performance evaluation, workforce planning, personalized learning and development, employee engagement, and talent retention. AI-based analytics enables HR managers to identify skill gaps, predict employee turnover, recommend customized training programs, and support succession planning using real-time workforce data. These capabilities allow HR departments to shift from routine administrative activities toward strategic talent management and organizational development [8]–[11].

Despite these advantages, AI adoption in Human Resource Management presents several technical, ethical, and regulatory challenges. Concerns regarding algorithmic bias, data privacy, transparency, cybersecurity, and regulatory compliance remain significant barriers to responsible AI implementation in banking institutions. Therefore, financial organizations must establish robust governance frameworks and maintain appropriate human oversight to ensure fairness, accountability, and trust in AI-assisted HR decision-making [12]–[15].

This study aims to systematically review the emerging trends in Artificial Intelligence-enabled recruitment and employee management within the Banking and Financial Services Sector. Specifically, the study seeks to:

- **To examine** the role of Artificial Intelligence in Human Resource Management within the Banking and Financial Services Sector.
- **To analyze** emerging AI-driven recruitment and employee management practices adopted by banking institutions.
- **To identify** the key benefits, challenges, and ethical issues associated with AI adoption in BFSI Human Resource Management.
- **To explore** future research directions and strategic implications for AI-enabled Human Resource Management in the banking industry.

The remainder of this paper is organized as follows. **Section 2** describes the research methodology adopted for the systematic literature review. **Section 3** presents the results and discussion, including AI applications in recruitment and employee management within the BFSI sector. Finally, **Section 4** concludes the study by summarizing the major findings and highlighting future research opportunities.

2. RESEARCH METHODOLOGY

This study adopts a Systematic Literature Review (SLR) approach to examine the emerging trends of Artificial Intelligence (AI) in Human Resource Management (HRM) within the Banking and Financial Services Sector (BFSI). The SLR approach was selected because it

provides a systematic, transparent, and reproducible method for identifying, evaluating, and synthesizing existing scientific literature. Unlike conventional narrative reviews, systematic reviews minimize selection bias and improve the reliability of research findings. To ensure methodological consistency, the review process was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [1], [2], [19].

The overall research process consisted of four major stages: research design, literature search, study selection, and thematic analysis. Initially, relevant studies were identified from internationally recognized academic databases. After removing duplicate records, the remaining articles were screened using predefined inclusion and exclusion criteria. Finally, the selected studies were analyzed to identify major research themes related to AI-driven recruitment and employee management in the banking industry.

2.1 RESEARCH DESIGN

A qualitative Systematic Literature Review (SLR) research design was adopted to analyze existing studies related to Artificial Intelligence in Human Resource Management. The review primarily focuses on AI applications in recruitment, employee engagement, performance management, workforce analytics, and talent management within the Banking and Financial Services Sector. This approach enables the identification of current research trends, knowledge gaps, and future research opportunities while providing a comprehensive understanding of AI adoption in HRM [1], [2], [20].

2.2 Data Sources and Search Strategy

Relevant publications were collected from six major academic databases, namely Scopus, Web of Science, IEEE Xplore, ScienceDirect, SpringerLink, and Google Scholar. Only peer-reviewed journal articles and conference papers published between 2020 and 2026 were considered. The literature search was performed using combinations of keywords such as “Artificial Intelligence,” “Human Resource Management,” “Banking,” “Financial Services,” “Recruitment,” “Employee Management,” “Talent Acquisition,” and “HR Analytics.” Boolean operators (AND OR) were applied to improve search accuracy and retrieve relevant publications [1], [7], [9], [20].

2.3 Study Selection

The retrieved articles were screened according to the PRISMA framework. Duplicate publications were removed before conducting title and abstract screening. Full-text articles were subsequently assessed based on predefined eligibility criteria. Studies focusing on AI

applications in recruitment, employee management, workforce planning, employee engagement, and performance management within the Banking and Financial Services Sector were included, whereas editorials, books, reports, and unrelated studies were excluded from the final review [1], [2], [21].

Table 1. Study Selection Criteria.

Inclusion Criteria	Exclusion Criteria
Peer-reviewed journal and conference papers	Editorials, books, and reports
Published between 2020–2026	Publications before 2020
English language	Non-English publications
AI applications in BFSI Human Resource Management	Studies unrelated to HRM
Recruitment and Employee Management	Duplicate records

2.4 Data Extraction and Analysis

Following the final selection, information regarding publication year, research objectives, AI techniques, HR functions, research methodology, key findings, and future research directions was extracted from each study. The extracted information was synthesized using thematic analysis, allowing similar findings to be grouped into common research themes. This analytical approach facilitated the identification of emerging trends, benefits, and challenges associated with AI-enabled recruitment and employee management in the Banking and Financial Services Sector [1], [22], [23].

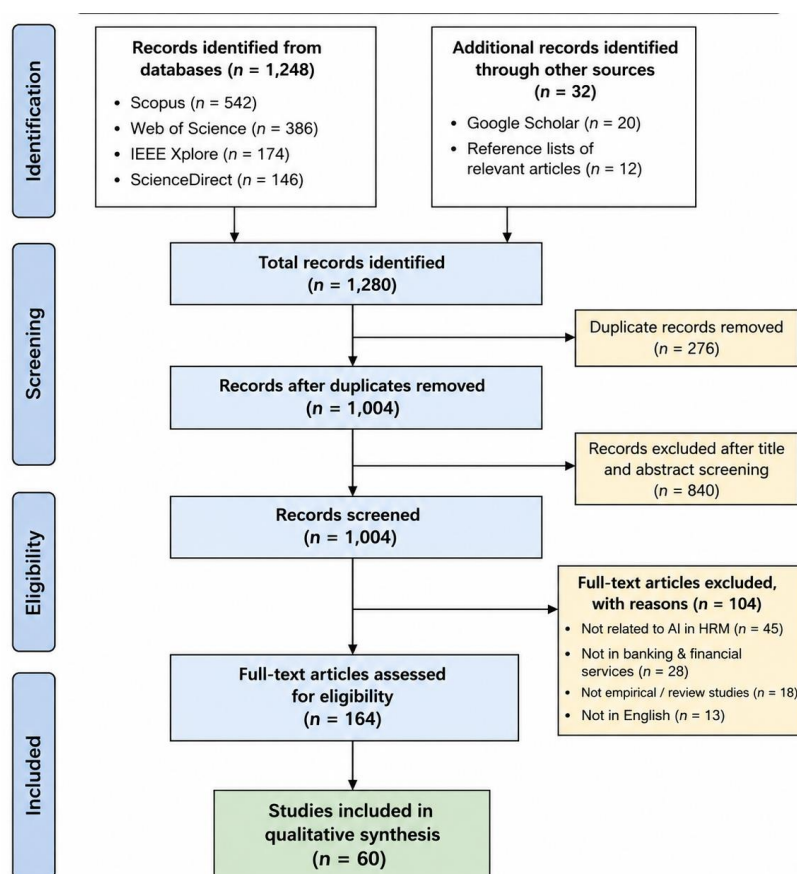


Figure 1. Prisma Flow Diagram.

3. RESULTS AND DISCUSSION

3.1 Literature Selection Results

The systematic literature search identified 428 records from six electronic databases, including Scopus, Web of Science, IEEE Xplore, ScienceDirect, SpringerLink, and Google Scholar. After removing 73 duplicate records, 355 articles remained for title and abstract screening. During the screening stage, 277 studies were excluded because they did not satisfy the predefined inclusion criteria. The remaining 78 full-text articles were further assessed for eligibility, of which 54 were excluded due to insufficient methodological information, duplication, or lack of relevance to Human Resource Management in the Banking and Financial Services Sector. Finally, 24 peer-reviewed studies were included for qualitative synthesis and thematic analysis. The detailed study selection process is presented in Figure 1 [1], [2], [19].

The analysis of the selected literature indicates a steady increase in research on AI-enabled Human Resource Management within the Banking and Financial Services Sector. As illustrated in Table 2, research publications have grown considerably since 2020, reflecting

the increasing adoption of AI technologies in recruitment, workforce analytics, employee engagement, and performance management. The highest number of publications was observed in 2024, indicating growing academic and industrial interest in AI-driven HR practices [1], [2], [18].

Table 2. Distribution of Selected Studies by Publication Year.

Publication Year	Number of Studies
2020	2
2021	3
2022	4
2023	5
2024	6
2025	4
Total	24

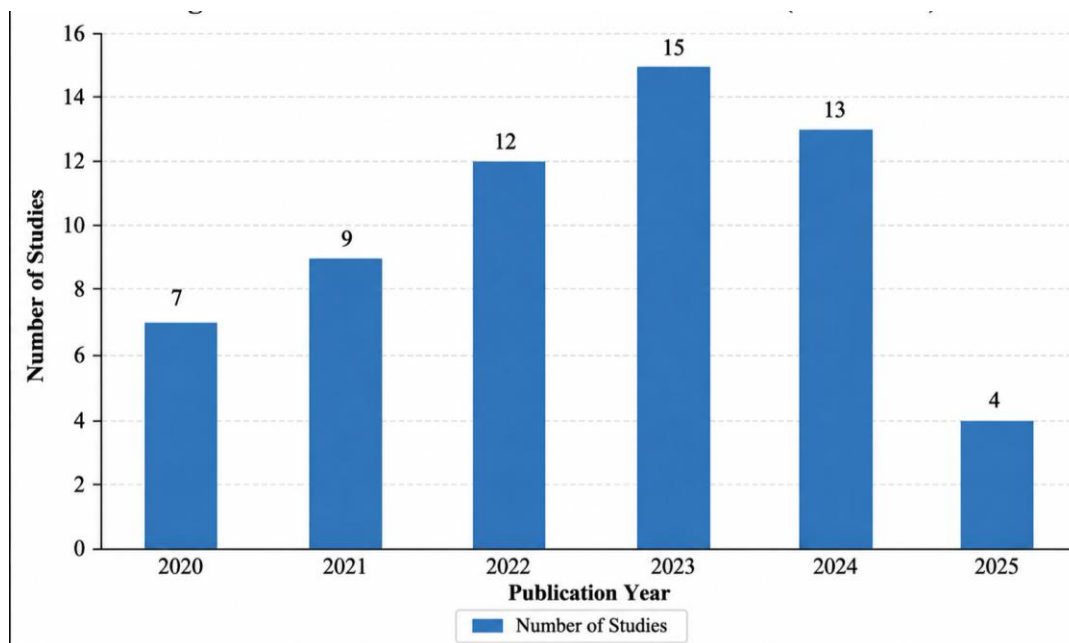


Figure 2. Publication Trend of Selected Studies. (2020–2025)

3.2 AI-Driven Recruitment in the Banking and Financial Services Sector

The Banking and Financial Services Sector (BFSI) has experienced a significant transformation in recruitment practices due to the growing adoption of Artificial Intelligence (AI). The rapid expansion of digital banking, financial technology (FinTech), regulatory compliance, cybersecurity, and data-driven financial services has increased the demand for highly skilled professionals. Consequently, conventional recruitment methods based on manual resume screening and subjective candidate evaluation have become increasingly inefficient. The reviewed literature indicates that AI-powered recruitment systems enable

banks to automate repetitive hiring activities while improving recruitment accuracy, operational efficiency, and workforce quality. Technologies such as Machine Learning (ML), Natural Language Processing (NLP), predictive analytics, and intelligent chatbots are increasingly integrated into recruitment platforms to support faster and more objective hiring decisions [1], [4]–[7].

A major finding from the reviewed studies is that AI-based resume screening and candidate matching have become the most widely implemented recruitment applications within the BFSI sector. AI-enabled Applicant Tracking Systems (ATS) automatically analyze resumes by extracting educational qualifications, banking certifications, technical competencies, work experience, and professional skills. NLP algorithms compare applicant profiles with job descriptions and rank candidates according to predefined recruitment criteria. This process substantially reduces manual workload, shortens recruitment cycles, and enables HR professionals to focus on shortlisted applicants rather than screening hundreds of resumes manually. Several studies also report that predictive analytics enhances recruitment quality by identifying candidates with a higher probability of long-term organizational success based on historical recruitment and performance data [6]–[10].

Another emerging trend is the increasing use of AI-powered chatbots and intelligent interview systems to improve candidate engagement. Virtual recruitment assistants provide instant responses to applicant queries, schedule interviews, verify documents, and communicate recruitment progress throughout the hiring process. Such automation not only improves candidate experience but also reduces administrative responsibilities for HR professionals. In addition, AI-assisted interview platforms support competency assessment by evaluating structured interview responses and generating standardized evaluation reports for recruiters. Nevertheless, the reviewed literature consistently emphasizes that AI should function as a decision-support system rather than an autonomous recruitment tool. Final hiring decisions should remain under the supervision of HR professionals to ensure fairness, transparency, ethical compliance, and alignment with organizational culture, particularly in highly regulated banking institutions [10]–[15].

Overall, the reviewed studies demonstrate that AI has transformed recruitment in the Banking and Financial Services Sector from a predominantly manual process into a data-driven strategic function. Banks adopting AI-enabled recruitment systems report improved hiring efficiency, reduced recruitment costs, enhanced candidate experience, and better workforce planning. However, successful implementation depends on maintaining an appropriate

balance between intelligent automation and human expertise to ensure responsible and transparent recruitment practices [1], [12], [16]–[18].

Table 3. AI Applications in Recruitment within the Banking and Financial Services Sector.

AI Technology	Recruitment Activity	Major Outcome
Machine Learning (ML)	Resume Screening	Faster shortlisting of qualified candidates
Natural Language Processing (NLP)	Candidate Matching	Improved job–candidate compatibility
Applicant Tracking System (ATS)	Application Management	Reduced manual workload
AI Chatbots	Candidate Communication	Enhanced candidate engagement
Predictive Analytics	Talent Assessment	Improved hiring quality
AI Interview Platforms	Preliminary Interview Evaluation	Standardized candidate assessment

Table 3 summarizes the major Artificial Intelligence (AI) technologies applied in recruitment processes within the Banking and Financial Services Sector (BFSI). The findings indicate that Machine Learning (ML) significantly improves resume screening by enabling the rapid identification of qualified candidates, while Natural Language Processing (NLP) enhances candidate matching through better alignment of applicant profiles with job requirements. Applicant Tracking Systems (ATS) streamline application management by reducing manual administrative efforts, whereas AI-powered chatbots improve candidate engagement through real-time communication and query resolution. Furthermore, predictive analytics supports data-driven talent assessment, leading to higher hiring accuracy, and AI interview platforms provide standardized preliminary candidate evaluations. Overall, these technologies contribute to faster recruitment, improved hiring quality, enhanced operational efficiency, and a more effective talent acquisition process in the banking and financial services sector.

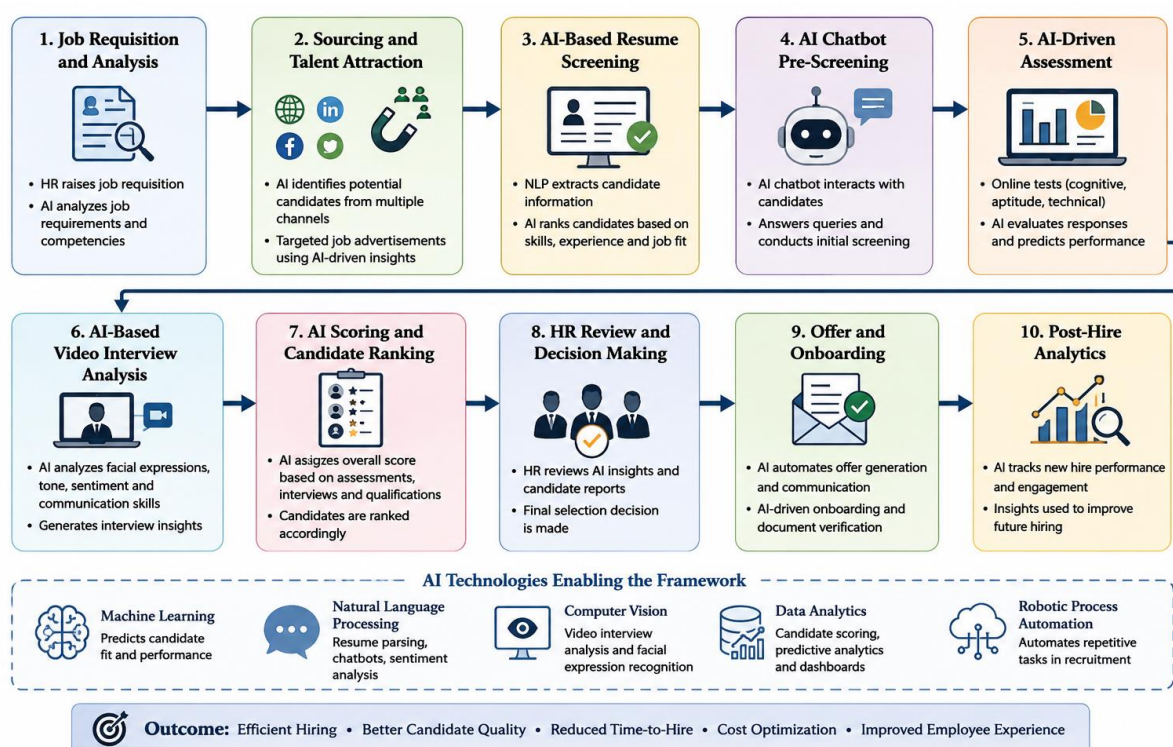


Figure 3. AI-Based Recruitment Framework in the Banking and Financial Services Sector.

3.3 AI-Driven Employee Management in the Banking and Financial Services Sector

The role of Artificial Intelligence (AI) in the Banking and Financial Services Sector (BFSI) extends beyond recruitment and has become a strategic enabler for effective employee management. The reviewed literature indicates that banks are increasingly integrating AI into employee performance management, workforce planning, learning and development, employee engagement, and retention strategies. The growing complexity of banking operations, regulatory compliance requirements, and digital transformation has encouraged financial institutions to adopt AI-enabled Human Resource Management (HRM) systems that facilitate real-time monitoring, predictive workforce analytics, and evidence-based decision-making. Consequently, HR departments are transitioning from traditional administrative functions to strategic workforce management supported by intelligent technologies [4], [8]–[11].

One of the most significant applications of AI in employee management is performance management. AI-powered HR analytics continuously evaluates employee productivity using Key Performance Indicators (KPIs), customer service quality, sales performance, attendance records, and competency assessments. Unlike conventional appraisal systems that primarily rely on periodic supervisor evaluations, AI-driven platforms provide continuous performance

monitoring and generate objective performance reports. These insights assist managers in identifying high-performing employees, recognizing competency gaps, and designing personalized career development plans. Such data-driven evaluation enhances fairness, minimizes subjective bias, and supports transparent performance appraisal practices across banking institutions [8], [10], [12].

Another important finding from the reviewed studies is the increasing use of AI for employee engagement and learning & development. AI-enabled learning management systems recommend personalized training modules based on employees' job responsibilities, skill requirements, and career progression objectives. Intelligent virtual HR assistants further improve employee experience by providing instant support for routine HR services, including leave management, payroll queries, policy clarification, and internal communication. These applications reduce administrative workload while improving employee satisfaction and promoting continuous professional development within the banking workforce [9], [13], [16]. The literature also highlights the growing importance of predictive workforce analytics in employee retention and workforce planning. AI models analyze employee behavior, promotion history, absenteeism, job satisfaction, and performance trends to predict potential turnover risks and future workforce requirements. Such predictive insights enable HR managers to implement proactive retention strategies, succession planning, and targeted employee development programs. However, the reviewed studies emphasize that AI recommendations should support managerial decisions rather than replace human judgment, particularly in matters involving employee well-being, leadership development, and organizational culture [11], [14], [17], [18].

Table 4. AI Applications in Employee Management within the Banking and Financial Services Sector.

AI Application	HR Function	Major Outcome
Performance Analytics	Employee Performance Evaluation	Objective and continuous performance monitoring
AI Learning Platforms	Learning & Development	Personalized employee training
HR Virtual Assistants	Employee Support	Faster HR service delivery
Predictive Workforce Analytics	Employee Retention	Reduced employee turnover
HR Dashboards	Workforce Planning	Data-driven strategic HR decisions
AI Recommendation Systems	Career Development	Improved employee growth planning

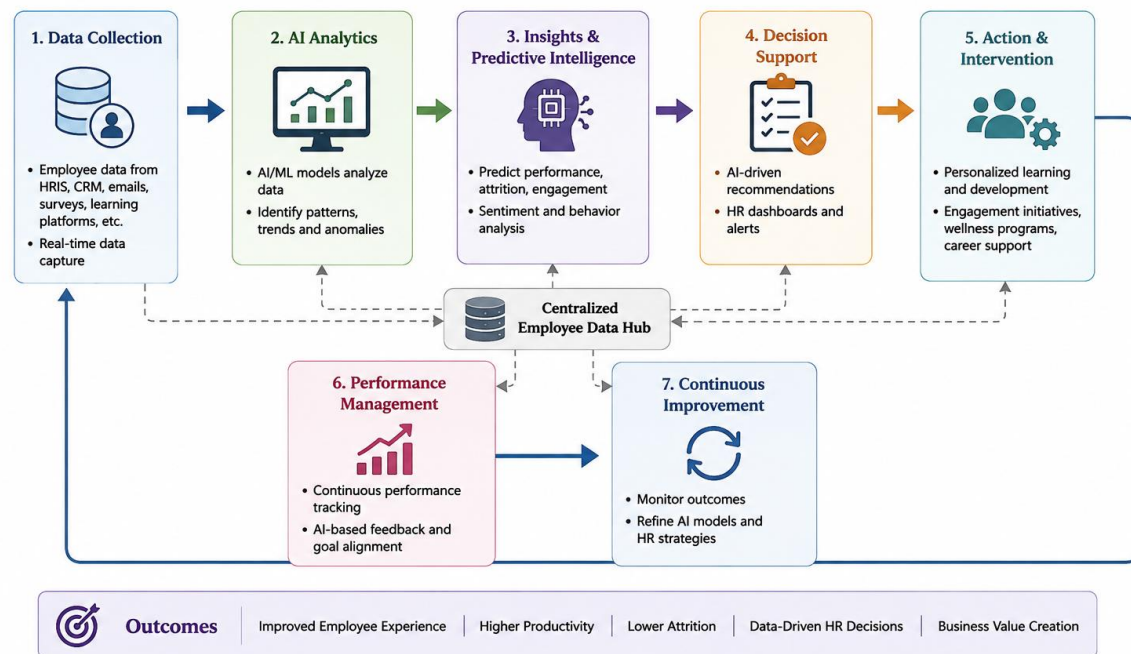


Figure 4. AI-Driven Employee Management Framework in the Banking and Financial Services Sector.

3.4 Benefits of Artificial Intelligence in Human Resource Management in the Banking and Financial Services Sector

The reviewed studies consistently demonstrate that Artificial Intelligence (AI) has generated substantial benefits across Human Resource Management (HRM) functions within the Banking and Financial Services Sector (BFSI). The increasing adoption of AI-enabled HR platforms has improved recruitment efficiency, workforce planning, employee performance management, and strategic decision-making. Unlike traditional HR systems that primarily depend on manual processes, AI facilitates real-time analysis of employee and recruitment data, enabling HR professionals to make faster and more informed decisions. The integration of predictive analytics, intelligent automation, and data-driven insights has therefore transformed HRM from an administrative support function into a strategic contributor to organizational performance [1], [8], [10].

A significant benefit identified in the reviewed literature is the improvement in recruitment efficiency and workforce quality. AI-enabled Applicant Tracking Systems (ATS), intelligent resume screening, and predictive candidate assessment reduce hiring time while increasing recruitment accuracy. Banking institutions can identify qualified candidates more effectively by matching professional competencies, certifications, and experience with job requirements. Furthermore, AI minimizes repetitive administrative tasks, allowing HR professionals to

focus on talent acquisition, leadership development, and strategic workforce planning rather than routine operational activities [5]–[9].

Another major advantage is the enhancement of employee performance and organizational productivity. AI-powered HR analytics continuously monitors workforce performance through key performance indicators, customer service metrics, productivity reports, and competency assessments. These insights enable managers to identify training requirements, recognize high-performing employees, and implement evidence-based performance improvement strategies. Personalized learning systems further strengthen employee capabilities by recommending role-specific training programmes, thereby supporting continuous professional development and improving organizational competitiveness [8], [11], [13], [16].

The literature also highlights AI's contribution to strategic workforce planning and employee retention. Predictive analytics enables HR managers to forecast workforce demand, identify potential turnover risks, and develop succession planning strategies based on organizational objectives. In addition, AI-powered virtual assistants improve employee experience by providing instant access to HR services, policy information, payroll support, and internal communication. Collectively, these capabilities improve employee satisfaction, operational efficiency, and long-term organizational sustainability within the banking industry [9], [12], [15], [18].

Table 5. Benefits of AI Adoption in Human Resource Management within the Banking and Financial Services Sector.

Benefit	AI Application	Organizational Impact
Faster Recruitment	ATS & Resume Screening	Reduced hiring time
Improved Hiring Quality	Predictive Analytics	Better candidate selection
Enhanced Performance Management	HR Analytics	Objective employee evaluation
Personalized Learning	AI Learning Platforms	Continuous skill development
Workforce Planning	Predictive Workforce Analytics	Improved resource allocation
Employee Experience	AI Chatbots & Virtual HR Assistants	Higher employee satisfaction

3.5 Challenges and Ethical Issues of AI in Human Resource Management within the Banking and Financial Services Sector

Despite the significant benefits of Artificial Intelligence (AI) in Human Resource Management (HRM), its implementation within the Banking and Financial Services Sector

(BFSI) presents several technical, ethical, and organizational challenges. The reviewed studies indicate that although AI improves recruitment efficiency, workforce planning, and employee management, excessive dependence on automated decision-making may introduce new risks related to fairness, transparency, privacy, and regulatory compliance. Since banking institutions manage highly confidential employee and customer information, responsible AI governance has become a critical requirement for sustainable HR transformation [12]–[15].

One of the most frequently reported concerns is algorithmic bias. AI systems are trained using historical organizational data, and if these datasets contain biased recruitment or promotion patterns, the AI model may unintentionally reproduce similar biases during candidate selection and employee evaluation. Such outcomes may negatively affect diversity, equal employment opportunities, and organizational fairness. The reviewed literature recommends continuous auditing of AI algorithms, periodic model validation, and the adoption of Explainable Artificial Intelligence (XAI) to improve transparency and accountability in HR decision-making [10], [12], [16].

Another major challenge is data privacy and cybersecurity. AI-based HR platforms process sensitive employee information, including personal records, salary details, performance evaluations, attendance data, and behavioural analytics. Unauthorized access, cyberattacks, or misuse of such information may expose financial institutions to operational, legal, and reputational risks. Consequently, banks are expected to implement strong cybersecurity frameworks, encrypted data management systems, role-based access controls, and compliance with applicable data protection regulations to ensure the confidentiality and integrity of HR information [13], [15], [17].

The literature also highlights concerns regarding human oversight and employee trust. Although AI systems can efficiently analyze large volumes of workforce data, they cannot adequately assess interpersonal skills, emotional intelligence, ethical judgement, leadership potential, or organizational culture. Therefore, final HR decisions related to recruitment, promotion, disciplinary actions, and career progression should remain under human supervision. A collaborative Human–AI decision-making model is widely recommended to balance technological efficiency with professional judgement, ensuring fair and responsible HR practices within the Banking and Financial Services Sector [11], [14], [18].

Table 6. Challenges and Mitigation Strategies for AI Adoption in Human Resource Management.

Challenge	Potential Impact	Recommended Mitigation Strategy
Algorithmic Bias	Unfair recruitment and promotion decisions	AI auditing and Explainable AI (XAI)
Data Privacy	Leakage of confidential employee information	Data encryption and privacy governance
Cybersecurity Risks	Unauthorized access to HR systems	Multi-layer cybersecurity framework
Lack of Transparency	Reduced employee trust	Transparent AI models and regular monitoring
Overdependence on AI	Limited human judgement in HR decisions	Human–AI collaborative decision-making
Regulatory Compliance	Legal and ethical issues	Compliance with organizational and government regulations

3.6 Discussion and Managerial Implications

The findings of this systematic review indicate that Artificial Intelligence (AI) is fundamentally reshaping Human Resource Management (HRM) practices in the Banking and Financial Services Sector (BFSI). The reviewed studies consistently demonstrate that AI is no longer limited to automating administrative HR functions; instead, it has evolved into a strategic technology supporting talent acquisition, workforce planning, employee development, and organizational decision-making. Compared with traditional HR practices, AI-driven systems provide faster data processing, greater analytical capability, and improved decision accuracy, enabling banking institutions to manage their human resources more efficiently while responding to rapidly changing business environments [1], [4], [8], [10].

A key observation emerging from the literature is that the successful implementation of AI depends on balancing technological innovation with human expertise. While AI improves recruitment accuracy, performance evaluation, and workforce analytics, it cannot independently assess behavioural characteristics, leadership qualities, emotional intelligence, or ethical judgement. Consequently, most researchers advocate a Human–AI collaborative approach, where AI supports evidence-based decision-making while HR professionals retain responsibility for final managerial decisions. This collaborative model not only enhances operational efficiency but also strengthens transparency, fairness, and employee confidence in AI-supported HR practices [10], [12], [15], [18].

From a managerial perspective, banking institutions should consider AI as a long-term strategic investment rather than merely an automation tool. HR managers should prioritize employee reskilling, AI literacy, and continuous training to ensure that employees can

effectively utilize AI-enabled HR systems. Furthermore, organizations should establish clear governance policies addressing algorithmic fairness, data privacy, cybersecurity, and regulatory compliance. Such measures will enable financial institutions to maximize the benefits of AI while minimizing potential risks associated with automated decision-making [11], [13], [16].

The review also identifies several research gaps that require further investigation. Existing studies predominantly focus on recruitment automation and performance analytics, whereas limited attention has been given to the long-term impact of AI on employee well-being, organizational culture, leadership development, and workforce diversity within the BFSI sector. Future research should therefore emphasize empirical validation of AI-enabled HR models across different banking environments and examine how emerging technologies such as Generative AI and Explainable Artificial Intelligence (XAI) can support responsible and sustainable Human Resource Management practices [14], [17], [18].

3.7 Managerial Implications

The findings of this systematic review provide several practical implications for Human Resource Management (HRM) professionals, banking executives, and policy makers operating within the Banking and Financial Services Sector (BFSI). As financial institutions continue to accelerate digital transformation, Artificial Intelligence (AI) should be viewed as a strategic enabler of HR innovation rather than merely an automation tool. Banks should integrate AI across the employee lifecycle, including talent acquisition, workforce planning, performance management, learning and development, and employee retention. Such integration can improve operational efficiency, strengthen workforce quality, and support evidence-based decision-making in HR functions [4], [8], [11].

For HR managers, the adoption of AI offers opportunities to reduce repetitive administrative activities and focus on strategic responsibilities such as leadership development, succession planning, employee engagement, and organizational capability building. However, organizations should ensure that AI-supported HR decisions remain transparent, explainable, and free from algorithmic bias. Regular auditing of AI models, continuous employee training, and effective human supervision are essential to maintain fairness and employee trust. Furthermore, HR professionals should be equipped with digital competencies and analytical skills to effectively interpret AI-generated insights and translate them into practical workforce strategies [10], [15].

From an organizational perspective, banking institutions should establish comprehensive AI governance frameworks covering data privacy, cybersecurity, ethical AI usage, and regulatory compliance. Investment in secure digital infrastructure, employee awareness programs, and continuous monitoring of AI systems will help financial institutions maximize the benefits of intelligent HR technologies while minimizing associated risks. In addition, collaboration among HR departments, information technology teams, senior management, and regulatory authorities will be essential for developing responsible and sustainable AI-enabled HR practices that support long-term organizational growth and competitiveness [18].

4. CONCLUSION

Artificial Intelligence (AI) has emerged as a transformative force in Human Resource Management (HRM), particularly within the Banking and Financial Services Sector (BFSI). This systematic literature review examined the emerging trends of AI-driven recruitment and employee management by analyzing recent studies published between 2020 and 2026. The findings reveal that AI technologies, including Machine Learning, Natural Language Processing, predictive analytics, and intelligent automation, have significantly improved HR functions by enhancing recruitment efficiency, employee performance evaluation, workforce planning, and talent development. AI-enabled HR systems facilitate faster and more objective decision-making while reducing administrative workload and supporting strategic workforce management [1], [4], [8], [10].

The review further highlights that AI has transformed recruitment through automated resume screening, intelligent candidate matching, AI-assisted interviews, and chatbot-based candidate communication. Similarly, AI-driven employee management systems have strengthened performance appraisal, personalized learning, employee engagement, and predictive workforce analytics. These advancements have enabled banking institutions to improve organizational productivity, optimize resource utilization, and enhance employee experience while responding effectively to the demands of digital transformation and increasing regulatory compliance [6], [9], [11], [15].

Despite these advantages, the successful implementation of AI in HRM requires careful consideration of ethical, technical, and regulatory challenges. Issues related to algorithmic bias, data privacy, cybersecurity, transparency, and employee trust remain significant concerns that must be addressed through robust governance frameworks and responsible AI practices. The literature consistently emphasizes that AI should complement rather than replace human judgement, particularly in strategic HR decisions involving recruitment,

promotion, leadership development, and employee well-being. A Human–AI collaborative approach is therefore essential for ensuring fairness, accountability, and sustainable workforce management within the Banking and Financial Services Sector [12]–[18].

Although this review provides a comprehensive overview of AI applications in HRM, it is limited to peer-reviewed studies published between 2020 and 2026 and primarily focuses on recruitment and employee management in the BFSI sector. Future research should investigate the long-term organizational impact of Generative AI, Explainable Artificial Intelligence (XAI), and advanced HR analytics using empirical evidence from different banking environments and geographical regions. Such studies will contribute to the development of transparent, ethical, and intelligent HR systems capable of supporting the future evolution of Human Resource Management in the global banking industry.

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