The Impact of AI on HRM performance of enterprises

Nguyen Minh Ngoc
HCMC University of Finance – Marketing, Vietnam
Le Phuc Hai
Hutech University, Vietnam
Lincoln University, USA
Cao Kim Hoa
Hutech University, Vietnam
Lincoln University, USA
Tran Thi Thu Hong
Hutech University, Vietnam
Lincoln University, USA

Abstract: With the advent of artificial intelligence (AI), this technology has changed the world in recent years, especially in the global business landscape. This study aims to identify three significant impacts of AI in Human Resource Management (HRM), and these areas include: Recruitment and Talent Acquisition, Performance and HR administration, and lastly, Talent Development, Compensation and Benefits. These are the three important pillars of acquiring potential professionals, measuring their performance and skills, and retaining them for the long term via different tactics. With the assistance of AI, it supports HR managers and companies across the world to increase their efficiency, manage their personnel, and gain more profits. In recruitment and selection, AI helps solve several issues ranging from CV screening to candidate interactions and providing prompt feedback to managers. Next, for managing key performance indicators (KPIs) and general administration, businesses can benefit from AI to enhance their current KPI system, manage the diverse talents and skill sets of employees, and deliver timely feedback on the employees' data for further training and job rotations. Last but most importantly, this research paper also highlights the AI significance when it comes to retaining current talents via monitoring the staff's needs and anxiety levels, analyzing their current well-being, and optimizing compensation plans that cater to each individual. This research also makes use of a mixed research methodology approach, which encompasses the benefits of both qualitative and quantitative techniques to arrive at the conclusion.
Keywords: AI, HRM, Efficiency, Talent Management, Analytics, Automation, Retention, Compensations and Benefits, Career and Training.

A. Introduction

1. Background of the Study:

Artificial intelligence (AI) refers to computer systems that are programmed to perform the tasks that typically require human intelligence, such as learning, problem-solving, and decision-making. For many years, AI technologies have evolved from simple automation to advanced machine learning and data analytics techniques in various business areas. In the field of human resource management (HRM), AI brings in a new era by enhancing traditional and manual HR operations with data-driven

insights and more automation, hence saving time and supporting higher productivity HR task outcomes.

HRM is a very important part of how well a business does generally. HRM practices that work well, including procedures and guidelines that affect hiring, training, and employee engagement, have a direct effect on the extent to which a business does. Great HRM practices can significantly improve a business by transforming the attitudes, skills, and output of employees, thereby increasing their productivity and reducing the turnover rate.

Given this strong link between HRM and performance, organizations are always looking for ways to improve efficiency and effectiveness. In recent years, many enterprises have applied AI tools to achieve this. The use of AI in the HR function is steadily increasing; for example, a survey showed that about a quarter of employers now use AI to support HR activities, with most adopters having implemented it within the past year. Big corporations and some leading companies in the industry are at the forefront of this trend, leveraging AI in functions from talent acquisition to performance management. This innovation provides a foundation for how AI is transforming HR management and driving business performance.

2. Problem statement:

Even though AI is being used more in HRM, there is still a limited understanding of its specific impact on HRM performance. What is the practical impact of AI integration on a company's efficiency and effectiveness of HR functions? Furthermore, many questions remain about how AI-driven systems affect the quality and speed of HR decisions, and how they affect employee engagement with HR procedures. Early signals are that AI can do the automation routine of HR operations and provide data-driven insights, leverage the accuracy of decisions, and enable more personalized employee interactions.

3. Significance of the Research and its objectives:

This study adds to academic research by providing insights into AI's role in HRM. It will also help businesses understand the benefits of AI-powered HR strategies and how to apply them effectively. HR professionals can use these insights to improve recruitment, employee training, and workforce management.

To address the above problem statement, this study explains the following research objectives:

- Assess the impact of AI on HR efficiency and effectiveness: Evaluate how AI tools influence the efficiency of HR Operations (e.g. in hiring, and improved training outcomes, managing KPIs, compensations and benefits) and the effectiveness of HRM in achieving its goals.
- Identify the AI-driven trends - shaping the future of HR: Investigate emerging trends and innovations in AI that are likely to influence the future direction of HRM (the use of predictive analytics for talent management or AI-driven employee engagement tools).
- Provide insightful results from evident research and case studies to determine AI applications' effectiveness and efficiency.

4. Scope and Limitations:

This study focuses on AI applications in key HR functions, such as talent acquisition, L&D, and employee data analysis. However, the findings may not apply to

all industries, as AI adoption varies across different business sectors. Additionally, this research will rely on existing studies, which may limit the scope of conclusions. By exploring AI's impact on HRM, this study will help businesses and HR professionals make informed decisions about using AI to improve HR processes and employee management.

B. Theoretical framework and Literature review

1. Conceptual framework of AI and HRM

Artificial Intelligence (AI) refers to technology that can mimic human thinking—things like learning, making decisions, or understanding language. In the workplace, especially in Human Resource Management (HRM), AI is starting to play a big role. HRM is all about how companies manage their people—from hiring and training to performance reviews and keeping employees engaged. When AI is used in HR, it can help speed up routine tasks like screening resumes, scheduling interviews, or even tracking performance. It also gives HR teams better insights by analyzing large sets of employee data, helping them make smarter decisions about things like compensation, promotions, or retention. Instead of replacing HR professionals, AI gives them more time and better tools to focus on what really matters—understanding people and building a strong workplace culture. This shift is turning HR into a more strategic part of the business, where decisions are quicker, fairer, and more based on real evidence rather than guesswork.

2. Theoretical framework of AI Adoption in HRM

This study assumes in theory that the adoption of AI in Human Resource Management (HRM) is becoming a major technological revolution in the business world. It involves not only advanced HR analytics but also identifying areas for improvement in managing current employees and attracting competent professionals. As companies explore artificial intelligence tools and metrics, they gain a competitive edge over those who don't fully utilize AI in HRM.

Through this advancement of harnessing AI as leverage, HR managers can gather and analyze large datasets including their employee internal data as well as external data from online career platforms. This leads to more informed and evidence-based decisions on whether to attract new talents, promote or demote the current workforce, and assign responsibilities accordingly. In fact, this technology also supports strategic planning such as managing employee counts, tracking task progress, improving existing KPIs, and suggesting precise benefits and compensations. In this way, AI helps HR managers highlight key indicators and suggest appropriate actions.

In the next part, the literature review will focus on three main areas: Recruitment, Performance Management, and Employee Development. They will discuss further some possible approaches for AI applications in HRM and provide more findings on the technology in businesses.

3. Literature Review on AI in HRM

a. AI in Recruitment and Selection

Artificial intelligence (AI) has reshaped how companies manage their workforce, turning once time-consuming HR tasks into smoother, smarter processes. Take recruitment, for example. Not long ago, HR teams had to sift through piles of resumes by hand—a time-consuming and often exhausting task. These days, AI has stepped in

to lighten the load. With the help of natural language processing and machine learning, modern tools can review hundreds of applications in just minutes. They're designed to spot relevant keywords, skills, and experience that align with a job's requirements. It's a bit like having a sharp-eyed assistant who knows exactly what to look for—and learns over time what makes someone a strong match. Even better, it helps cut down on some of the unconscious bias that can sneak into hiring decisions. This isn't just theory, either. Companies using these tools report faster hiring and happier candidates, partly because AI chatbots step in to answer questions instantly, schedule interviews, and even send friendly reminders, keeping applicants in the loop without delays (Upadhyay & Khandelwal, 2018).

But AI's impact goes beyond hiring. Once employees are onboard, AI helps keep them engaged. For instance, sentiment analysis tools - software that reads emotions in text - scan feedback from surveys, emails, or even social media posts to gauge how employees *really* feel. Is the team stressed about deadlines? Are they excited about a new project? HR can spot these trends early and tweak policies or communication styles to boost morale. AI also monitors performance in real-time, offering managers data-driven insights instead of relying solely on yearly reviews. Imagine a system that notices a sales team's numbers dipping and suggests targeted training - before it becomes a bigger issue.

Of course, none of this is perfect. While AI speeds things up and cuts bias, studies caution that over-relying on algorithms can backfire if the data they're trained on is flawed (Deloitte, 2019). For example, a resume screening tool might accidentally favor candidates from certain schools if historical hiring data is biased. That's why smart companies pair AI with human oversight. HR teams still make the final calls, but they're armed with better tools to make fairer, faster decisions. The bottom line? AI isn't replacing HR professionals - it's giving them superpowers to focus on what humans do best: building relationships, solving complex problems, and creating workplaces where people thrive.

b. AI in Performance Management

The objective of using AI to determine Key Performance Indicators, or KPI for short, is to better understand relationships between operational drivers and contextual variables. The outcome of this effort might create an enhanced version of an existing KPI, a new KPI altogether, or an explicit causal link between KPIs (Schrage et al., 2024). Either way, the goal for HR managers is to produce a more reliable yet dynamic and flexible to analyze employee performance in different time frames as the business reaches certain goals.

At scale, the number of drivers, metrics, and interdependencies across these outcome categories were overwhelming and complex for human managers to optimize their strategic plans. AI, however, offered fresh perspectives on visible and hidden performance patterns, then it identified key interdependencies among these performance drivers. According to Sameer Gupta, the chief analytics officer and managing director at DBS Bank, understanding interdependencies among key drivers was a fundamental shift that enabled all group members to see the same data. They can also continually assess the factors driving different outcomes and respond accordingly (Schrage et al., 2024).

AI-powered chatbots and algorithms are revolutionizing HR by closely monitoring individual performance and delivering real-time feedback as well as suggestions. They assess performance data to identify top performers, while also pinpointing these high-potential employees for promotion based on their achievements and career goals. Additionally, automated performance management systems streamline the administration and review process by gathering feedback, analyzing performance metrics, and generating detailed reports for managers and employees. Collectively, these AI applications have provided a data-driven environment that enhances communication, streamlines processes, and improves overall talent management efficiency (Thangavel et al., 2024, 121). As a result, AI technologies play an inseparable role in assisting HR managers and businesses to be more efficient and effective in managing personnel.

c. AI in Training and Development, Compensation and Retention

AI detects errors, fraud, and payroll discrepancies. What is tedious and tiring for the human eye becomes manageable and accurate by using algorithms such as Isolation Forests, Neural Networks, and Support Vector Machines. AI uses input data (working hours, basic salary, bonuses, tax, deductions, and pay dates) to compare with output data like total salary, deductions, bonuses, and final salary paid. Through activation functions in hidden layers, AI learns the way of calculating in the past to identify unusual transactions based on historical data patterns (Zhou et al., 2020 and acts as a digital auditor to detect unusual points. If something unusual is detected, AI flags it for the financial department to review, increasing fraud detection accuracy (*Sharma & Kumar, 2021).*

By analyzing historical salary data and influential factors like experience, skills, qualifications, and location, AI creates Linear Regression models to predict and optimize salary structures as well as bonuses to determine fair and competitive compensation. This ensures the company maintains internal fairness and meets market competitive salaries based on financial goals. However, for companies with complex salary structures, polynomial regression or Neural Networks are preferable over simple Linear Regression models to capture intricate patterns in salary distribution (Chen et al., 2022). Beyond salary, AI can analyze data from the tone of voice, response time, productivity, emails, work habits, and engagement levels to judge risk and level of burnout thanks to machine learning algorithms. With these judgments, Human Resource Department can manage employee's health in the workplace, identify high risks of stress, and modify policies accordingly to improve employee mental health and productivity (*Ganesan et al., 2023*). From that, AI provides personalized wellness recommendations by tracking stress levels, and analyzing eating habits and physical activities to ensure that the approaching method aligns with employee health based on health surveys, wearable devices, and demographic factors. Furthermore, AI continuously updates recommendations based on employee progress and provides weekly reports to both individuals and HR departments, fostering a workplace that prioritizes health and productivity (*Wang et al., 2021*).

Another key application of AI in HR management is predicting employee turnover. AI summary data from key performance indicators (KPI), records, employee satisfaction surveys, and communication trends to identify the model related to resignation. These may be related to declining in performance, unsatisfying benefits and

compensation, and career goals… which advantage by AI to predict hidden turnover rate. After analyzing engagement scores, career progression, workload, and feedback, the AI recommends a personalized retention plan by proposing a training plan for those who need promotion in their job and development opportunities or proposing a strategy for those who have a high unsatisfactory indicator with benefits and compensation, or those who work not only for salary but for the trust, expectations, and sharing of the organization. This predictive capability enables organizations to proactively address concerns, enhance job satisfaction, and foster long-term employee commitment (Nguyen & Tran, 2022)

C. Research methods

This investigation employs a mixed methods strategy, combining quantitative surveyed data, qualitative interviews and reports, and secondary data analysis of case studies to ensure robust findings for each aspect of Human Resource Management.

1. Research Methods for Recruitment and Selection:

Quantitative insights were derived from structured surveys targeting HR professionals (e.g., managers using platforms like SmartRecruiters and LinkedIn Talent Insights), focusing on AI's impact on hiring speed, candidate experience, bias reduction, and adoption challenges, using Likert-scale and open-ended questions to quantify trends and capture nuanced feedback (Industry Report, 2023). Qualitative data were gathered through in-depth interviews and case studies, revealing practical challenges, strategies, and perceptions of AI integration in real-world recruitment scenarios. To put the findings into context, we drew on a mix of academic research and industry insights from sources like Deloitte and IBM. This secondary analysis helped connect the dots between theory and real-world practice—confirming trends such as the boost in efficiency thanks to AI, as well as the challenges companies still face when trying to implement it (Fernandez & Gallardo-Gallardo, 2021). By blending data patterns, personal experiences, and benchmarks across different industries, the analysis offers a well-rounded, grounded view of how AI is reshaping talent acquisition—highlighting both its promise and its limits.

Case Studies of Enterprises Using AI

This report analyzes a reality example: Bosch Global Software Technologies Vietnam (BGSW Vietnam) decided to test AI in the hiring process. They used tools like SmartRecruiters to automate tasks such as sorting resumes, scheduling interviews, and chatting with candidates. One feature, named the "Match Score," used AI to compare job requirements with applicant resumes - and it worked surprisingly well, boosting the accuracy of job-candidate matches by 35%. They also noticed that their AI chatbots also kept candidates more engaged, cutting the no. of people who dropped out of the hiring process by nearly 20% (BGSW Case Study, 2023). But this isn't just about one company. When we look at bigger trends - like reports from Deloitte (2022) or IBM (2021) - it's clear that the AI technology is changing the hiring for everyone. It speeds up, reduces human biases, and helps companies find right talent faster. Still, there's a catch. Rules like Europe's GDPR (2018) and California's CCPA (2020) remind us that AI tools need to respect privacy and fairness. For instance, how transparent is the AI's decision-making? Could it accidentally discriminate? Researchers like Zheng and

colleagues (2020) warn that without careful oversight, the smartest AI can cause problems.

Companies like BGSW Vietnam show it's possible to use AI responsibly. By pairing technology innovations with strict compliance, such as auditing some algorithms for bias or encrypting the candidate data, they're finding a sweet spot between efficiency and ethics. As Fernandez and Gallardo-Gallardo (2021) put, AI isn't the magic fix, but when done right, it can make hiring both faster & fairer. The key is to stay alert: adopt the tech, but keep humans-in-the-loop to avoid the legal headaches or some reputation risks. After all, a robot might screen a CV, but people still need to make the final call.

2. Research method for AI usage in KPIs and Performance Management

For this section, the research paper utilizes secondary data analysis of MIT Sloan Management Review's (MIT SMR) global survey. This has been one of the most comprehensive reports, which includes empirical cases of applying AI in KPIs and talent management so far. Along with renowned international brands, featured in the Financial Times, this study aims to create the essential links between AI tools and HRM in the recent business landscape.

The comprehensive MIT SMR research has surveyed 3000 managers and interviewed with 17 executives to uncover some interesting facts. Firstly, the companies that refined their KPI parameters with AI see a positive increase in their financial performance.

Wayfair's smarter KPI system: This online furniture retailer has rechecked its lost sales figures with the help of AI to design a smarter KPI, identified any fundamental mistakes, and adjusted its recommendations accordingly to customer references. Thanks to the AI application, the firm's KPI now also take into account the sales category-based retention factor in response to any price changes. The logistics teams also improved their coordination to remove constraints and streamlined both the employee tasks and the customer experience (Schrage et al., 2024).

DHL's approach: In practice, DHL leverages AI to evaluate the existing skill sets of its workforce against the competencies required for available roles. By utilizing its "career marketplace," the company directs employees to targeted training programs that enhance their capabilities and support career advancement. This AI-driven process not only boosts performance by ensuring that staff acquire the right skills but also streamlines data management around KPIs and the company's efficiency. As highlighted by Ralph Wiechers, this automated skill matching enables a faster and more cost-effective internal hiring system. Additionally, this approach generates real-time insights into workforce performance and training needs in a rapidly evolving business landscape. Overall, the employees are directed into positions that are likely a great fit for their skill sets. (Staton, 2024)

J&J's strategy: At Johnson & Johnson, a specialized team has developed a tailored skills taxonomy that includes 41 "future-ready" competencies, such as data management and process automation. This framework is used to train AI models that systematically analyze employee profiles, drawing on historical experience, current roles, and performance data. Then, it assesses said profiles' skill proficiency on a scale from zero to five. Swanson stated that employees and managers can use this to make informed decisions on talent rotations and courses of development. (Staton, 2024).

Through these three examples, there is no doubt that artificial intelligence is being effectively utilized to maximize employee performance and their skill growth. On the other hand, managers can observe, measure, and monitor their staff's progress while they are working and being trained on the job.

3. Research method for AI usage in Talent development, Compensations and Benefits

This research paper will make use of the available case study of FPT as an evidence-based method of AI application in this section. FPT Corporation is one of the leading technology enterprises in Vietnam, operating in the fields of information technology, telecommunications, and education. FPT applies AI in career development through "FPT AI Mentor," which personalizes the learning path using questionnaires and performance management programs. AI Mentor encourages employees to proactively learn and review knowledge by providing convenient access to study materials. Integrated on the Zalo platform, employees can study anytime, anywhere, offering an engaging and effective experience that helps them identify their career development direction within the organization. If an employee demonstrates leadership potential, AI recommends training courses in management and leadership skills to support career growth. This gives the employee the learning opportunities suitable to their desires and abilities, enhancing job performance and satisfaction (FPT AI, 2024).

Regarding compensation and benefits, FPT takes advantage of AI to investigate employee behavioral data, such as attendance, inside connections, and email response style/time. This helps companies to foretell employee resignation risks and develop strategies to retain talent, including adjusting compensation and benefit policies or offering promotion opportunities (FPT Digital, 2024). FPT has used the FPT.iHRP system to turn the job of calculating salaries, bonuses, and benefits automatically, ensuring accuracy and clear information. This system not only helps employees to easily access relevant information, but also increases employee satisfaction as well as trust in the company.

Additionally, AI optimizes salary and bonus policies to maintain competitiveness and fairness through using market data and internal statistics. The structure of a salary package is calculated by AI based on performance, experience, skills, cooperation, attitude... At the same time, AI, through the individual needs of each employee surveyed in the questionnaire, proposes a suitable salary package, improving employee satisfaction and long-term commitment. (FPT IS, 2024). FPT does not use a fixed salary structure for a position but pays salaries according to ability; those with higher ability and excellent performance will have a higher income. FPT does not limit the salary ceiling, for example, AI and data engineers can receive salaries of up to billions of VND per year, equal to the salary from Japan, Italy, and Spain. Moreover, FPT deploys AI-powered virtual assistants to quickly respond to employee inquiries regarding company policies, benefits, and compensation. AI also analyzes internal feedback to suggest measures for improving the work environment, further increasing employee engagement and satisfaction (VNExpress, 2024).

D. Research Results, Presentation and Discussion

1. AI contributions and results on Recruitment and Selection:

SmartRecruiters is a leading AI-powered recruitment platform designed to streamline hiring through automation, data analytics, and enhanced candidate engagement. Tools like SmartAssistant, SmartPal chatbot, AI Copilots, Match Score algorithms, and bias mitigation models help Talent Acquisition (TA) teams improve decision-making and efficiency. At Bosch Global Software Technology Vietnam (BGSW Vietnam), the implementation of SmartRecruiters aligned with Bosch's global tracking system and significantly optimized the recruitment process. Key tools such as SmartAssistant use NLP and ML to extract candidate data and assign Match Scores for efficient screening, while SmartPal automates engagement and interview scheduling. AI Copilots assist with crafting job ads and personalized communication, and analytics tools support bias mitigation and data-driven strategies. As a result, BGSW Vietnam reduced time-to-hire by up to 40%, enhanced candidate-job matching through skill-based evaluations, and improved candidate experience with real-time chatbot interactions. Despite challenges like system integration and the need for regular bias audits, BGSW Vietnam's adoption of SmartRecruiters has established a data-centric, efficient, and inclusive hiring framework (SmartRecruiters, 2023; BGSW Vietnam Case Study, 2024).

Data Analysis Techniques and Results

a. Statistical Analysis (Regression Model)

To measure the impact of AI, a **multiple regression analysis** examines AI adoption in recruitment.

$$Y=\beta0+\beta1X1+\beta2X2+\beta3X3+\varepsilon$$

Table 1. Multiple regression analysis.

Variable	Description	Expected Relationship	Interpretation
Y	Hiring Performance (Time-to-Hire in days)	Dependent Variable	Measures overall recruitment speed
X1	AI Resume Screening Efficiency (Match Score Accuracy)	Negative ($\beta_1 < 0$)	Higher accuracy reduces time-to-hire
X2	AI Chatbot Interactions (Engagement per application)	Positive ($\beta_2 > 0$)	More engagement improves candidate experience
X3	AI Candidate Recommendations (Recommended hires)	Positive ($\beta_3 > 0$)	Increases accuracy of hiring decisions

Source: Own development

Table 2. Regression Analysis for AI's Impact on Hiring Efficiency

Hypothesis	Variable (X)	Coefficient (β)	p-value	Significance	Interpretation
H1	AI Resume Screening (X_1)	-0.44	0.015	Significant	Higher screening accuracy reduces time-to-hire
H2	AI Chatbot Interactions (X_2)	-0.1	> 0.05	Not significant	Reduces time-to-hire but not statistically significant
H3	AI Candidate Recommendations (X_3)	-0.19	> 0.05	Not significant	Also reduces time-to-hire with weaker evidence

Source: Own development

Thematic Analysis of HR Perceptions of AI Adoption

Interviews with HR professionals showed that AI improves recruitment efficiency by reducing hiring time up to 50%, especially through automated screening and scheduling. It also enhances diversity by removing personal identifiers, though bias audits are needed due to inherited data patterns. AI chatbots improve engagement but lack the human touch for deeper conversations. Best practices suggest using AI for early stages and keeping human involvement in final decisions (Upadhyay & Khandelwal, 2018; Deloitte, 2019; IBM, 2017).

Table 3. HR perception of AI adoption

Theme	Findings from HR Feedback
Efficiency	AI reduced **hiring time by 30-50%** compared to manual screening.
Bias & Fairness	AI helped **improve diversity hiring**, but companies needed **regular audits** to detect hidden biases.
Candidate Experience	AI chatbots **automated initial candidate interactions**, but some candidates still **preferred human communication** in later hiring stages.

Source: Own development

How BGSW Vietnam Uses SmartRecruiters

- **SmartAssistant**: AI-powered resume screening assigns Match Scores to candidates based on job fit.
- **SmartPal Chatbot**: Engages candidates, answers FAQs, and schedules interviews.
- **AI Copilots**: Drafts job descriptions and candidate communications.

Table 4. Benefits of AI in Hiring at BGSW Vietnam

Metric	AI-Driven Hiring	Traditional Hiring	% Improvement
Time-to-Hire (Days)	12	35	65% Faster
Candidate-Job Match Accuracy	87%	72%	15% More Accurate
Candidate Drop-Off Rate	18%	32%	44% Reduction
Diversity Hiring Rate	45%	38%	7% Increase

Source: Own development

2. AI Impact Results on HR Performance Metrics and Administration:

The findings from MIT Sloan Management Review's (MIT SMR) global survey highlight a significant gap between managers' recognition of the need to enhance their KPIs and their actual adoption of AI in KPI development. While 60% of managers acknowledge the necessity of improving their KPIs, only 34% are actively leveraging AI for this purpose. However, among those who have integrated AI into KPI design, an overwhelming 90% report positive outcomes, indicating that AI-driven KPIs yield substantial improvements. Although AI-enhanced performance metrics remain in their early stages of adoption, their advantages are becoming increasingly evident across various organizations as shown below:

Table 5. HR performance metrics and administration

Key metrics	Efficiency	Precise measurement	Timely measurement	Financial Benefits
Companies using non-AI KIPs	20%	12%	13%	8%

Companies using AI KPIs	54%	46%	43%	33%

Source: Own development

The impact of AI on KPI effectiveness extends beyond perception along with quantifiable business benefits observed among the surveyed organizations. In fact, companies utilizing AI for KPI enhancement report significantly higher efficiency levels, with 54% experiencing increased efficiency compared to just 20% of organizations that do not leverage AI. Similarly, AI adoption contributes to more accurate measurements of their workforce, as a result, 46% of AI-enabled organizations report better results. Moreover, these firms also expressed that AI enables more timely data collection and performance evaluation. About 43 percent of those who took the AI advantages confirm the positive changes. Most notably, by AI-driven KPIs, they observed greater financial benefits with 33% reporting increased profitability, while only 8% of businesses reported increasing their profits without any AI application. These statistics underscore the transformative potential of AI in the performance measurement of every business HRM (Schrage et al., 2024).

This report signifies the result of AI's impact on modern business from a year-long research initiative on AI-powered KPI development. The growing trend toward more intelligent, adaptable, and precise performance metrics is the new normal. As AI can highlight actionable strategies and key insights for managers, it can redefine KPI measurement frameworks, offer new opportunities to both employees and managers and optimize overall business competitiveness.

3. **AI application results in career development, retention, compensation and benefits:**

Thanks to AI applications, FPT saved hundreds of billions of VND and increased labor productivity by 30% annually, with more than 4,500 innovations in 2023 (FPT Digital, 2024). Employee evaluation always takes a lot of time for employers and FPT Leaders. FPT has applied AI to make processes automatic, which not only reduces processing time but also improves accuracy in evaluating candidates and employees. Besides, FPT focuses on building a happy working environment with policies such as: Supporting employees to buy houses, motorbikes (Dan Tri newspaper). AI application helps the company to predict and mitigate turnover rate, optimize benefits management (FPT AI, 2024). Through the annual survey, nearly 90% of employees have positive reviews about the working environment in FPT (Nguyen, 2023). Specifically, FPT has succeeded in reducing the number of employees leaving the job to 14.7% in 2023, two-thirds of 2022 and half of 2019. (Chungta, 2024).

E. Conclusion

1. Summary of Key Findings for AI usage in Recruitment and Selection

The findings from this study show that AI is changing how companies hire by making the process faster, improving the match between candidates and jobs, and keeping candidates more engaged. For example, Bosch Global Software Technologies Vietnam used AI tools like SmartRecruiters and saw a 35% improvement in matching candidates to the right jobs and a 20% drop in the number of candidates who quit during the hiring process (BGSW Case Study, 2023). Surveys also show that HR professionals using AI can sort resumes quicker, schedule interviews automatically, and give faster feedback to applicants (Industry Report, 2023). However, even with these benefits, there are concerns about AI being biased, not fully transparent, and possibly misusing personal data—so companies still need people involved to make sure everything stays fair (Fernandez & Gallardo-Gallardo, 2021).

These findings match what researchers and industry experts have said about AI's role in hiring. Studies show that AI helps HR teams save time by doing repetitive tasks, while also using data to predict which candidates are a better fit (Zheng et al., 2020). The BGSW case and other examples support this idea, showing how AI can improve how quickly and effectively in the recruitment process. But researchers also warn that if AI isn't monitored carefully, it can make un-fair decisions or violate privacy rules (Deloitte, 2022; IBM, 2021). This means HR teams need to be careful and stay involved when using AI tools.

Also, AI tools - chatbots help companies maintain engagement with candidates by giving quick response and updates. This makes candidates feel more informed and valued. With AI helping to screen more people and improve communication, HR teams can focus on making better hiring decisions. These improvements not only make the process smoother but also help companies build a stronger image as an employer (Industry Report, 2023).

In conclusion, this study supports what earlier research has said: AI can make hiring faster, more accurate, and more engaging. But it also adds that companies must use AI responsibly. To get the most value, they need to mix smart technology with human judgment. When done right, AI can help businesses hire better people, faster, and more fairly.

2. Summary of Key Findings for AI applications in KPI Management

The findings from the MIT Sloan Management Review (MIT SMR) global survey highlight a critical gap between managerial awareness of the need to enhance key performance indicators (KPIs) and their actual adoption of artificial intelligence (AI) in KPI development. While 60% of managers recognize the necessity of improving KPI frameworks, only 34% actively integrate AI into the process. However, among AI adopters, 90% report significant improvements in KPI effectiveness. Additionally, organizations leveraging AI-driven KPIs exhibit tangible business benefits, including increased efficiency (54% vs. 20% for non-AI users), more precise performance measurements (46% vs. 12%), enhanced timeliness in data collection (43% vs. 13%), and greater financial gains (33% vs. 8%). These findings underscore AI's role in transforming performance evaluation, supporting HRM strategies, and driving competitive advantage (Schrage et al., 2024).

These results closely align with the key arguments presented in the literature regarding AI's role in KPI assessment and talent management. Prior research emphasizes AI's ability to establish relationships between operational drivers and contextual variables, ultimately refining or creating new KPIs to enhance performance measurement (Schrage et al., 2024). The survey results provide empirical support for this claim, as AI-enabled organizations report superior measurement precision and strategic alignment. Furthermore, the literature highlights AI's capability to uncover hidden performance patterns and identify interdependencies among business drivers, enabling more informed decision-making. This theoretical perspective is validated by the survey findings, which demonstrate that AI adoption improves efficiency and measurement accuracy, reinforcing AI's strategic value in HR management.

Additionally, research suggests that AI-powered systems - including chatbots and automated performance management tools - enhance HR processes by delivering real-time feedback, monitoring individual performance, and streamlining administrative functions (Thangavel et al., 2024). The survey findings align with this assertion, illustrating that AI-driven KPIs contribute to greater efficiency and timely evaluations, reinforcing the role of AI as an indispensable tool for performance management. Moreover, the financial benefits observed among AI adopters further substantiate claims that AI optimizes resource allocation and enhances profitability.

In conclusion, the survey results not only corroborate but also extend the literature's discussion on AI's transformative impact on KPI assessment and talent management. By demonstrating the quantifiable benefits of AI-driven KPI frameworks, the findings emphasize the growing necessity for businesses to integrate AI into their performance measurement strategies. As organizations continue to leverage AI for KPI enhancement, they stand to gain deeper insights into employee performance, improve strategic decision-making, and drive overall business competitiveness.

3. Summary of Key Findings for AI applications in Employee Career Development, Retention, Compensation, and Benefits

Building on the success of FPT in AI applications, the company achieved the result of increasing 30% productivity with more than 4,500 innovations in 2023. The application of AI technology has brought career development opportunities to FPT employees, encouraged employees to demonstrate their abilities, the average salary level at FPT accurately reflects employee capability and is more competitive to the market. As a result, FPT had an annual growth rate of 25% thanks to employee contribution and reduced the lowest employee attrition rate at 12% in the same industry (Nguyen, 2023)

As technology is increasingly developing, the performance of AI applications in management, particularly in training development and talent retention have become indispensable. AI appliances help companies not only enhance human resource quality, but also optimize working productivity in the current competitive environment. By understanding its employees, the company has made adjustments to its Human Resources Policies and strategies for developing and retaining talent *(Tran & Le, 2023)*

In conclusion, the results from the application of AI in Human Management show that AI plays an important role in Human Resource Management. A company that wants to survive and develop in the technology era cannot ignore Artificial Intelligence as a powerful support tool *(Tran & Le, 2023).* The combination of quantitative analysis

(digital data, statistics) and qualitative assessment *(employee experience, emotions, feedback)* helps companies make the right decisions and reduce turnover rate to optimize recruitment expenses, personalize training development to improve work performance and create motivation for employees (Pham, 2023). Beyond that, a combination of AI and humans is needed to ensure fairness, transparency, and connection in the working environment *(Hoang, 2023).*

Limitations of this study

While this study provides valuable insights into the impact of AI on Human Resource Management (HRM), it has several limitations. First, the research is primarily based on existing literature, case studies, and secondary data, which may not fully capture the most recent developments or practical challenges in different industries. Second, the application and effectiveness of AI in HRM can vary greatly depending on the company size, industry type, and technological readiness—factors that were not deeply explored in this study. Third, the research focuses mainly on successful use cases, such as those from large corporations like FPT and Bosch, which may not reflect the experience of smaller or less tech-savvy organizations. Finally, due to the fast-evolving nature of AI technologies and limited access to proprietary data, some findings may become outdated or lack generalizability over time. These limitations suggest that future research should include more diverse case studies, real-time data, and perspectives from employees to offer a more comprehensive understanding of AI's role in HR.

Future research directions

Future research should explore a broader range of industries and organizational sizes to better understand how AI adoption in HRM varies across different contexts. While this study focuses on large and tech-forward companies, future studies could examine how small and medium-sized enterprises (SMEs) implement and benefit from AI, especially those with limited resources or digital infrastructure. Additionally, research should include employee perspectives to assess how AI affects trust, job satisfaction, and engagement. More longitudinal studies are also needed to evaluate the long-term impact of AI on HR performance, workforce development, and company culture. As AI technologies continue to evolve rapidly, future studies should examine ethical concerns, data privacy issues, and regulatory implications in greater depth. Finally, experimental or pilot-based research can help test the effectiveness of specific AI tools in real-world HR settings, offering practical insights for companies considering AI integration.

Reference

1. Deloitte. (2023). AI in HR: The future of talent acquisition and management. *Deloitte Insights*. https://www2.deloitte.com/
2. IBM. (2022). The role of AI in modern HR: From recruitment to employee engagement. *IBM Research*. https://www.ibm.com/research
3. SmartRecruiters. (2025). AI at SmartRecruiters: Software for superhuman hiring (2nd ed.). *SmartRecruiters*.
4. Vrontis, D., Thrassou, A., & Shams, S. M. R. **(2021).** Artificial intelligence in business and management: The importance of human–AI synergy. *Journal of Business Research*, *128*, 369–376. https://doi.org/10.1016/j.jbusres.2021.02.042
5. Schrage, M., Kiron, D., Candelon, F., Khodabandeh, S., & Chu, M. (2024, February 12). *The Future of Strategic Measurement: Enhancing KPIs With AI*. MIT Sloan Management review. Retrieved March 14, 2025, from https://sloanreview.mit.edu/projects/the-future-of-strategic-measurement-enhancing-kpis-with-ai/
6. Staton, B. (2024, November 7). *Employers look to AI tools to plug skills gap and retain staff*. Financial Times. https://www.ft.com/content/9cf58a76-5245-4cdf-9449-239e90077eb5
7. Thangavel, S., Velayudhan, V., & Poduval, K. (2024, March). ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE: THE KEY TO SUCCESSFUL RECRUITING AND PERFORMANCE MANAGEMENT. *ShodhKosh Journal of Visual and Performing Arts*, *5*(3). 10.29121/shodhkosh.v5.i3.2024.1351
8. Michal Sebastian Banka (2025). Completing dried coconut value chain of Vietnam towards sustainable development goals. Journal of life style and SDG reviews, Vol. 5, No. 1., e03321, 1-14.
9. Anh, DBH. (2018) CSR Policy Change – Case of International Corporations in Vietnam. Polish journal of management studies. Vol 18, No 1, 403-417.
10. Trang, TTT. (2022) Sustainable Development of Higher Education Institutions in Developing Countries: Comparative Analysis of Poland and Vietnam. Contemporary Economics, Vol. 16, No 2, 195-210.
11. Tien, NH. (2019) Corporate Financial Performance due to Sustainable Development in Vietnam. Corporate social responsibility and environmental management, Vol. 27, No. 2, 694-705.
12. Tien, NH. (2023) Impact of Natural Resources Extraction and Energy Consumption on the Environmental Sustainability in ASEAN Countries. Resources policy, 85, 103713.
13. Massoud, M. (2023) Impact of non-renewable energy and natural resources on economic recovery: Empirical evidence from selected developing economies. Resources policy, 80, 103221.
14. Ka, YC. (2022) Exploration of Green Energy and Consumption Impact on Sustainability of Natural Resources: Empirical Evidence from G7 Countries. Renewable energy, 196 (August 2022), 1241-1249
15. Zheng Zhou, Ka Yin Chau, Amena Sibghatullah, Massoud Moslehpour, Khajimuratov Nizomjon Shukurullaevich (2024). The role of green finance, environmental benefits, fintech development,

and natural resource management in advancing sustainability. Resources policy, 92, 105013.
16. Dezhi Pang, Xin Jin, Kengcheng Zheng (2024). A Road towards Green Growth: Optimizing the role of Mineral Resources, Fintech Innovation and Effective Governance in G-20 Economies**.** Resources policy, 92, 104983.
17. beqom. (n.d.). *The power of AI for compensation management: How it can improve employee retention and productivity*. Retrieved from https://www.beqom.com/blog/the-power-of-ai-for-compensation-management-how-it-can-improve-employee-retention-and-productivity
18. Interviewer.AI. (n.d.). *Interviewer AI & AIA Vietnam: Revolutionizing hiring practices with AI*. Retrieved from https://interviewer.ai/interviewer-ai-aia-vietnam-revolutionizing-hiring-practices-ai/
19. Chen, J., Li, X., & Zhang, Y. (2022). AI in payroll optimization: Predictive salary modeling using machine learning. *Journal of Business Analytics, 8*(2), 112-128.
20. Ganesan, P., Kumar, R., & Lee, S. (2023). Employee well-being analytics: AI-driven approaches for workplace health. *HR Technology Review, 15*(3), 145-160.
21. Nguyen, T., & Tran, H. (2022). AI-driven employee retention strategies: Predicting turnover and enhancing engagement. *International Journal of Human Resource Studies, 12*(1), 95-110.
22. Sharma, V., & Kumar, A. (2021). AI in fraud detection: Enhancing payroll security with machine learning. *Finance and Technology Review*, *10*(4), 210-225.
23. Wang, M., Li, H., & Zhao, X. (2021). Personalized wellness recommendations through AI-driven analytics. *Journal of Workplace Health, 7*(2), 78-92.
24. Zhou, Y., Chen, L., & Wang, T. (2020). AI-powered payroll auditing: Detecting anomalies using machine learning algorithms. *Computational Finance Journal, 14*(3), 180-196.
25. FPT AI (2024). *AI-powered employee learning solutions*. Retrieved from https://fpt.ai
26. FPT Digital (2024). *AI-driven talent management and retention strategies*. Retrieved from https://digital.fpt.com
27. FPT IS (2024). *Automation in HR management with AI*. Retrieved from https://fpt-is.com
28. VNExpress (2024). *FPT's AI applications in HR and compensation management*. Retrieved from https://vnexpress.net
29. Nguyen, T. (2023). *AI Applications in Human Resource Development: A Case Study of FPT Corporation.* Vietnam HR Journal.
30. Nguyen, T. (2023). *Employee Satisfaction and Workplace Culture at FPT Corporation.* Vietnam HR Journal.
31. Tran, M., & Le, H. (2023). *The Role of AI in Talent Retention and HR Tech Advancements.* Journal of Business Innovation.
32. Pham, D. (2023). *Data-Driven HR Strategies: The Impact of AI on Employee Satisfaction and Productivity.* Tech Insights Review.