The Role of AI Integration in Talent Management and Employee Performance in the Hospitality Sector

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Abstract
This study explores the integration of Artificial Intelligence (AI) in talent management and its impact on employee performance within the hospitality sector. AI is increasingly utilized in recruitment, employee development, and performance management, promising enhanced efficiency and reduced biases. The background of this study emphasizes the growing need for AI-driven solutions in managing human resources, particularly in regions facing talent shortages, such as South Punjab. The research adopts a positive paradigm and employs a survey technique, using structured questionnaires to collect data from 219 respondents. Convenience sampling was utilized due to the difficulty of covering the entire population. Data analysis was performed using SPSS 25 and AMOS. The results show strong positive correlations between AI acquisition, talent management, and employee performance, confirming that AI significantly enhances these areas. However, limitations include the regional focus of the study, the use of convenience sampling, and the cross-sectional design, which may limit the generalizability and long-term insights of the findings. Future research should expand to other regions and industries, explore longitudinal impacts, and consider the potential negative consequences of AI integration, such as job displacement and technostress. The study has practical implications for hospitality organizations, recommending that they invest in AI technologies while addressing ethical concerns and maintaining a balance between AI-driven efficiency and human-centered management practices.

Keywords: Artificial Intelligence, Talent Management, Employee Performance, Hospitality Sector, Recruitment, Performance Management, AI Integration, Human Resources,

Introduction
Artificial Intelligence (AI) in talent management has gained significant attention from both academicians and practitioners. In the hospitality setting, AI has gained significant traction for complementing strategic human resource management functions. By delving into AI in talent management, the future of workforce management becomes profoundly interesting. Efficiency is increased through the rapid processing of voluminous data points, employee performance is improved by making data actionable, and employee engagement is sustained by consolidating the human touch with data-driven decisions. AI in talent management can be revolutionized in ways by which HRM practices are organized and implemented. (Budhwar et al.2023)

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AI is an evolving innovation spearheading many modern organizational practices. Intelligence is applied to management processes by mining large volumes of data, thereby transforming raw data into actionable insights. This information is then networked with various management systems to improve operational efficiency and create greater frontiers of strategic competency. Incidentally, as with all technologies, AI will have its uncharted territories and challenges. This comes in the form of ethical implications on privacy, automation of unique and creative elements of the human touch, and the dependence of employees on feedback from technology instead of experts. Anticipating these challenges and implications presents an opportunity for existing or aspiring HR professionals who believe innovation in HR reflects the values of efficient employee attraction and retention. The future of digitalizing talent management in the hospitality sector has spurred greater interest as the demand for talent surges, especially with the gig economy trend. The talent management strategy for organizations can no longer be based solely on the years and types of experiences accumulated by employees. In the Asia Pacific region, the talent shortage is adversely affecting how business is managed, especially in the chain hotel segment. The need to identify the specific HRM practices that can engage and retain employees is an ongoing challenge for the international hospitality players in an effort to win the hearts of their guests. The focus of this paper is an investigation into the application of AI in the talent management nexus and its consequent influence on the employee performance within the hospitality sector. (Chowdhury et al.2023). In any industry, AI helps boost employee acquisition and performance. Recruitment is another business process that has been widely taken over by AI, with the goal of automating tasks within talent acquisition, for example, resume screening, candidate assessment and even interview scheduling to make the recruitment process more efficient. It results in better accuracy and reduces biases in candidate selection and also holds the potential for the improvement of organizational performance (Yadav et al., 2023). This also uses AI for performance management systems to provide real time feedback that promotes employee development continuously and increases the productivity of the whole company (Mittal et al., 2023). There is research that indicates that using AI leads to more engaging and productive workforce through AI's personalized development plans and unbiased assessments (Rožman et al., 2022). The more organizations integrate AI, the more they see the efficiency and performance of the recruitment process and employee performance improving across the board resulting in overall business success.

Literature review

The integration of artificial intelligence (AI) into talent management and employee performance has become increasingly significant as organizations seek to enhance efficiency and competitiveness. This literature review explores the impact of AI in these areas, providing insights from various studies.

Impact on Talent Management

In talent management, AI is utilized to enhance the processes engaged in hiring, training and retaining employees. According to the research, AI strengthens capacity to find and draw the highest level of talent and aids in constructing and shaping training and development programs corresponding to unique requirements. According to Rožman et al. (2022), AI supported talent acquisition and development generates a positive impact of employee engagement and organizational performance (Rožman, Oreski, & Tominc, 2022). Moreover, the use of AI in performance management systems facilitates more real time, data driven feedback, and it enables organizations to hold on to the most valuable employees (Buck & Morrow, 2018) (Buck & Morrow, 2018). Additionally, AI enables organizations to create flexible work environments that promote creativity and innovation while helping reduce technostress and alleviate employee

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concerns about job insecurity. In addition to both the positive and negative effects of AI on employee, Malik et al. (2021) points out that it results in work related stress, job insecurity; and also increased autonomy and productivity (Malik et al., 2021).

Impact on Employee Performance
The impact of AI on employee performance is remarkable and can be seen in job satisfaction, psychological empowerment, and general productivity. Fan et al. (2023) found out that the effect of AI on employees' psychological empowerment has the positive implication of improving employees' work activities and performance through reducing work-related stress and enhancing job satisfaction (Fan et al., 2023). In the same context, AI feedback systems help in encouraging evaluators to provide more focused and relevant information with the aim of attaining higher performance from the evaluated employees (Tong et al., 2021) However, employee attitudes toward AI can also affect their performance. Positive attitudes toward AI are linked to better task and contextual performance, whereas negative attitudes can lead to counterproductive behaviors (Taşgit et al., 2023; Taşgit et al., 2023).

Theoretical Framework
In many ways, the contribution of AI in the hospitality business is far-reaching especially in areas of talent management and performance of employees. AI technologies help recruit, train and evaluate the performance of employees enhancing efficiency in business operations. It is suggested by the Resource Based View (RBV) that competitive advantage accrues to organizations based on how effectively they leverage valuable, rare, and inimitable resources. AI is one such resource that assists with the ease of recruitment, training of employees, and the retention of talent. Furthermore, Human Capital Theory claims that the performance even of the entire organization is determined by the personnel skills, knowledge, and abilities. This allows employees to make better decisions, reduce the amount of work required of them, and increase service levels, all performance enhancing assets. The acquisition of AI serves both talent management and the performance of employees through skills and resource provision in the hospitality industry.

Hypotheses:
1. AI integration significantly impacts Talent management of employees in hospitality sector.
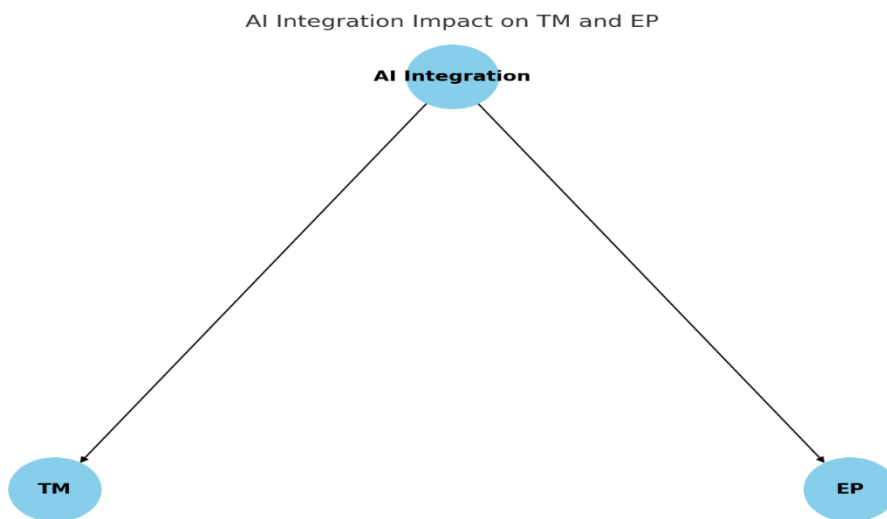2. AI integration significantly impacts employee performance in hospitality sector.

AI Integration Impact on TM and EP

Figure 1: research Model

Methodology
This study has adopted positive paradigm. Furthermore, the study is empirical in nature and have used survey technique to collect the data. Furthermore, to conduct the survey, structured questionnaires are used that are adapted from previous studies. Sampling techniques for the subjected study is convenient sampling as the data has been collected from South Punjab, Multan and due to the larger population, it was difficult to collect the data from the whole population. Hence, on the basis of convenience of the researcher, convenience sampling technique was used. The total sample size for the study is 219. The study is cross sectional in nature and data has been collected at one point of time.

Instruments
The questionnaire consists of three variables: AI acquisition, talent management, and employee performance, each measured using a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The AI acquisition section includes items addressing decision-making, task automation, and cost reduction (Ruel & Njoku, 2020). Talent management focuses on recruitment, employee development, and retention, reflecting AI's role in enhancing HR practices (Pillai & Sivathanu, 2020). Employee performance measures include efficiency, productivity monitoring, and feedback systems (Kong et al., 2021).

Data Analysis
The data presents demographic details of respondents, focusing on gender, age, education, and work experience. The majority (75.3%) are male, and most respondents (43.8%) fall between 23 to 28 years of age. A significant portion (58.9%) hold a graduate degree, with 42% having 5 to 10 years of work experience. Respondents with more than 15 years of experience constitute only 4.6%. Female participation is relatively low at 24.7%. Reliability analysis has been performed and it has been found that all the variables AI acquisition, Team management and employee performance are reliable and comes between the range of (0.7 to 0.9). CFA analysis has been conducted by the researcher and discriminant validity has been performed, the table shows that the result of three factor/full factor model is (ATA-TM-EP) (x^2=335.878, df=91,CFA=.871,GFI=.792,NFI=.963 and RMSEA=.031) is better than 2 factor model (AIA-TM) (x^2=379.543, df=86,CFA=.726,GFI=.735,NFI=.798 and RMSEA=.144) and (AIA-TM) (x^2=453.477, df=81, CFA=.767,GFI=.705,NFI=.602 and RMSEA=.060).

The table 4 presents correlation values between AI acquisition (AIA), team management (TM), and employee performance (EP). A strong positive correlation is observed between AI acquisition and team management (r = .878**), as well as between AI acquisition and employee performance (r = .893**). Similarly, team management and employee performance also show a high correlation (r = .893**). The mean values for AIA, TM, and EP are approximately 3.01, while their standard deviations are around .82 to .87, indicating moderate variability in the data. Linear regression has been performed to evaluate the influence of AI acquisition (AIA) on team management (TM) and employee performance (EP) by using SPSS 25. Findings shows that there is significant and positive association between AIA and TM (B=0.879, P=0.000) so hypotheses H1 has been proved. Furthermore, it has been found that the association between AIA and EP is positive and significant with B-0.941 and P=0.00 consequently hypotheses H2 has been proved.

Table 1: Demographics

	Factors	Frequency	Frequency %
Gender	Male Respondents	165	75.3%
	Female respondents	54	24.7%
Age	Less than 22	19	8.7%
	23 to 28	96	43.8%
	29 to 33	95	43.4%
	Above 33	9	4.1%
Education	Less than graduate	1	5%
	Graduate	129	58.9%
	Post graduate	89	40.6%
Working experience	Less than 5 years	29	13.2%
	5 to 10 years	92	42%
	10 to 15 years	88	40.2%
	More than 15 years	10	4.6%

N= 219

Table 2: Reliability analysis

Variables	N	No of items	Cronbach Alpha
AIA	219	5	0.824
TM	219	5	0.801
EP	219	5	0.700

Table 3 : Confirmatory factor analysis

Models	$\chi2$	Df	$\chi2$/Df	CFI	NFI	GFI	TLI	RMR	RMSEA

AIA-TM-EP (3Factor Model)	335.878	91	3.6909	.871	.963	.792	.747	.037	.031
	379.543	86	4.4132	.726	.798	.735	.623	.026	.144
AIA-TM (2 factor)									
AI-EP- (2 factor)	453.477	81	5.598	.767	.602	.705	.684	.029	.060
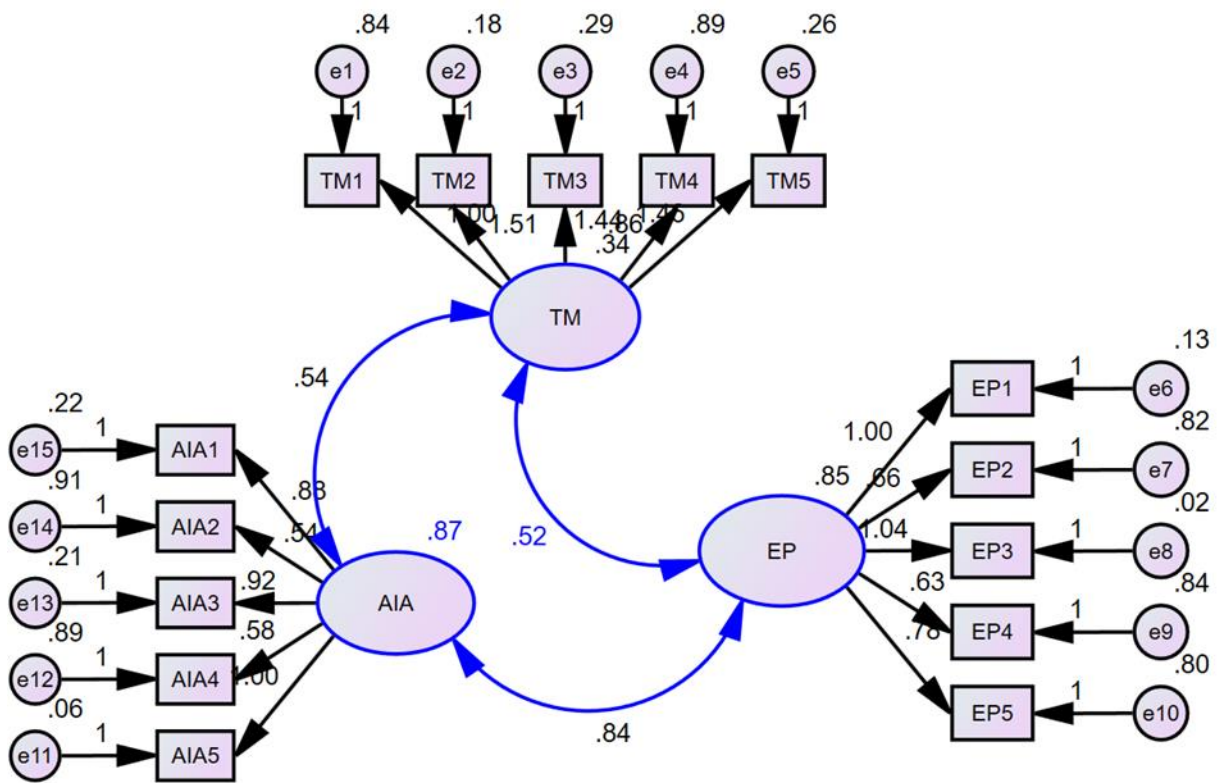
Figure 2: Full Factor analysis

Table 4: Correlation

	AI	TM	EP	Mean	SD
AI acquisition (AIA)	1			3.0119	.82554
Team management (TM)	.878[**]	1		3.0155	.82592
Employee performance (EP)	.893[**]	.893[**]	1	3.0539	.86958

Table 5 : Regression

Variable	Team management (TM)		Employee performance	
	Beta	P -value	Beta	P-value
AI acquisition (AIA)	0 .879	0.00	0.941	0.00

Results and Discussion
The integration of AI into talent management and employee performance within the hospitality sector is transformative. AI-driven tools have improved recruitment, training, and employee development, leading to more efficient HR practices (Rožman et al., 2022). AI's ability to automate tasks such as resume screening and candidate assessment has streamlined the hiring process, reduced biases, and increased the accuracy of talent acquisition (Yadav et al., 2023). Furthermore, AI provides real-time feedback, promoting employee development and enhancing productivity (Mittal et al., 2023). Studies show that AI contributes to a more engaged workforce, reducing work-related stress and improving job satisfaction (Fan et al., 2023). Positive employee attitudes toward AI are linked to better performance outcomes, while negative attitudes can have the opposite effect (Taşgit et al., 2023). Overall, the integration of AI in the hospitality sector significantly enhances both talent management and employee performance, resulting in improved organizational success.

Conclusion
The study demonstrates that AI integration in talent management and employee performance within the hospitality sector has a profound impact on enhancing organizational outcomes. AI significantly improves recruitment, training, and performance management processes, resulting in higher employee engagement, productivity, and retention. The research findings indicate a strong positive correlation between AI acquisition and both team management and employee performance, validating the hypotheses that AI integration positively influences these areas.

Implications
The integration of AI in HR processes implies a shift towards more data-driven, efficient, and objective talent management strategies. Organizations can leverage AI to improve recruitment accuracy, streamline performance management, and provide real-time feedback. The potential ethical concerns, such as privacy issues and employee dependence on technology, need to be carefully addressed. Moreover, the findings highlight the necessity of creating an organizational culture that embraces AI while alleviating concerns related to job insecurity and technostress.

Recommendations

Hospitality organizations should continue investing in AI tools to optimize their HR practices, ensuring that AI integration is both effective and ethically sound. Providing training on AI systems for employees and fostering a transparent communication environment regarding AI usage will help ease concerns and increase acceptance. Additionally, a balanced approach that combines AI-driven efficiency with human-centered management practices is crucial for maintaining the creative and empathetic aspects of talent management.

Limitations

One of the limitations of this study is that it relies on data collected from a specific region, South Punjab, which may not fully represent the broader hospitality sector. This regional focus limits the generalizability of the findings to other areas or countries. Additionally, the use of convenience sampling may introduce bias, as the sample may not accurately reflect the diversity of the larger population. Another limitation is the cross-sectional nature of the study, which only captures data at a single point in time. This approach does not account for changes over time or the long-term effects of AI integration on talent management and employee performance. Moreover, the study primarily focuses on the positive impacts of AI, leaving potential negative consequences, such as job displacement or over-reliance on technology, less explored.

References

Buck, B., & Morrow, J. (2018). *AI, performance management and engagement: Keeping your best their best*. Strategic HR Review.

Fan, X., Zhao, S., Zhang, X., & Meng, L. (2023). *The impact of improving employee psychological empowerment and job performance based on deep learning and artificial intelligence*. Journal of Organizational End User Computing, 35(1), 1-14.

Malik, N., Tripathi, S. N., Kar, A., & Gupta, S. (2021). *Impact of artificial intelligence on employees working in industry 4.0 led organizations*. International Journal of Manpower.

Rožman, M., Oreski, D., & Tominc, P. (2022). *Integrating artificial intelligence into a talent management model to increase the work engagement and performance of enterprises*. Frontiers in Psychology, 13.

Taşgit, Y. E., Baykal, Y., Aydın, U. C., & Yakupoğlu, A. (2023). *Do employees' artificial intelligence attitudes affect individual business performance?* Journal of Organisational Studies and Innovation.

Tong, S., Jia, N., Luo, X., & Fang, Z. (2021). *The Janus face of artificial intelligence feedback: Deployment versus disclosure effects on employee performance*. Strategic Management Journal.

Mittal, P., Jora, R. B., Sodhi, K. K., & Saxena, P. (2023). A review of the role of artificial intelligence in employee engagement. *2023 9th International Conference on Advanced Computing and Communication Systems (ICACCS)*, 2502-2506.

Rožman, M., Oreski, D., & Tominc, P. (2022). Integrating artificial intelligence into a talent management model to increase the work engagement and performance of enterprises. *Frontiers in Psychology*, 13.

Yadav, P., Kollimath, U. S., Chavan, T. V., Pisal, D., Giramkar, S., & Swamy, S. M. (2023). Impact of artificial intelligence (AI) in talent acquisition process: A study with reference

to IT industry. *2023 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE)*, 885-889

Budhwar, P., Chowdhury, S., Wood, G., Aguinis, H., Bamber, G. J., Beltran, J. R., ... & Varma, A. (2023). Human resource management in the age of generative artificial intelligence: Perspectives and research directions on ChatGPT. Human Resource Management Journal, 33(3), 606-659.

Chowdhury, S., Dey, P., Joel-Edgar, S., Bhattacharya, S., Rodriguez-Espindola, O., Abadie, A., & Truong, L. (2023). Unlocking the value of artificial intelligence in human resource management through AI capability framework. Human resource management review, 33(1), 100899.

Arslan, A., Cooper, C., Khan, Z., Golgeci, I., & Ali, I. (2022). Artificial intelligence and human workers interaction at team level: a conceptual assessment of the challenges and potential HRM strategies. International Journal of Manpower, 43(1), 75-88

Garg, S., Sinha, S., Kar, A. K., & Mani, M. (2022). A review of machine learning applications in human resource management. International Journal of Productivity and Performance Management, 71(5), 1590-1610.

Abdeldayem, M. M., & Aldulaimi, S. H. (2020). Trends and opportunities of artificial intelligence in human resource management: Aspirations for public sector in Bahrain. International journal of scientific and technology research, 9(1), 3867-3871.

Ruel, H., & Njoku, E. (2020). AI redefining the hospitality industry.

Pillai, R., & Sivathanu, B. (2020). Adoption of AI for talent acquisition in IT/ITeS organizations.

Kong, H., Yuan, Y., Baruch, Y., Bu, N., Jiang, X., & Wang, K. (2021). Influences of AI awareness on career competency and job burnout.