International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

Preparing HR managers for Data driven decision making

Gururaj S N
Research Scholar, BUB, ABBS Research Centre
Dr. Jayanthi R
Professor,
BUB, ABBS Research Centre, Acharya Bangalore B School

***Abstract*- The study aims to evaluate the preparedness of Human Resource (HR) managers for data-driven decision-making by analysing the impact of data literacy, organisational support, and the adoption of HR analytics technologies on the efficacy of decision-making. This paper examines how HR managers may successfully incorporate data insights into strategic and operational activities, acknowledging the growing significance of analytics and artificial intelligence in human resource management. A quantitative study approach was used, using data gathered from 384 HR experts across public, private, multinational, start-up, and non-governmental organisations. A structured questionnaire with a 5-point Likert scale assessed four constructs: data literacy among HR managers, organisational support, the adoption of HR analytics technologies, and the efficacy of data-driven decision-making. Statistical studies were performed with SPSS and AMOS, including descriptive statistics, correlation, regression, and structural equation modelling to investigate the connections among the variables. The findings indicated substantial positive correlations across all variables, showing that HR managers with enhanced data literacy, more organisational support, and broader use of analytics technologies had superior decision-making skills. The results indicate that data literacy immediately improves analytical proficiency, organisational support creates a conducive climate for analytics integration, and advanced tools boost predicted precision and operational performance. The study indicates that fostering data literacy and technological adaptation in HR professionals, supported by a culture of evidence-based decision-making, is crucial for organisational flexibility and sustained performance. It underscores that preparing HR managers for data-driven decision-making is not only a technical adjustment but a strategic transformation that establishes HR as an essential collaborator in attaining enduring organisational performance and competitiveness.**

Keywords: **Data-driven HR, Decision-making, HR analytics, Organizational support, Technology adoption, Workforce analytics.**

I. INTRODUCTION

Human resource management is a comprehensive, integrated, and strategic approach for the employment, well-being, and advancement of personnel in the workplace(Salehzadeh et al., 2024). The primary aim of human resource management is to ensure organisational success through its people. To compete with the rapidly evolving landscape of globalisation and technical and scientific advancements, organisations and governments must adopt a proactive approach to attract, select, motivate, develop, and retain suitable workers(Shi & Lai, 2023)(Salehzadeh & Ziaeian, 2024). Consequently, efficient decision-making in human resource management is a primary factor contributing to enhanced organisational efficacy. Human resource managers are crucial in developing and carrying out organisational strategies regarding personnel-related matters, including talent management, employee training and development, performance evaluation, and compensation and benefits(Anlesinya et al., 2019). From this perspective, the decisions of HR managers directly influence the competitiveness of organisations.

HR managers have emerged as the second most significant individuals in any organisation, following the CEO. The head of HR faces escalating internal and external pressure to achieve outcomes. As people are increasingly acknowledged as a source of competitive advantage, the efficacy of decision-making by human resource managers becomes increasingly vital. Most HRM practices occur in uncertain, confusing settings and rely on diverse approaches and strategies utilising both objective and subjective criteria. Moreover, various qualitative and quantitative parameters impact HRM operations. In unpredictable circumstances, the capacity for effective decision-making is crucial. Decision-making approaches and strategies can enhance and streamline the decision-making process concerning many HRM practices, including performance management, human resource selection, talent acquisition, and retention(Sagawe et al., 2022). The Analytic Hierarchy Process (AHP) is one of the most often utilised decision-making techniques. The

International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

Analytic Hierarchy Process (AHP) is an approach for structuring and evaluating intricate decisions utilising math and psychological principles. Previous research indicates that numerous researchers have employed AHP and fuzzy AHP techniques across diverse fields, including safety management systems, facility location selection, project selection, e-government, Halal Park rating, risk assessment, and service quality evaluation. AHP has been effectively applied in diverse areas of human resource management, including personnel selection, human capital management, green HRM, and employee performance evaluation. This strategy has been selected for its adaptability and superior efficacy in addressing various decision-making challenges.

Organisations are increasingly recognising the significance of data in strategic decision-making, especially in human resource management (HRM). The use of data-driven methodologies enables organisations to improve employee engagement and optimise performance. The study examines how utilising workforce analytics and predictive HR indicators might enhance decision-making in a digital environment(Tuli et al., 2018). Data-driven decision-making involves the systematic application of analytics to inform HR decisions, in contrast to the conventional dependence on perception. Advanced analytics empower organisations to extract insights from comprehensive HR data, forecast trends, and solve workforce difficulties. Effective workforce analytics identifies patterns that influence strategic planning, while predictive measures leverage historical data to anticipate future workforce trends, eventually assisting organisations in mitigating risks and capitalising on opportunities. The growing volume and diversity of data require a strategic framework to effectively leverage the advantages of data-driven HRM.

In the modern workplace, small and medium-sized firms (SMEs) are progressively acknowledging the transformative capabilities of data-driven methodologies, especially in human resource management(Kasali et al., 2025). HR analytics utilises data to inform and improve decision-making related to workforce initiatives, emerging as an essential tool for organisations seeking operational excellence and competitive advantage. Small and medium-sized enterprises (SMEs) are dynamic commercial organisations characterised by a workforce of less than 500 people, constrained resources, and an emphasis on fostering significant economic growth and innovation through agility, tailored customer service, a localised market orientation, and a flexible organisational structure. For these organisations, the proficient application of HR analytics can yield significant advantages that enhance talent acquisition, staff retention, and overall productivity. Small and medium-sized enterprises (SMEs) are essential to the global economy play a crucial role in employment generation and innovation. They often face distinct obstacles that impede their development, including inadequate financial and human resources, restricted access to advanced technologies, and a deficiency in data analytic expertise. Confronting these challenges is essential, as equipping SMEs with sophisticated HR analytics can stimulate economic growth and innovation, bolster the competitiveness of smaller enterprises, refine workforce development and retention strategies, and correspond with the rising integration of AI and data-driven technologies in the HR sector.

The integration of analytics into Human Resources Management (HRM) procedures presents significant potential, especially through the utilisation of Human Resources Analytics (HRA). Human Resource Analytics (HRA) entails employing descriptive, visual, and statistical analyses of data pertinent to HR processes, human capital, and organisational performance to facilitate data-driven decision-making(Hülter et al., 2024). Advancements in technology enable HR practitioners to enhance their worth in rivalry with finance and data science industries while supporting diverse HR functions. In recruitment, HRA improves speed and efficiency, and in HR development, it positively correlates employee engagement with performance measures. Machine Learning (ML) is set to revolutionise HRM methods by automating decision-making processes across several HR functions(Prikshat et al., 2023). Platforms like as Uber and Delivered illustrate the application of machine learning for functions including employee recruitment and remuneration(Marler & Boudreau, 2017). Furthermore, ML-based HRA solutions can aid organisations in forecasting staff attrition, leading to efficient retention measures that reduce replacement expenses and preserve expertise. However, individual resistance to ML-based HRA presents difficulties, mainly because of the intricacy and interpretability of advanced ML algorithms, which can engender opacity and scepticism. As algorithms develop and produce intricate classifiers that surpass human understanding, concerns regarding "algorithm aversion" and possible manipulation emerge. The effective execution of ML-based HRA significantly depends on convincing

International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

organisational members to use these sophisticated tools.

II. LITERATURE REVIEW

(Sarioguz, 2024)examined "Data-Driven Decision-Making: Transforming Management in the Information Age," delineating DDDM and analysing its progression. It underscores the pivotal significance of data in strategic decision-making, examining essential elements such as data collection, processing, and visualisation. The advantages of Data-Driven Decision Making (DDDM), such as enhanced efficiency and innovation, are emphasised, along with the associated challenges and solutions for its implementation. Case studies from healthcare, retail, manufacturing, and finance illustrate practical applications and success narratives from firms such as Netflix, Amazon, and Walmart. The report forecasts forthcoming trends in data-driven decision-making (DDDM) shaped by technologies such as artificial intelligence (AI) and the Internet of Things (IoT), while also examining ethical concerns pertaining to privacy and responsible data utilisation, and providing guidance for ethical DDDM practices. This extensive guide seeks to aid professionals and organisations in traversing the shifting terrain of DDDM.

(Gade, 2021)explained how important data-driven decision-making is for businesses in today's interconnected world. Leaders may get practical insights and make well-informed choices that support strategic goals by using enormous volumes of data. While big data technologies improve the capacity to handle information at scale for real-time choices, advanced analytical approaches allow firms to discover patterns and anticipate results. This strategy encourages openness and responsibility, necessitating that businesses address ethical concerns about data security and privacy as well as develop data literacy among staff members. In conclusion, companies that use data-driven strategies may become more efficient and establish themselves as creative leaders, which will open up opportunities and promote long-term success.

(Sylvestre, 2024)examined the increasing significance of data-driven decision-making (DDDM) in businesses in considering the difficulties presented by Big Data, defined by its volume, diversity, and velocity. It underscores the transition from intuition-driven to evidence-based methodologies, concentrating on data integrity, analytics integration, and integrating human intuition with data insights. The study examines implementation challenges, including technical, ethical, and organisational constraints, while emphasising advantages such as increased efficiency, better risk management, and creativity. Furthermore, it examines future developments in Data-Driven Decision Making (DDDM), especially the important function of analytics in corporate governance and strategic planning.

(Patil & Priya, 2024)examined the use of Human Resources (HR) data analytics to improve strategic business results, highlighting a deficiency in comprehensive studies about its impact on different elements. It uses a semi-systematic approach to assess literature and formulates a structured survey for quantitative data collection inside the IT industry, analysing the findings using SPSS. Although the potential of HR data analytics to enhance efficiency and inform decisions about strategy, the researchers underscore a lack of evidence about its practical impact on employee retention, engagement, and overall organisational performance. The study examines the dual function of data analytics in enhancing human judgement and underscores the need for further research to maximise its potential, while also acknowledging the technological and ethical problems it poses in HR practices.

Hypothesis development

- **H1: HR managers' data literacy positively influences their data-driven decision-making effectiveness.**

(Okon et al., 2024)investigated the impact of data-driven analytics on Human Resource Management (HRM) to improve decision-making and enhance organisational effectiveness. The paper summarises the optimisation of HR services such as talent acquisition and workforce planning, showing that data analytics improves decision-making accuracy, reduces biases, and enhances forecasting abilities concerning workforce trends. Furthermore, data-driven human resource management enhances employee engagement and connects talent with organisational objectives. The strategic consequences necessitate that HR professionals develop data literacy, address ethical data protection issues, and overcome challenges to analytics implementation. The paper additionally examines future trends, including the impact of artificial intelligence and the transition to data-driven human resources methods.

(Kessi et al., 2025)examined the influence of leadership styles transformational, adaptive, ethical,

International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

and AI-driven on decision-making in human resource management (HRM) through a Systematic Literature Review. It finds that leadership significantly impacts HRM functions, including recruiting and performance management, whereas AI improves efficiency but introduces ethical issues. Challenges include opposition to digital revolution and the necessity for ethical AI governance. The study recommends HR leaders to establish initiatives that enhance AI literacy and ethical governance, while also promoting for additional empirical studies on leadership effectiveness across different industries.

(Wibowo & Anhara, 2025)examined the transformation of human resource management (HRM) into a data-driven profession using Human Resource Analytics (HRA), based on a systematic review of 15 articles. It highlights the advantages of HRA, including enhanced operational efficiency and increased staff recruitment and retention, as well as challenges like as a skills gap, data protection issues, and resistance to change. Current trends in Human Resource Administration encompass the integration of artificial intelligence and cloud-based technology. Recommendations emphasise the necessity of investing in analytics training for HR professionals and the adoption of data protection regulations to improve HR efficacy, offering critical insights for both academics and practitioners regarding the efficient application of HRA.

(Sharma et al., 2025)examined the adoption and impact of HR Analytics and AI in the IT sector, derived from interviews with fifteen HR managers. The results demonstrate that these technologies markedly improve HR functions and decision-making abilities. Effective adoption necessitates that HR professionals possess technological competencies, including data analysis, programming, and analytical reasoning. The interviewees underscored the necessity of correlating HR activities with financial results and aligning them with organisational goals. The paper analyses the challenges faced in the implementation of various technologies and suggests ways for their resolution.

- **H2: Organizational support and adoption of HR analytics tools positively influence HR managers' data-driven decision-making effectiveness.**

(Madhuri & Kumar, 2025)examined the impact of HR analytics and data-driven decision-making (DDDM) on workforce management and organisational performance during digital transformation. It finds that HR analytics markedly enhances data-driven decision-making, hence enhancing employee productivity, retention, and organisational effectiveness. Furthermore, HR analytics exerts an indirect positive influence on worker outcomes through data-driven decision-making (DDDM). The findings underscore the necessity for organisations to incorporate HR analytics and digital technologies to enhance decision-making, talent management, and employee engagement, advocating for investment in advanced analytics and AI to gain a competitive advantage.

(Stankevičiūtė, 2024)investigated the influence of technology and business analytics on human resource management (HRM), particularly through people analytics. This method improves decision-making in workforce management and highlights the strategic significance of HR professionals. Despite the significant potential of people analytics, challenges arise from varying levels of organisational development. A qualitative study involving 12 HR professionals revealed that organisations primarily utilise descriptive analytics centred on HR metrics for workforce planning and compensation, whereas recruitment, training, and development are more dependent on HR intuition. The results suggest for increased dependence on people analytics to enhance human resource management and address related issues.

(International, 2025)investigated Data-driven Human Resource Management (DDHRM), which utilises data and analytics to enhance human resource management. DDHRM differs from traditional methods by employing data from employee surveys, performance indicators, turnover rates, and labour market trends to analyse workforce dynamics, identify trends, and improve HR procedures. This strategy facilitates informed strategic decision-making and enhances efficiency. Effective DDHRM necessitates the integration of data across HR functions and the establishment of defined objectives for strong analytics, with instruments like as people analytics, predictive analytics, and workforce analytics being essential for producing actionable insights.

(Younus Hamraaia, 2024)examined the integration of employee engagement techniques with analytics in human resource practices to improve organisational effectiveness. It underscores the need of employing data-driven insights to enhance workforce engagement and performance. The study clarifies the relationship between employee engagement and HR analytics, detailing that advanced methods like as predictive

International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

modelling and sentiment analysis can yield significant insights into employee behaviours. It also examines practical implications for HR professionals, implementation challenges, and strategies for promoting data-driven decision-making. The study concludes that this integration might enhance employee experiences and promote sustained organisational success.

(Ravesangar & Narayanan, 2024)examined the rising importance of HR analytics in improving employee retention and facilitating informed HR decision-making. It indicates that organisations use analytics to comprehend worker dynamics and enhance employee engagement measures, including retention rates, recruiting, and job happiness. The report highlights the difficulties in executing data analytics in HR and analyses its function in formulating successful talent management strategies. A thorough examination of academic literature reveals that HR analytics plays a crucial role in enhancing employee retention inside organisations.

Research gap

Despite the assessment of current literature indicates that many studies have highlighted the increasing importance of data-driven decision-making (DDDM) and human resource analytics (HRA) in improving organisational performance, some significant research gaps remain. Most previous studies have emphasised the theoretical benefits of using analytics in HR, concentrating on descriptive or diagnostic analytics, while providing few empirical evidence of its practical influence on decision-making efficacy across various organisational settings. Moreover, while the significance of HR managers' data literacy and technology adoption has been recognised, there is a lack of investigation into how these elements interact with organisational support systems to affect the efficacy of data-driven HR choices. The research cites enduring obstacles, including reluctance to change, insufficient analytical capabilities, and ethical concerns over data protection, and poor integration of analytics into strategic HR operations. Moreover, despite the transformative impact of sophisticated technologies such as artificial intelligence and predictive analytics on HR practices, empirical research examining their practical use and efficacy across many sectors is limited. A significant lack of comprehensive models connecting data literacy, organisational culture, and technology adoption to decision-making results is evident. This gap highlights the necessity for empirical research assessing how HR managers' analytical skills, bolstered by organisational resources and technological infrastructure, collectively enhance effective data-driven decision-making, yielding actionable insights for both academia and industry practitioners.

Objectives

1. To examine the impact of HR managers' data literacy on their ability to make informed, data-driven decisions.
2. To assess the role of organizational support and technology adoption in enhancing HR managers' data-driven decision-making effectiveness.

III. METHODOLOGY

This study utilized a quantitative methodology to examine the HR managers for being prepared for Data driven decision making, and to assess their readiness, competencies, and attitude towards adopting analytical approaches in human resource management. A total sample of 384 HR Managers and professionals working in various public and private sectors organizations. Data were collected via a structured questionnaire featuring 5-point Likert scale items, encompassing four primary constructs: HR managers' data literacy, Organizational support, Adoption of HR analytics tools, Data-driven decision-making effectiveness, the analysis used SPSS and AMOS as key tools, utilizing appropriate statistical approaches such as descriptive statistics, correlation, regression, and structural equation modelling to investigate the relationships among the study variables.

IV. RESULTS

Conceptual frame work

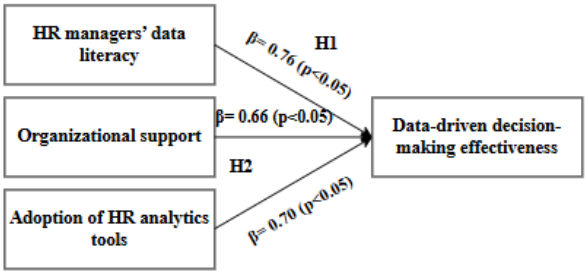


Figure 1 Conceptual frame work

The conceptual framework defines the relationship among HR managers' data literacy, organisational support, and the use of HR analytics tools to influence the effectiveness of data-driven decision-making. It

International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

proposes that HR managers' capacity to understand, analyse, and use data is essential for improving evidence-based decision-making. Organisational support, encompassing training, resources, and a data-centric culture, is expected to enhance this process by promoting the incorporation of analytics into HR responsibilities. The implementation of HR analytics tools facilitates HR professionals in analysing workforce patterns, forecasting trends, and making educated strategic decisions. Collectively, these three elements enhance the overall efficacy of data-driven decision-making in human resource management.

Demographic variables

Table 1 Demographic variables

		Frequency	Percentage
Gender	Male	194	50.5
	Female	190	49.5
	Total	384	100
Age	20-25 Years	111	28.9
	26–35 Years	101	26.3
	36–45 Years	88	22.9
	Above 46 Years	84	21.9
	Total	384	100
Educational Qualification	Bachelor's	212	55.2
	Master's	172	44.8
	Total	384	100
Designation	HR Executive	98	25.5
	HR Manager	105	27.3
	Senior Manager	99	25.8
	Director	82	21.4
	Total	384	100
Years of experience in HR	0–5 years	98	25.5
	6–10 years	108	28.1
	11–15 years	91	23.7
	above 15 years	87	22.7
	Total	384	100
Type of organization	Public sector	80	20.8
	Private sector	76	19.8
	Multinational company	75	19.5
	Start-up	77	20.1
	NGO	76	19.8
	Total	384	100

The demographic profile of the 384 surveyed HR professionals reflects an accurate and diversified sample. Regarding gender, 50.5% of respondents were male and 49.5% were female, indicating nearly equal involvement of males and females. The age distribution indicates that a substantial segment of respondents (28.9%) were within the 20–25 years range, succeeded by 26.3% in the 26–35 years' category, 22.9% aged 36–45 years, and 21.9% over 46 years, reflecting a blend of youthful, mid-level, and elderly workers. Concerning qualifications, over half of the participants (55.2%) held a bachelor's degree, whilst 44.8% possessed a master's degree, reflecting a highly educated workforce. The breakdown by designation indicates that 27.3% were HR Managers, 25.8% Senior Managers, 25.5% HR Executives, and 21.4% Directors, demonstrating a fair presence across organisational levels. Based on years of experience in HR, 28.1% of respondents possessed 6–10 years of experience, 25.5% had 0–5 years, 23.7% had 11–15 years, and 22.7% had over 15 years, indicating the inclusion of both early-career and experienced professionals. The distribution of organisational types was quite uniform, with 20.8% from the public sector, 19.8% from the private sector, 19.5% from multinational corporations, 20.1% from start-ups, and 19.8% from non-governmental organisations, so guaranteeing a thorough representation of varied organisational contexts.

Internal Consistency and Convergent Validity

Table 2 Internal Consistency and Convergent Validity

Variables	Cronbach's Alpha	Composite Reliability	AVE
HR managers data literacy	0.879	0.837	0.703
Organizational support	0.897	0.842	0.714
Adoption of HR analytics tools	0.892	0.837	0.702
Data driven decision making effectiveness	0.891	0.838	0.704

The analysis of the study variables demonstrates strong internal consistency and convergent validity.

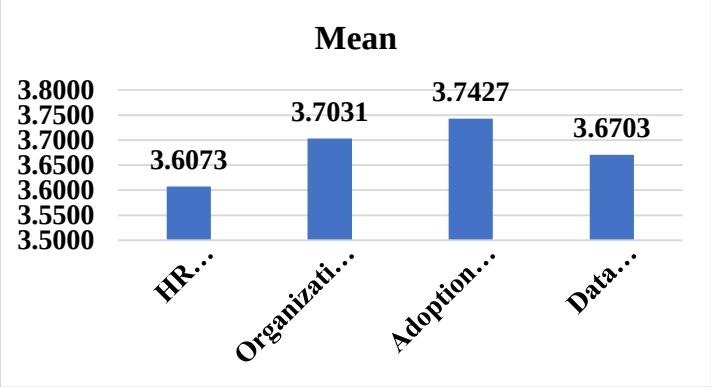
International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

The Cronbach's Alpha values for all constructs HR managers' data literacy (0.879), organisational support (0.897), adoption of HR analytics technologies (0.892), and data-driven decision-making efficacy (0.891) surpass the recommended threshold of 0.7, indicating strong reliability. The Composite Reliability ratings for the variables, which range from 0.837 to 0.842, further validate the consistency of the measurement scales. The Average Variance Extracted (AVE) for all constructs, exceeding 0.70, signifies adequate convergent validity, indicating that the items of each construct accurately represent the underlying theoretical dimension. These results substantiate the measurement model, confirming that the scales employed in the study are trustworthy and effectively represent the target components.

Table 3 Mean and standard deviation

Variables	Mean	Std. Deviation
HR managers data literacy	3.6073	0.78334
Organizational support	3.7031	0.79001
Adoption of HR analytics tools	3.7427	0.79163
Data driven decision making effectiveness	3.6703	0.83498

The descriptive statistics of the study variables reveal a moderately high level of agreement among respondents. The data literacy of HR managers produced a mean score of 3.61 and a standard deviation of 0.78, indicating that participants typically regard themselves as moderately proficient in data management. Organisational support attained a mean score of 3.70 (SD = 0.79), suggesting that respondents perceive their organisations as offering sufficient support for data-driven projects. The implementation of HR analytics tools had the highest mean of 3.74 (SD = 0.79), indicating a favourable disposition among HR managers towards the use of analytical instruments in their operations. The effectiveness of data-driven decision-making had a mean of 3.67 and a standard deviation of 0.83, indicating that participants recognise a moderately high influence of data-driven practices on decision-making results. The findings indicate a positive perception of data literacy, organisational support, analytics uptake, and the efficacy of data-driven HR decision-making among the participants.



Hypothesis implementation

Table 4 Hypothesis Outcome

Hypothesis	Relationship Path	Estimates	Sig. p
H1	HR managers' data literacy ---> Data-driven decision-making effectiveness	0.76	p<0.05
H2	Organizational support --->Data-driven decision-making effectiveness	0.66	p<0.05
	Adoption of HR analytics tools ---> Data-driven decision-making effectiveness	0.7	p<0.05

- **H1: HR managers' data literacy positively influences their data-driven decision-making effectiveness.**

Hypothesis 1 shows the relationship between HR managers' data literacy and the efficacy of data-driven decision-making. The analysis reveals a substantial positive correlation between HR managers' data literacy and the efficacy of data-driven decision-making, with a standardised estimate of 0.76 ($p < 0.05$). This indicates that elevated data literacy among HR managers is significantly correlated with enhanced decision-making efficacy based on data. HR managers proficient in data comprehension, interpretation, and application are more adept at using insights for

International Journal for Novel Research in Economics , Finance and Management
www.ijnrefm.com
ISSN:
3048-7722
Volume 4, Issue 3, May-June-2026, PP: 01-10

strategic and operational decision-making inside the organisation.

- **H2a: Organizational support and adoption of HR analytics tools positively influence HR managers' data-driven decision-making effectiveness.**

Hypothesis 2 demonstrates the value of organisational support and data-driven decision-making. The results indicate a substantial beneficial influence of organisational support on the efficacy of data-driven decision-making, with an estimate of 0.66 ($p < 0.05$). This suggests that when HR managers recognise sufficient organisational support such as training, resources, and motivation for utilising data analytics their capacity to make informed, data-driven decisions enhances. Organisational support is essential for improving the efficacy of data-driven methods in HR management.

- **H2b: Adoption of HR analytics tools positively influence HR managers' data-driven decision-making effectiveness.**

Implementation of HR analytics technologies and the efficacy of data-driven decision-making The findings indicate a substantial positive correlation between the use of HR analytics tools and the efficacy of data-driven decision-making, with an estimate of 0.70 ($p < 0.05$). This shows that utilisation of analytics technologies directly enhances decision-making efficacy among HR managers. Organisations that provide access to advanced analytics technologies empower HR professionals to analyse data more effectively and apply insights precisely, resulting in improved strategic and operational outcomes.

Table 5 Discriminant validity test

	HR managers data literacy	Organizational support	Adoption of HR analytics tools	Data driven decision making effectiveness
HR managers data literacy	0.838			
Organizational support	.639**	0.844		
Adoption of HR analytics tools	.672**	.616**	0.837	
Data driven decision making effectiveness	.633**	.579**	.606**	0.839
**. Correlation is significant at the 0.01 level (2-tailed).				

The Discriminant validity test indicated significant positive correlations among all the main variables examined in the research. The findings demonstrate that HR managers' data literacy has significant positive correlations with organisational support ($r = .639$, $p < 0.01$), the utilisation of HR analytics technologies ($r = .672$, $p < 0.01$), and the efficacy of data-driven decision-making ($r = .633$, $p < 0.01$). This indicates that HR managers with elevated data literacy are more inclined to function in supportive organisational settings, use analytics technologies proficiently, and make more educated, data-driven judgements. Organisational support is positively correlated with the adoption of HR analytics tools ($r = .616$, $p < 0.01$) and the effectiveness of data-driven decision-making ($r = .579$, $p < 0.01$). This indicates that when organisations allocate sufficient resources, training, and encouragement, HR professionals are more proficient in utilising analytics tools and enhancing their decision-making results. The implementation of HR analytics tools shows a substantial positive correlation with the efficacy of data-driven decision-making ($r = .606$, $p < 0.01$), indicating that increased integration of analytics technology improves the quality and effectiveness of HR choices. The diagonal values, spanning from 0.837 to 0.844, indicate strong dependability of the assessed constructs. The results highlight that both human features, such as data literacy, and organisational factors, including support and tool uptake, are essential for improving HR managers' efficacy in data-driven decision-making.

V. DISCUSSION

The study highlights the growing importance of preparing HR managers for data-driven decision-making in an evolving digital landscape. The results demonstrate that the data literacy of HR managers, organisational support, and the use of HR analytics technologies combined improve the efficacy of decisions based on data in human resource management. Data literacy has become an essential

talent, indicating that HR professionals with analytical expertise can more effectively analyse, assess, and use data insights to inform strategic and operational choices. The study's findings indicate that organisations offering sufficient support—via training, technical infrastructure, and a culture of data utilization promote HR professionals' reliance on evidence-based methodologies over intuition. The use of HR analytics technologies enables predictive analysis, allowing HR managers to discern workforce patterns, anticipate future dangers, and formulate successful strategies for talent management and employee retention.

The discussion additionally demonstrates the innovative effect of analytics and artificial intelligence on human resource strategies. Technological improvements have improved efficiency and transparency, although they have also presented challenges like reluctance to change, talent deficiencies, and issues related to data privacy and algorithmic opacity. The results highlight that effective execution of data-driven HRM depends not just on technological adoption but also on cultivating a data-oriented culture inside organisations. Incorporating analytics into HR decisions enables organisations to link personnel planning with business goals, fostering organisational agility and sustainability. The study confirms that data literacy, organisational support, and analytics adoption are interrelated factors that jointly enhance HR managers' capacity to make informed and strategic choices, hence strengthening the transition to evidence-based human resource management.

VI. CONCLUSION

The study concludes that enhancing HR managers' readiness for data-driven decision-making is crucial for improving organisational efficacy in the contemporary technology-centric landscape. The findings indicate that HR managers possessing more data literacy are more adept at converting raw data into usable insights that facilitate strategic planning and employee-related choices. Organisational support is essential in this process by facilitating access to resources, fostering continual learning, and creating a climate that encourages analytical thinking and evidence-based decision-making. The use of HR analytics technologies enhances these results by facilitating data interpretation and providing predictive capabilities that augment efficiency, accuracy, and responsiveness in HR processes. The conclusion underscores that the future of human resource management resides in the convergence of technology, data, and human skill. Organisations must engage in developing analytical skills among HR workers and establish strong frameworks for ethical and transparent data use. Moreover, leadership commitment is crucial for maintaining a culture that emphasises analytics-driven insights and fosters technical innovation. The study indicates that organisations using comprehensive HR analytics and fostering digital literacy would be better prepared for workforce challenges, improve talent management, and achieve long-term strategic objectives. By integrating human judgement with data intelligence, HR managers may evolve from administrative functions to strategic partners, fostering organisational success through informed, evidence-based decisions. Essentially, equipping HR managers for data-driven decision-making is not only a technology transition but a strategic need for enduring competitiveness.

REFERENCE

1. Anlesinya, A., Dartey-Baah, K., & Amponsah-Tawiah, K. (2019). Strategic talent management scholarship: a review of current foci and future directions. Industrial and Commercial Training, 51(5), 299–314.
2. Gade, K. R. (2021). Data-Driven Decision Making in a Complex World. Journal of Computational Innovation, 1(1), 1–2. https://researchworkx.com/index.php/jciVo11
3. Hülter, S. M., Ertel, C., & Heidemann, A. (2024). Exploring the individual adoption of human resource analytics: Behavioural beliefs and the role of machine learning characteristics. Technological Forecasting and Social Change, 208(November 2023). https://doi.org/10.1016/j.techfore.2024.123709
4. International, V. (2025). DATA DRIVEN HUMAN RESOURCE MANAGEMENT: A SELECT LITERATURE REVIEW Dr. Gauri D Rathi. 20(June), 29–33.
5. Kasali, K., Toriola, G. O., Deborah, E. N., Akinyemi, T., & Kofi, R. (2025). Developing Scalable HR Analytics Platforms for SMEs with Data-Driven Strategies to Empower Smaller Businesses. International Research Journal of Modernization in Engineering Technology and Science, August. https://doi.org/10.56726/irjmets71604
6. Kessi, A. M. P., Pananrang, A. D., Muchsidin, F. F., Rizal, M., & Ramlah, R. (2025). The Role of Leadership in Effective and Efficient Human Resource Management Decision Making.

Paradoks : Jurnal Ilmu Ekonomi, 8(2), 509–524. https://doi.org/10.57178/paradoks.v8i2.1153
7. Madhuri, A., & Kumar, B. R. (2025). HR Analytics and Decision-Making: A Data-Driven Approach to Employee Performance Management. Journal of Neonatal Surgery, 14(7S), 409–423. https://doi.org/10.52783/jns.v14.2425
8. Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR Analytics. The International Journal of Human Resource Management, 28(1), 3–26.
9. Okon, R., Odionu, C., Odionu, C. S., & Bristol-Alagbariya, B. (2024). Integrating Data-Driven Analytics into Human Resource Management to Improve Decision-Making and Organizational Effectiveness. IRE Journals, 8(6), 574–577.
10. Patil, B. S., & Priya, M. R. S. R. (2024). HR data analytics and evidence based practice as a strategic business partner. Vilakshan - XIMB Journal of Management, 21(1), 114–125. https://doi.org/10.1108/xjm-07-2023-0148
11. Prikshat, V., Islam, M., Patel, P., Malik, A., Budhwar, P., & Gupta, S. (2023). AI-Augmented HRM: Literature review and a proposed multilevel framework for future research. Technological Forecasting and Social Change, 193, 122645.
12. Ravesangar, K., & Narayanan, S. (2024). Adoption of HR analytics to enhance employee retention in the workplace: A review. Human Resources Management and Services, 6(3), 1–13. https://doi.org/10.18282/hrms.v6i3.3481
13. Sagawe, T., Tenório, F. M., dos Santos, M., & Gomes, C. F. S. (2022). Professional potential evaluation using a multicriteria approach: An AHP-ELECTRE-TRI proposal. Procedia Computer Science, 214, 628–635.
14. Salehzadeh, R., & Ziaeian, M. (2024). Decision making in human resource management: a systematic review of the applications of analytic hierarchy process. Frontiers in Psychology, 15(August), 1–18. https://doi.org/10.3389/fpsyg.2024.1400772
15. Salehzadeh, R., Ziaeian, M., Malekinejad, P., & Zare, M. A. (2024). Analyzing the factors influencing the creation of a toxic workplace in the electronics industry: a fuzzy cognitive map approach. Journal of Modelling in Management, 19(6), 1989–2008.
16. Sarioguz, O. (2024). Data-Driven Decision-Making: Transforming Management in the Information Age. International Research Journal of Modernization in Engineering Technology and Science, May. https://doi.org/10.56726/irjmets49577
17. Sharma, P., Bhattacharya, S., & Bhattacharya, S. (2025). HR analytics and AI adoption in IT sector: reflections from practitioners. Journal of Work-Applied Management, October. https://doi.org/10.1108/JWAM-12-2024-0179
18. Shi, J., & Lai, W. (2023). Fuzzy AHP approach to evaluate incentive factors of high-tech talent agglomeration. Expert Systems with Applications, 212, 118652.
19. Stankevičiūtė, Ž. (2024). Data-Driven Decision Making: Application of People Analytics in Human Resource Management BT - Digital Transformation: Technology, Tools, and Studies (L.-I. Cioca, L. Ivascu, F. G. Filip, & B. Doina (eds.); pp. 239–262). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-55952-5_12
20. Sylvestre, C. E. (2024). The Role of Data-Driven Decision Making in Business Strategy. Research Output Journal of Education, 3(3), 80–84. https://rojournals.org/roj-education/
21. Tuli, F. A., Varghese, A., & Ande, J. R. P. K. (2018). Data-Driven Decision Making: A Framework for Integrating Workforce Analytics and Predictive HR Metrics in Digitalized Environments. Global Disclosure of Economics and Business, 7(2), 109–122. https://doi.org/10.18034/gdeb.v7i2.724
22. Wibowo, C. A., & Anhara, A. (2025). Human Resource Analytics : an Integrative Review of Data-Driven HR Decision Making. 5(03), 349–358.
23. Younus Hamraaia, M. H. (2024). Transforming HR Practices: Integrating Employee Engagement and Analytics for Organizational Success. Educational Administration: Theory and Practice, January, 1717–1725. https://doi.org/10.53555/kuey.v30i6.5580