

Nigora Saidmuradova Aslamovna

Lecturer

*Business Management & Marketing Department School of Business &
Economics*

Westminster International University in Tashkent

Email –nsaidmuradova@wiut.uz

Abstract Purpose: *Recent research on human resource management (HRM) has highly debated concerns and issues in the regard to the development of technology over the past decades, from e-data to HR specialists (Kim, Wang & Boon, 2021). Nowadays, the term ‘Algorithmic Human Resource Management’ is used to be internal data collection of digital technology in HRM. Algorithmic HRM refers to ‘the use of software that works based on digital data to enhance HR-related decisions and/or systematize HRM actions’ (Meijerink, Boons, Keegan & Marler, 2021).*

Keywords: *HRM, Algorithmic HR, Decision making process Paper Type: Conceptual Research Paper*

Methodology

The study undertakes a conceptual approach to fulfil the purpose of the study. The secondary sources like articles, weblinks, research papers, reports, etc. have been analysed to obtain the required information and data. Other than that, the available research publications on HRM and their linkages towards nature conservation have been studied in-depth to attain valuable insights.

Findings

The findings of the study show that most of the HRM are focused on the employee motivation, talent management employee engagement, diversity and

inclusion, performance management and leadership development. In fact, the respect of the scope of HRM is an old traditional practice. Practices such as efficiency and automation, bias and reduction, predictive analytics and strategic decision making are primarily linked to nature and transmit the everlasting message of paying attention to the organizational continuous development.

1. Introduction

Algorithms play a crucial role in modern HR decision-making processes by enabling data-driven, efficient, and objective assessments. Here are some key areas where algorithms are utilized in HR:

- **Recruitment and Selection:** Algorithms are employed to evaluate resumes, identify appropriate applicants according to certain criteria, and even carry out initial interviews using chatbots or automated systems. These algorithms have the potential to optimise the recruiting process, mitigate bias, and enhance the efficiency of candidate selection.
- **Predictive Analytics:** HR algorithms are utilised to analyse past data in order to uncover patterns and forecast future trends pertaining to employee turnover, performance, engagement, and training requirements. The utilisation of data can aid HR professionals in making well-informed decisions to enhance retention rates and employee happiness.
- **Performance Management:** Algorithms are utilised to assess employee performance using diverse indicators and feedback mechanisms. These algorithms could offer valuable understanding of both individual and team performance, so enabling equitable evaluations and focused plans for improvement.
- **Learning and Development:** Algorithms have the capability to suggest customised learning trajectories for employees, considering their abilities, preferences, and professional aspirations. By analysing individual and organizational needs, these algorithms assist optimize training programs and enhance employee growth. Algorithms aid in the identification of personnel with high potential and the development of succession plans by analysing performance data, capabilities, and career objectives. This proactive strategy guarantees a

continuous supply of skilled individuals for critical roles inside the organisation.

- **Diversity and Inclusion:** Algorithms are employed to detect biases in HR procedures, such as recruiting, performance assessments, and promotions. Through the identification and reduction of prejudice, these algorithms contribute to the advancement of diversity and inclusivity in the workplace.
- **Workforce Planning:** Algorithms evaluate workforce data to estimate future personnel demands, skills requirements, and resource allocation. Through the anticipation of workforce shifts, HR can strategically analyse and rectify potential deficiencies, thus optimising workforce planning.

Overall, the use of algorithms in HR decision-making processes can enhance efficiency, reduce bias, improve decision quality, and support strategic HR initiatives to contribute to organizational success and employee satisfaction.

2. Theoretical Background

This study is founded on investigating human resource challenges in HR decision-making procedure and the literature is revised concerning the critical perspectives of studies about challenges in achieving the dynamic performance of HR, further, the discussion on research methodology is part of this proposal which gives the major three features of algorithmic HRM: the group and the use of digital data; the implementation of software algorithms that process digital data; and the half or complete automation of HRM-associated decision-making (Meijerink et al., 2021).

Human Resource Management (HRM) is an interdisciplinary field that utilises diverse theoretical frameworks to comprehensively comprehend and efficiently oversee the individuals within an organisation. Several fundamental theoretical underpinnings of Human Resource Management (HRM) include:

1. **Human Capital Theory:** Human capital theory regards employees as valuable resources that enhance the organization's production and performance. This idea highlights the importance of allocating resources towards staff training and development in order to strengthen their expertise, understanding, and talents, ultimately resulting in enhanced organisational performance.

2. The Resource-Based View (RBV) of the Firm: The resource-based view emphasises the internal resources of an organisation, such as its human resources, as the basis for achieving a long-lasting competitive advantage. HRM approaches that generate and use distinctive human capital can produce significant capabilities that are difficult for competitors to replicate.

3. Psychological Contract Theory: The psychological contract theory analyses the implicit expectations and responsibilities that exist between employees and employers. Comprehending and overseeing the psychological contract is essential for upholding trust, involvement, and dedication among employees.

4. Contingency Theory: Contingency theory posits that there is no universally applicable method for effectively managing employees. HRM techniques must be adaptable to many aspects, including organisational culture, strategy, structure, and external environment, to match with specific settings and objectives.

5. Social Exchange Theory: Social exchange theory examines the reciprocal ties between employees and organisations. It implies that when organisations allocate resources towards employee development, acknowledgment, and equitable treatment, employees are inclined to respond with heightened levels of dedication, productivity, and allegiance.

The behavioural perspective analyses how individual and collective behaviour affects the outcomes of an organisation. HRM solutions influenced by behavioural theories prioritise elements such as motivation, leadership, communication, and group dynamics to improve employee engagement and performance.

Strategic Human Resource Management (SHRM) is the process of aligning HRM practices with organisational strategy in order to attain a lasting competitive advantage. This approach prioritises the synchronisation of HR practices with business objectives, cultivating a culture of exceptional performance, and harnessing human capital as a strategic resource.

By utilising these theoretical frameworks and viewpoints, HRM practitioners may create evidence-based strategies that enhance employee engagement, foster

talent growth, improve organisational efficiency, and ultimately achieve overall success. Gaining a comprehensive understanding of the theoretical foundations of Human Resource Management (HRM) enables organisations to create HR strategies that effectively address present difficulties and remain flexible in adapting to future workplace trends and advancements.

Across different countries and organizations, professionals and academics, research into algorithmic observation are gaining power as human resource management and algorithmic controls perceptions are controlling big Data (Garcia-Arroyo & Osca, 2019) artificial intelligence (Strohmeier & Piazza, 2015; Tambe et al., 2019) and online labor platforms (Duggan et al., 2020; Newlands, 2020; Veen et al., 2020).

Contemporary challenging matters in the recruitment processes use facial recognition to screen applicants, developments in sales widely been transformed to computerized versions, and new forms of employee observation are deployed, unfortunately, detected with harmful consequences, optimizing labor. (Pachidi, Berends, Faraj, & Huysman, 2021).

The appearance of algorithmic HRM shows that the evaluation at the workplace that shows the performances of the HR industry cannot be only focused by digital technology relying on the matter of replacing humans' nature of feelings, but also most significantly to be the preserve of human cognition seem to be transferred by AI tools. Depending on app work rather than the nature of employment and performance management, examining the crucial role of algorithmic management. Modern technology has replaced human hands with robots or computers, which leads to big challenges in the emotional responses of HR professionals, line managers, employees, and policymakers. (Duggan, Sherman, Carbery, & McDonnell, 2020). While the algorithmic HRM is well developed and recognized (e.g., Parent-Rocheleau & Parker, 2021), also concerns are also raised about its negative sides in the sphere of worker exploitation, working atmosphere, worsening perceived justice, and the objectives of working conditions.

To set the stage for the current research which leads to focus on the emergence of digital HRM and to finalize the states of the adoption of the term “Algorithmic Human Resource Management” to interrelate the internal and external issues of common concerns including the power of digital data to support the decision-making process, the awareness of software algorithms that helps to utilize data at work, partial or full automation of HR decision-making process all of which practices and performances of HR towards the managing workforce within the organizations.

These challenges and matters face every single industry to understand and accelerate the progress, and knowledge awareness of algorithmic HRM and bring internal developments in the field of strategic HRM. Also, more policymakers aim to create better positioning in the field of HR and were having constructive debates about algorithmic HRM and giving progressive advice to HR practitioners.

The evaluation of research would create challenges more widely as algorithmic HRM is simply a narrow-defined term rather than digital HRM which may also be benefited strong evaluation in cross-disciplinary actions with research which highlights salient links from different angles as referring to the HR fields examining how algorithms, digital data, digital performance are transforming HRM practice, work and labor processes that rely on digital tools.

3. Findings and Discussion

Research in Human Resource Management (HRM) has produced numerous significant findings and insights that are essential for organisations to properly manage their human resources. Now, let's examine some significant discoveries and analyse their consequences:

1. **Employee Engagement:** Extensive research continually shows a robust correlation between employee engagement and the overall effectiveness of an organisation. Employees that are engaged demonstrate higher levels of productivity, innovation, and commitment to their work. Organisations that give importance to employee engagement by providing supportive leadership, meaningful work, and growth chances generally achieve better results compared to their competitors.

2. The advantages of having a diverse and inclusive workforce are

highlighted in research studies. Teams that consist of individuals with a range of different backgrounds, perspectives, and experiences are more inclined to exhibit creativity, make superior decisions, and demonstrate greater flexibility in response to change. Organisations that cultivate inclusive cultures that prioritise diversity are more likely to attract highly skilled individuals, improve their reputation, and acquire a competitive advantage in the market.

3. Talent Management: The implementation of effective talent management techniques, such as strategic recruitment, development programmes, and succession planning, is crucial for achieving organisational success. Studies indicate that organisations implementing comprehensive talent management methods tend to have reduced staff turnover rates, increased employee satisfaction levels, and achieve superior performance results.

4. Performance Management: Conventional methods of evaluating performance are shifting towards approaches that emphasise ongoing feedback and coaching. Studies suggest that continuous performance conversations, goal congruence, and personalised development plans result in increased employee engagement, enhanced performance, and improved alignment with organisational objectives.

Employee well-being is an essential focus of research in the field of HRM. Organisations that advocate for work-life balance, provide mental health assistance, and implement wellness programmes experience a decrease in absenteeism, an increase in job satisfaction, and a higher level of employee loyalty. Promoting employee well-being not only boosts productivity but also fosters a healthy organisational culture.

6. Technology and HR: The incorporation of technology in HRM, such as HR analytics, AI-driven recruitment tools, and digital learning platforms, is revolutionising the HR landscape. Studies indicate that the implementation of technology can enhance the efficiency of HR processes, improve decision-making capabilities, and enhance the overall experience of employees, ultimately leading to improved organisational performance.

7. Leadership Development: Proficient leadership is a fundamental aspect of prosperous HRM. Research underscores the need of growing leadership talents at all levels of the business, promoting a leadership pipeline, and fostering a culture of continual learning and development.

When considering these discoveries, it is crucial for organisations to acknowledge the fluidity of HRM and the necessity to adjust to changing patterns and obstacles. Organisations can achieve sustainable success in a competitive business environment by utilising research-based insights in employee engagement, diversity, talent management, performance, well-being, technology, and leadership. This allows them to refine their HR strategies and cultivate a high-performance culture.

Conclusion

To summarise, the research hypothesis will be formulated, the decision-making process will be defined, the research instrument will be explained in the usage of Algorithmic Human Resource Management, the study of the use of software on digital data would be collected, the data analysis will be provided and the research equation will be formulated on the base of digital data and systematized HRM actions.

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