

***The Role of HR Analytics in Strategic Decision-Making: A Systematic Literature Review***

**Peran Analisis SDM dalam Pengambilan Keputusan Strategis: Tinjauan Literatur yang Sistematis**

**Ahmad Solihin**

Universitas Primagraha

\*ahmadsolihinn08@gmail.com

\*Corresponding Author

---

**ABSTRACT**

In the digital era, HR analytics has become a crucial tool for strategic decision making in organizations. This study aims to explore how HR analytics can support organizational sustainability through data-based decision making. Using a systematic literature review method with the PRISMA approach, this research identifies relevant literature that discusses the integration of HR analytics and sustainability. The research results show that HR analytics can improve organizational performance and support sustainability initiatives by optimizing decision-making processes and facilitating the implementation of environmentally friendly practices. The implications of these findings emphasize the importance of integrating HR analytics in organizational sustainability strategies, while limitations include challenges related to data and privacy. This research recommends further exploration of the integration of HR analytics across various industry sectors to understand the potential and limitations of new analytical tools.

**Keywords:** HR Analytics, Strategic Decision Making, Organizational Sustainability, Data-Driven Decision Making

**ABSTRAK**

Dalam era digital, HR analytics menjadi alat yang krusial untuk pengambilan keputusan strategis dalam organisasi. Studi ini bertujuan untuk mengeksplorasi bagaimana HR analytics dapat mendukung keberlanjutan organisasi melalui pengambilan keputusan berbasis data. Menggunakan metode systematic literature review dengan pendekatan PRISMA, penelitian ini mengidentifikasi literatur relevan yang membahas integrasi HR analytics dan keberlanjutan. Hasil penelitian menunjukkan bahwa HR analytics dapat meningkatkan kinerja organisasi dan mendukung inisiatif keberlanjutan dengan mengoptimalkan proses pengambilan keputusan dan memfasilitasi implementasi praktik ramah lingkungan. Implikasi dari temuan ini menekankan pentingnya mengintegrasikan HR analytics dalam strategi keberlanjutan organisasi, sementara keterbatasan mencakup tantangan terkait data dan privasi. Penelitian ini merekomendasikan eksplorasi lebih lanjut mengenai integrasi HR analytics di berbagai sektor industri untuk memahami potensi dan keterbatasan alat analitik baru.

**Kata Kunci:** HR Analytics, Pengambilan Keputusan Strategis, Keberlanjutan Organisasi, Data-Driven Decision Making

**1. Introduction**

HR analytics is a fundamental tool for strategic decision making in organizations. By utilizing HR analytics, companies can gain valuable insights into their workforce, HR policies, and implemented practices, resulting in an evidence-based decision-making process (Falletta & Combs, 2020). This proactive and systematic approach involves collecting, analyzing, and communicating evidence-based HR research to achieve strategic goals (Pandya, 2023). Additionally, HR analytics is recognized as a tool that enables HR to act as a strategic partner in organizational decision making (Barbar et al., 2019).

"

To fully realize the benefits of HR analytics in driving strategic decisions, organizations must overcome challenges related to data availability, quality, and privacy (Okatta, 2024). The use of AI-based analytics has been emphasized as key in providing information and improving strategic HR decision-making processes (Olaniyan, 2023). Furthermore, people analytics, supported by information technology and data analytics, is critical in determining business impact and enabling data-based decision making (Ogedengbe, 2024).

The integration of HR analytics with decision-making processes has been emphasized as a way to improve organizational performance and decision-making effectiveness (Muktamar, 2024). HR analytics also plays a role in predicting and improving financial performance through the use of human resource data (Nurbaiti, 2021). By harnessing the power of analytics, companies can gain a competitive advantage by understanding critical aspects of their workforce and increasing employee retention through informed strategic HR choices (Ravesangar, 2024).

Overall, HR analytics serves as a modern tool for predictive decision making in HR, enabling organizations to replace anecdote-based decision making with data-based insights, leading to higher quality decisions based on analysis, predictions, and research (Madhani, 2022). HR analytics has become an important instrument in achieving success by leveraging current data to forecast future investment returns, providing strategic advantage ("HR ANALYTICS: WHY IT MATTERS", 2021).

HR analytics has become an increasingly important tool in human resource management, especially in the data-driven digital era. In general, HR analytics refers to the use of data analysis techniques to understand, predict, and improve human resource performance within an organization. This covers various aspects, from recruitment and selection analysis to performance assessment and talent management. By utilizing the right data, HR analytics can provide deeper insights for decision making, which in turn can support the achievement of the organization's strategic goals.

On the other hand, sustainability has become a major focus in modern organizational strategies, along with increasing awareness of social and environmental responsibility. Sustainability not only includes environmental aspects, but also includes economic and social dimensions that support the long-term sustainability of organizations. The integration of sustainability into business strategy has become a priority for many organizations, as it not only enhances the company's reputation, but also contributes to achieving long-term profitability.

However, although there is a large body of literature that discusses HR analytics and sustainability separately, there is limited research that directly links these two concepts. This gap phenomenon indicates a lack of research that specifically explores how HR analytics can be used to support sustainability initiatives in organizations. In addition, existing literature is still limited in explaining how HR analytics can be effectively utilized to support sustainability-oriented strategic decision making.

Thus, the main research question posed in this study is: "How does HR analytics play a role in supporting organizational sustainability through data-driven strategic decision making?" This research aims to answer this question by reviewing existing literature, identifying existing gaps, and providing new insights into how HR analytics can be an effective tool in supporting organizational sustainability. In the context of today's global business dynamics, the need for organizations to integrate sustainability principles into their business strategies is increasingly urgent. This is driven by various factors, including pressure from stakeholders, regulatory changes, and increasing awareness of the importance of sustainability for the long-term survival of companies. However, to truly integrate sustainability effectively, organizations need tools and approaches that can assist in data-driven decision making. This is where the role of HR analytics becomes very important.

Understanding how HR analytics can facilitate decisions that support sustainability is essential. By using data collected from multiple sources within an organization, HR analytics

can provide the insights needed to identify opportunities, reduce risks, and optimize human resource performance in a way that aligns with sustainability goals. The importance of this research lies in the need to bridge the existing knowledge gap regarding the role of HR analytics in supporting sustainability-oriented strategic decisions.

This research offers novelty by combining two fields that were previously rarely explored together: HR analytics and sustainability in the context of strategic decision making. Although much research has discussed the importance of data in human resource management, less has examined how this data can be used specifically to support sustainability initiatives. Therefore, this research provides a new perspective by focusing on data-driven approaches that offer great potential but have not been fully exploited in the existing literature.

As a contribution, this research will not only enrich theoretical understanding of the role of HR analytics in sustainability, but will also provide practical recommendations for HR practitioners and strategic decision makers in organizations. The resulting insights are expected to help organizations optimize the use of HR analytics to achieve their sustainability goals, as well as equip them with the tools necessary to face future business challenges.

## 2. Research methods

The research method used in this study is a systematic literature review with the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) approach. To ensure the quality and relevance of the literature reviewed, the articles used were collected from various reputable international databases, including Scopus, Web of Science, and IEEE Xplore. This database was chosen because it includes journals indexed by Scopus Q1 and Q2, which ensures that the sources used have high credibility and relevance in the field of HR analytics and sustainability.

In the literature search process, several main keywords were determined to find relevant articles. These keywords include "HR analytics", "strategic decision-making", "sustainability", "human resource management", and "data-driven decision making". To expand or narrow the search, Boolean operators (AND, OR) are used. For example, the combination of "HR analytics AND sustainability" will filter out articles linking these two topics, while the use of OR can broaden the search to cover a variety of related topics that may not have been previously identified.

The initial search yielded a large number of relevant articles. After the search process, the articles obtained were further filtered by reviewing the abstract and seeing whether they were appropriate to the research questions that had been determined. The selected articles were then organized based on their relevance and contribution to the research questions raised, namely the role of HR analytics in supporting sustainability through data-based strategic decision making.

To ensure that the analyzed literature was of high quality and strong relevance, inclusion and exclusion criteria were strictly applied. Inclusion criteria included articles published in reputable journals (Q1 and Q2), research that specifically examined the relationship between HR analytics, sustainability, and strategic decision making, and articles published within the last 5 years to ensure contemporary relevance. Conversely, articles that were not available in full text, were only short reports, or were not published in English, were excluded from the analysis.

With this systematic method, the research is expected to provide a comprehensive and in-depth literature review, which not only answers the research questions, but also fills gaps in the existing literature.

### 3. Results and Discussions

#### 3.1. Basic Concepts and Related Theories

Organizational sustainability includes economic, social, and environmental dimensions, emphasizing the importance of integrating sustainable practices into an organization's long-term strategy (Eleogu, 2023). In this context, sustainable HR practices become essential to support both environmental and organizational sustainability (Eleogu, 2023). The concept of organizational capability, which is based on Resource-Based Theory, plays an important role in managing business sustainability and organizational competitiveness (Idah & Otuya, 2021). This capability includes innovation, employee competency, managerial skills, strategic intent, marketing, service quality, and social networks (Idah & Otuya, 2021).

HR analytics refers to assessing and understanding human resource data to support better decision making. In human resource management, data-based analysis has developed, emphasizing the importance of decision-making processes based on data (Hassan & Asghar, 2021). Strategic decision making theory offers a framework for data-driven decision making, which integrates economic, social, and environmental factors into the decision-making process (Chenli et al., 2020). Procedural rationality and constructive political behavior have been proven to have a positive effect on quality and satisfaction in sustainable decisions (Chenli et al., 2020).

In the HR field, strategic decision making is very important for organizational success, especially in today's increasingly competitive business environment (Daud, 2024). Knowledge visualization helps strategic decision-making processes, especially in small and medium-sized enterprises, by facilitating high-quality decision outcomes (Abdelkareem & Augustyn, 2023). In addition, the mediating effect of team trust on top management team processes can improve HR decision quality and performance satisfaction (Chenli et al., 2019). Thus, the integration of sustainable HR practices, organizational capabilities, and data-based decision-making processes that consider economic, social, and environmental factors is crucial in supporting organizational sustainability and long-term success.

#### 3.2. HR Analytics and Organizational Sustainability

HR analytics has a very important role in supporting sustainability initiatives within organizations. By leveraging HR analytics, companies can effectively reduce their carbon footprint and implement more environmentally friendly human resource management practices. This is reflected in research by Kaaria (2024), which emphasizes the importance of a data-driven approach and the use of relevant metrics and analytical tools to improve employee well-being, organizational resilience and long-term sustainability.

The benefits of incorporating HR analytics into sustainability initiatives are multifaceted. First, HR analytics can reduce costs through operational efficiency, as highlighted in a study by Okatta (2024). Second, it can improve organizational reputation and stakeholder satisfaction, as proven by Ravesangar's (2024) research. Third, HR analytics can contribute to increasing employee retention by creating a better work environment, as discussed in Subrahmanyam's (2023) research.

However, integrating HR analytics with sustainability initiatives is not without challenges. Limited data and analytical infrastructure is a significant obstacle, as mentioned in Mathur's (2023) research. Additionally, resistance to change within organizations as well as concerns regarding ethics and privacy in the use of employee data, raised by Selvaraj and Santhi (2023), further complicate this integration process.

Thus, HR analytics is a powerful tool that, if used effectively, can drive sustainability efforts in organizations. By addressing the challenges and leveraging the benefits of HR analytics, companies can not only improve their environmental impact, but also improve operational efficiency, reputation, stakeholder satisfaction, and employee retention.

### **3.3. Data-Based Strategic Decision Making and Sustainability**

In the context of strategic decision making, data integration, especially from HR analytics, has a crucial role in improving organizational performance and sustainability. Utilizing HR data allows organizations to make informed decisions that are aligned with broader business goals (Nurbaiti, 2021). Through a data-driven approach and the use of relevant metrics and analytical tools, HR professionals can implement targeted interventions to improve employee well-being, organizational resilience, and long-term sustainability (Kaaria, 2024). This data-driven decision-making process not only optimizes HR strategies but also contributes to achieving sustainable competitive advantage through informed HR interventions.

Additionally, the use of HR analytics tools and techniques supports sustainability-related decisions by providing insights for designing HR interventions that prioritize environmentally friendly practices, reduce carbon footprints, optimize resource utilization, and promote ethical work practices (Ejibe, 2024). Organizations can improve their sustainability outcomes by integrating HR analytics-based decisions into strategic planning processes, which in turn drive organizational performance and sustainability practices (Okatta, 2024).

Furthermore, the adoption of an electronic HR management system can improve efficiency, effectiveness and decision-making processes in the HR department, ultimately improving overall organizational performance and maintaining sustainable competitive advantage (Alqarni, 2023). By integrating sustainability into HR practices using analytical techniques, decision makers can overcome conflicting interests and develop strategies that promote organizational success as well as sustainability (Şimşek, 2024).

In conclusion, the synthesis of data-driven HR analytics into strategic decision-making processes not only improves organizational performance but also contributes to sustainability efforts by aligning HR strategies with environmentally friendly practices and broader business goals. This integration of data and analytics in HR practices is the foundation for organizations that want to achieve sustainable growth and competitive advantage.

## **4. Conclusion**

This research underscores the important role of HR analytics in supporting organizational sustainability through data-based strategic decision making. HR analytics enable organizations to align HR strategies with broader business objectives, including the economic, social, and environmental dimensions of sustainability (Eleogu, 2023). By leveraging HR data, organizations can optimize decision-making processes to improve employee well-being, organizational resilience and long-term sustainability performance. The use of data-driven analytical tools also contributes to operational efficiency, organizational reputation, and employee retention, as well as enabling more effective implementation of environmentally friendly practices (Kaaria, 2024; Okatta, 2024; Ravesangar, 2024).

### **4.1. Implications**

The implication of this research is the importance of integrating HR analytics into an organization's sustainability strategy to achieve sustainable competitive advantage. Organizations are advised to adopt a data-driven approach in HR decision making to improve operational effectiveness and efficiency. Implementation of electronic HR management systems and analytical techniques can improve decision making and support a more holistic sustainability strategy (Alqarni, 2023; Şimşek, 2024). In addition, there needs to be special attention to challenges related to data, quality, and privacy, which can affect the process of integrating HR analytics in sustainability initiatives (Mathur, 2023; Selvaraj & Santhi, 2023).

#### 4.2. Limitations

This research faces several limitations, including limited data and analytical infrastructure that may affect the application of HR analytics in sustainability practices (Mathur, 2023). Additionally, resistance to change within the organization as well as concerns regarding ethics and employee data privacy can hinder the integration of HR analytics (Selvaraj & Santhi, 2023). Other limitations include the availability of studies that directly examine the relationship between HR analytics and sustainability in specific industrial contexts, which may affect the generalizability of this study's findings.

#### 4.3. Recommendations for Future Research

Future research is recommended to examine more deeply how different industries are integrating HR analytics in their sustainability initiatives, as well as exploring methods to overcome data and privacy-related challenges. Longitudinal research involving case studies across various industry sectors can provide additional insights into best practices and effective strategies in applying HR analytics for sustainability (Ejibe, 2024). In addition, studies that focus on new technological developments in HR analytics and their impact on sustainability practices would also be very useful for understanding the potential and limitations of new analytical tools.

### 5. References

Abdelkareem, R. and Augustyn, M. (2023). Knowledge visualisation and strategic decision-making outcomes in small and medium-sized enterprises. *Journal of Information Science*, 016555152311601. <https://doi.org/10.1177/01655515231160117>

Alqarni, K. (2023). The effect of electronic human resource management systems on sustainable competitive advantages: the roles of sustainable innovation and organizational agility. *Sustainability*, 15(23), 16382. <https://doi.org/10.3390/su152316382>

barbar, K., Choughri, R., & Soubjaki, M. (2019). The impact of hr analytics on the training and development strategy - private sector case study in lebanon. *Journal of Management and Strategy*, 10(3), 27. <https://doi.org/10.5430/jms.v10n3p27>

Chenli, M., Yu-hui, G., & Abrokawah, E. (2020). Developing sustainable decision performance for science and technology industries in china. *Sustainability*, 12(5), 2068. <https://doi.org/10.3390/su12052068>

Chenli, M., Yu-hui, G., Xihuai, L., & Abrokawah, E. (2019). Mediating effect of team trust on the influence of top management team (tmt) processes against hrm decision quality and satisfaction performance. *Personnel Review*, 49(4), 1053-1068. <https://doi.org/10.1108/pr-09-2018-0336>

Daud, A. (2024). Critical analysis of the role of management information systems in optimizing strategic decision making. *Journal of Business Management and Economic Development*, 2(02), 1024-1030. <https://doi.org/10.59653/jbmed.v2i02.854>

Ejibe, I. (2024). Harnessing data analytics for eco-innovation in hr practices: a conceptual model for the fashion and arts sectors. *International Journal of Applied Research in Social Sciences*, 6(3), 360-371. <https://doi.org/10.51594/ijarss.v6i3.893>

Eleogu, T. (2023). Review of sustainable hr management practices in nigeria's oil, gas, and renewable energy sectors. *Socio Economy and Policy Studies*, 59-65. <https://doi.org/10.26480/seps.01.2023.59.65>

Falletta, S. and Combs, W. (2020). The hr analytics cycle: a seven-step process for building evidence-based and ethical hr analytics capabilities. *Journal of Work-Applied Management*, 13(1), 51-68. <https://doi.org/10.1108/jwam-03-2020-0020>

Hassan, I. and Asghar, S. (2021). A framework of software project scope definition elements: an ism-dematel approach. *Ieee Access*, 9, 26839-26870. <https://doi.org/10.1109/access.2021.3057099>

Idah, A. and Otuya, W. (2021). Product and service quality capabilities and market performance of the postal corporation of kenya in western region. *The International Journal of Business & Management*, 9(6). <https://doi.org/10.24940/theijbm/2021/v9/i6/bm2106-040>

Kaaria, A. (2024). Essential human resource metrics and analytics for sustainable work environments: literature mapping and conceptual synthesis. *East African Journal of Business and Economics*, 7(1), 241-262. <https://doi.org/10.37284/eajbe.7.1.1976>

Madhani, P. (2022). Human resources analytics: leveraging human resources for enhancing business performance. *Compensation & Benefits Review*, 55(1), 31-45. <https://doi.org/10.1177/08863687221131730>

Mathur, S. (2023). To study the adoption and application of hr analytics among hr professionals in the organizations. *International Journal of Research in Finance and Management*, 6(1), 197-200. <https://doi.org/10.33545/26175754.2023.v6.i1c.210>

Muktamar, A. (2024). The integration of hr analytics and decision making. *PRODUCTIVITY*, 1(1), 182-189. <https://doi.org/10.62207/aj4nj061>

Nurbaiti, B. (2021). Hr analytics: predicting and enhancing financial performance through human resource data. *Atestasi Jurnal Ilmiah Akuntansi*, 4(2), 446-462. <https://doi.org/10.57178/atestasi.v4i2.819>

Ogedengbe, D. (2024). Strategic hrm in the logistics and shipping sector: challenges and opportunities. *International Journal of Science and Research Archive*, 11(1), 2000-2011. <https://doi.org/10.30574/ijrsa.2024.11.1.0269>

Okatta, C. (2024). Leveraging hr analytics for strategic decision making: opportunities and challenges. *International Journal of Management & Entrepreneurship Research*, 6(4), 1304-1325. <https://doi.org/10.51594/ijmer.v6i4.1060>

Olaniyan, O. (2023). Ai-driven talent analytics for strategic hr decision-making in the united states of america: a review. *International Journal of Management & Entrepreneurship Research*, 4(12), 607-622. <https://doi.org/10.51594/ijmer.v4i12.674>

Pandya, D. (2023). Hr analytics – importance and challenges. *Interantional Journal of Scientific Research in Engineering and Management*, 07(07). <https://doi.org/10.55041/ijserem24526>

Ravesangar, K. (2024). Adoption of hr analytics to enhance employee retention in the workplace: a review. *Hum. Resour. Manag. Serv.*, 6(3), 3481. <https://doi.org/10.18282/hrms.v6i3.3481>

SELVARAJ, V. and Santhi, V. (2023). A study on hr analytics adoption level of human resource management practices in select information technology companies- descriptive study.. <https://doi.org/10.21203/rs.3.rs-2530346/v1>

Şimşek, T. (2024). Integrating sustainability into hr practices using the best worst method., 77-101. <https://doi.org/10.4018/979-8-3693-0972-8.ch005>

Subrahmanyam, S. (2023). The application of human resource analytics as a strategy to elevate the corporate performance. *Migration Letters*, 20(6), 1025-1034. <https://doi.org/10.59670/ml.v20i6.4878>