



To cite this article: Hanapraveena L., Dr. M. Ayisha Millath (2026). STRATEGIC ALIGNMENT OF HR ANALYTICS AND SUSTAINABLE HRM FOR RESPONSIBLE WORKFORCE DEVELOPMENT, International Journal of Research in Commerce and Management Studies (IJRCMS) 8 (3): 416-445 Article No. 768 Sub Id 1289

STRATEGIC ALIGNMENT OF HR ANALYTICS AND SUSTAINABLE HRM FOR RESPONSIBLE WORKFORCE DEVELOPMENT

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DOI: <https://doi.org/10.38193/IJRCMS.2026.8330>

ABSTRACT

According to this study the researcher examines the alignment of Human Resource Analytics (HRA) and Sustainable Human Resource Management (Sustainable HRM) strategically for improving responsible workforce development. In the context of organizations focusing on data-driven decision making and sustainability practices, strategic HR functions are being improved by HR Analytics as a tool, on the other side sustainable HRM focuses on employee well-being, workforce sustainability, and organizational effectiveness. A limited attention has been given to the combined impact on the Human Resource Systems by earlier studies. This gap in the prior research is bridged through a Systematic Literature Review (SLR) approach by analyzing the research published between 2020 to 2026. The review discloses that there is an absence of adequate integration and empirically proven frameworks though there is a growing interest in strategic alignment of these areas. On the basis of findings proposed by this study a comprehensive conceptual perspective linking HRA, strategic alignment, and sustainability-oriented HR practices. The directions for future research have been provided and practical implications for organizations focusing sustainable workforce development practices are highlighted.

KEYWORDS: Human Resource Analytics, HRA, Strategic Alignment, Sustainable HRM, Workforce Development, Organizational Sustainability, Data-Driven Decision-Making.

1. INTRODUCTION

In a business environment which is increasingly dynamic and sustainability-driven, organizations are under pressure to align their HRM practices with both strategic objectives and broader societal expectations. The traditional administrative role of HRM has evolved into a strategic function that contributes directly to organizational performance and long-term value creation. Modern



organizations increasingly depend on Human Resource Analytics (HRA) to support workforce-related decisions through systematic analysis of employee data and organizational information. HRA assists organizations in improving decision-making quality, workforce planning, and talent management by providing data-supported insights for managerial actions (Suri, 2024). The growing use of digital technologies and big data systems has further strengthened the ability of HR professionals to connect workforce strategies with broader organizational objectives (Keerthiraj et al., 2024). Consequently, organizations are adopting evidence-based HR practices to improve organizational efficiency and strategic effectiveness (Dutraj, 2025).

In recent years, Human Resource Analytics has emerged as an important component of organizational performance management. Organizations use analytics-based systems to improve recruitment processes, employee retention, succession planning, and workforce forecasting activities. Existing studies indicate that HR analytics contributes positively to organizational performance by improving HR effectiveness and managerial decision-making practices (Noor et al., 2025). It is also widely recognized as an effective tool for talent planning and workforce optimization (Elugbaju, 2024). Research findings further suggest that organizations with stronger HR analytical capabilities are more likely to achieve higher operational efficiency and strategic performance outcomes (Tessema et al., 2025). The concept of HR analytics maturity additionally explains how organizations gradually develop from basic data reporting systems to advanced predictive and strategic analytical practices (Rigamonti et al., 2024). The incorporation of artificial intelligence into HR analytics has enhanced predictive decision-making capabilities related to workforce challenges and organizational planning (Sharma et al., 2025).

Although HRA provides several organizational advantages, its successful implementation largely depends on alignment with organizational strategy and objectives. Strategic alignment ensures that HR practices and analytical systems support overall business goals instead of functioning independently. Previous studies emphasize that organizations achieve better long-term performance when HR strategies are integrated with organizational priorities and strategic directions (Boudreau et al., 2023). Data-driven HR systems also improve operational efficiency, employee retention, and organizational competitiveness through informed managerial decisions (Madhavi et al., 2025). Moreover, HR analytics acts as an important mechanism linking HR capabilities with strategic alignment by providing measurable and actionable workforce insights (Lubis et al., 2025). Researchers have further highlighted the need for aligning analytical outputs with managerial expectations to improve practical relevance and organizational applicability (Ellmer, 2021).

At the same time, the concept of Sustainable Human Resource Management (Sustainable HRM) has gained growing attention among researchers and practitioners. Sustainable HRM focuses on



incorporating social, economic, and environmental considerations into HR policies and organizational practices to ensure long-term sustainability and responsible business performance. The concept is generally associated with the triple bottom line framework, which emphasizes economic stability, social responsibility, and environmental protection simultaneously (Westerman et al., 2020). Sustainable HRM supports organizational sustainability agendas by integrating workforce practices with broader societal and environmental goals (Ren et al., 2023). The transition from traditional strategic HRM toward Sustainable HRM also reflects the increasing importance of balancing financial performance with ethical and environmental responsibilities in modern organizations (Cooke, 2025). Existing literature indicates that Sustainable HRM practices positively influence employee well-being, organizational commitment, and long-term organizational effectiveness (Jerónimo et al., 2020). Such practices not only focus on improving productivity but also emphasize employee welfare, workplace sustainability, and environmental stewardship (Madero-Gómez et al., 2023). Sustainable HRM further contributes to the development of a future-oriented workforce capable of adapting to technological and organizational changes (Papademetriou et al., 2025). Sustainability-oriented HR initiatives also strengthen employee engagement and commitment toward organizational goals (Okorie & De Guzman, 2025). In this regard, employee training and continuous development programs are considered essential for achieving sustainable workforce outcomes and long-term organizational growth (Chowdhury, 2026).

The integration of Human Resource Analytics with Sustainable HRM offers organizations a more strategic and comprehensive approach toward workforce management. HR analytics enables organizations to monitor and evaluate sustainability-related HR outcomes more effectively, thereby supporting sustainability-oriented decision-making processes. Previous studies indicate that HR analytics contributes to sustainable development through green HRM practices and sustainability-focused workforce initiatives (Obeidat & Abdalla, 2022). Although analytics-based systems provide significant opportunities for improving sustainability performance, researchers have also identified certain implementation challenges and associated risks (Yin, 2025). Nevertheless, organizations are increasingly applying HR analytics to improve sustainability outcomes and align HR functions with sustainable development objectives (Ali et al., 2025). Some recent studies have additionally proposed frameworks linking HR analytics with organizational sustainability strategies and sustainable development goals (Stankevičiūtė et al., 2024).

Technological advancements, particularly in artificial intelligence and predictive analytics, have further accelerated the integration of analytics with sustainable HR practices. AI-supported analytical systems assist organizations in designing effective sustainability-oriented HR strategies and workforce planning initiatives (Menon et al., 2024). Predictive analytics also improves long-term organizational planning and sustainable value creation processes (Singh Miglani & Arora, 2025). Furthermore, HR



analytics contributes to Environmental, Social, and Governance (ESG) integration by supporting responsible workforce management and sustainability reporting activities (Kushwaha et al., 2026). AI-enabled decision-making systems additionally support organizations in developing adaptive and sustainable workforce planning models suitable for changing business environments (Yadav et al., 2025; Sharma, 2026).

An important outcome of integrating HRA with Sustainable HRM is responsible workforce development. This approach emphasizes developing and retaining employees with the necessary competencies, adaptability, and sustainability awareness required for long-term organizational success. Employee training and skill development are widely recognized as essential factors for sustainability-oriented organizational growth and workforce resilience (Nijhawan et al., 2025). Sustainability-focused workforce development also improves employee readiness for future organizational and technological challenges while supporting innovation and long-term competitiveness (Papademetriou et al., 2025). Similarly, green workforce strategies are positively associated with organizational growth, employee effectiveness, and sustainable performance outcomes (Verma, 2026). Sustainable HRM practices further contribute to workforce productivity and employee well-being within contemporary organizations (Nakra et al., 2024).

Despite the growing volume of research related to HR Analytics and Sustainable HRM, several research gaps still remain. Most previous studies have examined HR analytics and sustainability separately rather than exploring their combined impact on organizational outcomes (Álvarez-Gutiérrez et al., 2022). Empirical evidence regarding the integrated influence of HR analytics and Sustainable HRM on workforce sustainability and organizational development remains limited (Kushwaha et al., 2026). In addition, only limited research has focused on developing comprehensive frameworks connecting HR analytics, strategic alignment, and sustainability objectives within a unified perspective (Stankevicius et al., 2024; Gaurav et al., 2025). Furthermore, responsible workforce development has received comparatively less attention as an important outcome of integrating HRA and Sustainable HRM, especially in the context of emerging economies.

2. REVIEW OF LITERATURE

2.1. Human Resource Analytics and Organizational Performance

The increasing use of technology and data-driven systems has transformed Human Resource Management into a more strategic organizational function. In this transformation, Human Resource Analytics (HRA) has emerged as an important tool that enables organizations to utilize employee-related data for improving managerial and organizational outcomes. HRA supports the strategic role of HR by connecting workforce insights with organizational objectives and business priorities (Suri, 2024). The application of big data and analytical techniques has also improved the quality and



accuracy of organizational decision-making processes (Keerthiraj et al., 2024). Research studies indicate that HR analytics positively influences organizational performance by enhancing HR effectiveness and supporting evidence-based managerial practices (Tessema et al., 2025).

Workforce management and succession planning activities are strengthened through analytics-based HR systems (Elugbaju, 2024). In addition, HR analytics contributes to strategic planning by generating measurable workforce insights through HR metrics and performance indicators (Babatunde, 2024). The integration of artificial intelligence has further expanded HR analytics capabilities by enabling predictive and prescriptive decision-making approaches related to workforce management (Sharma et al., 2025). The implementation of HRA is often affected by challenges such as poor data quality, technological limitations, and organizational resistance to change (Khaliq & Saritha, 2023).

2.2. Strategic Alignment in HRM

Strategic alignment is considered one of the core concepts in Human Resource Management because it emphasizes the integration of HR strategies with organizational objectives and long-term business goals. Effective alignment between HR practices and organizational strategy enables HR functions to contribute directly to organizational growth and competitive advantage (Boudreau et al., 2023). In the context of HR analytics, the concept of epistemic alignment highlights the importance of matching analytical outcomes with managerial expectations and organizational requirements to ensure practical relevance (Ellmer, 2021).

The use of HR analytics strengthens strategic decision-making capabilities and improves organizational competitiveness through data-supported workforce insights (Keerthiraj et al., 2024). Studies further indicate that analytics-driven HR systems positively influence financial performance by improving workforce-related managerial decisions (Nurbaiti, 2021). Human Resource Analytics functions as a moderating factor between HR capabilities and strategic alignment within organizations (Lubis et al., 2025). Predictive analytics frameworks facilitate strategic alignment through improved talent management, leadership development, and workforce planning practices (Gurusinghe et al., 2021). Furthermore, strategic HR leadership plays a crucial role in embedding HR activities within the broader organizational framework and supporting long-term organizational success (Li et al., 2025).

2.3. Sustainable Human Resource Management (Sustainable HRM)

Growing awareness regarding sustainability and responsible business practices has increased the significance of Sustainable Human Resource Management in modern organizations. Sustainable HRM focuses on integrating economic, environmental, and social considerations into HR policies and organizational practices to ensure long-term organizational and societal well-being. The concept is



closely associated with the triple bottom line framework, which emphasizes economic growth, social responsibility, and environmental sustainability simultaneously (Westerman et al., 2020). Sustainable HRM supports organizational sustainability agendas by promoting responsible workforce practices and ethical organizational behavior (Ren et al., 2023). It also represents a transition from traditional HRM approaches toward sustainability-oriented management systems (Cooke, 2025).

Existing studies reveal that Sustainable HRM practices positively influence employee performance, organizational effectiveness, and long-term sustainability outcomes (Jerónimo et al., 2020). These practices not only improve workforce productivity but also enhance employee well-being and environmental awareness within organizations (Madero-Gómez et al., 2023). Sustainable HRM additionally contributes to the development of a future-ready workforce through sustainability-oriented training and employee development initiatives (Papademetriou et al., 2025).

2.4. Integration of HRA and Sustainable HRM

The integration of Human Resource Analytics and Sustainable HRM has gained increasing attention in recent academic discussions. Existing research indicates that HR analytics supports green HRM initiatives and contributes to broader sustainable development objectives (Obeidat & Abdalla, 2022). HR analytics also enables organizations to monitor, evaluate, and measure sustainability-related HR outcomes more effectively (Yin, 2025).

Technological advancements, especially in artificial intelligence and predictive analytics, have further strengthened sustainability-oriented HR practices within organizations. AI-supported analytical systems enhance the effectiveness of Sustainable HRM practices by improving workforce planning and strategic decision-making processes (Menon et al., 2024). Predictive analytics additionally supports sustainability-oriented managerial decisions and long-term workforce planning initiatives (Singh Miglani & Arora, 2025). HR analytics also contributes to Environmental, Social, and Governance (ESG) integration and sustainable value creation within organizations (Kushwaha et al., 2026). Furthermore, AI-enabled HR analytics systems improve organizational sustainability through predictive workforce insights and adaptive planning mechanisms (Yadav et al., 2025).

Despite the growing interest in this area, many studies continue to examine HR analytics and Sustainable HRM as separate concepts, resulting in fragmented theoretical understanding (Álvarez-Gutiérrez et al., 2022). Existing literature also indicates a lack of comprehensive frameworks integrating analytics capabilities, strategic alignment, and sustainability-oriented HR practices within a unified perspective (Gaurav et al., 2025).



2.5. Sustainable HRM and Workforce Development

Workforce development is considered one of the major outcomes of Sustainable Human Resource Management practices. Sustainable HRM contributes to employee skill enhancement, adaptability, and long-term employability through continuous training and development initiatives (Chowdhury, 2026). These practices also support employee well-being and career sustainability within organizations (Nakra et al., 2024). In the context of Industry 4.0 and technological transformation, Sustainable HRM plays a significant role in preparing employees for emerging organizational and technological challenges (Ozkan-Ozen & Kazancoglu, 2022).

Studies further reveal that Sustainable HRM strengthens employee commitment and positively influences organizational performance outcomes (Verma, 2026). It also contributes to sustainable organizational growth by improving workforce competencies and organizational capabilities (Tortia et al., 2022). Employee-centered HRM practices additionally enhance workforce resilience, adaptability, and long-term organizational sustainability (Richards, 2022). Sustainable HRM further supports broader sustainable development goals by promoting responsible workforce practices and long-term societal well-being (Duvnjak & Kohont, 2021).

Although the literature on HR Analytics, strategic alignment, and Sustainable HRM has expanded considerably, several important research gaps remain. Most existing studies examine these concepts independently rather than investigating their interconnected relationships within organizations. Limited research has focused on integrating HR analytics, strategic alignment, and Sustainable HRM into a unified conceptual framework. Furthermore, the role of strategic alignment as a linking mechanism between HR Analytics and Sustainable HRM in promoting responsible workforce development remains underexplored. Therefore, the present study attempts to address this gap by proposing an integrated framework that explains how these elements interact to support responsible workforce development and long-term organizational sustainability.

3. THEORETICAL BACKGROUND

3.1. Strategic Alignment Theory

Strategic Alignment Theory focuses on the integration of organizational strategies, business objectives, and HR practices to achieve improved organizational performance. According to this theory, organizations perform more effectively when HR strategies are aligned with overall business goals and operational priorities. Existing studies indicate that strategic alignment enables HR practices to contribute directly to organizational success and long-term competitiveness (Madhavi et al., 2025). Research further suggests that strategic alignment acts as an important connecting mechanism between organizational resources and performance outcomes (Ikawati & Rofiqoh, 2026). HR analytics supports this alignment by integrating workforce data with business strategies and managerial decision-making



processes (Dutraj, 2025). Additionally, the concept of epistemic alignment highlights the importance of ensuring that HR analytics outputs are relevant, understandable, and useful for managerial decision-making (Ellmer, 2021). Thus, Strategic Alignment Theory helps explain how organizations can integrate HR analytics with business strategies to improve organizational effectiveness and sustainability outcomes.

3.2. Theoretical Integration and Research Gap

The integration of the above theoretical perspective provides a comprehensive foundation for understanding the relationship between Human Resource Analytics, strategic alignment, and Sustainable Human Resource Management. Strategic Alignment Theory explains the importance of integrating HR strategies with organizational goals.

Most previous studies examine HR analytics, strategic alignment, and Sustainable HRM independently rather than exploring their interconnected influence on responsible workforce development.

3.3. Research Gap

Existing research highlights the contribution of analytics and big data technologies in improving the efficiency and accuracy of workforce-related decisions (Keerthiraj et al., 2024). Strategic alignment is widely recognized as an essential factor influencing organizational success and competitive advantage (Boudreau et al., 2023). Nevertheless, research examining the integration of analytics-driven workforce insights into strategic alignment processes remains relatively limited (Madhavi et al., 2025).

Simultaneously, the literature relating to Sustainable Human Resource Management (Sustainable HRM) has developed as a separate stream of research focusing mainly on sustainability-oriented HR practices, employee well-being, and long-term organizational sustainability (Westerman et al., 2020). Sustainable HRM has been recognized for supporting responsible workforce practices and broader sustainability goals within organizations (Ren et al., 2023). However, the role of HR analytics in strengthening sustainability-oriented HR practices and organizational sustainability initiatives has not been adequately explored in previous studies (Cooke, 2025). Consequently, HR analytics and Sustainable HRM are often examined independently, resulting in fragmented theoretical understanding and disconnected research frameworks (Álvarez-Gutiérrez et al., 2022).

Another important issue relates to the limited empirical evidence concerning the relationship between HR analytics, strategic alignment, and Sustainable HRM. Although certain studies suggest that HR analytics can support sustainability initiatives and green HRM practices (Obeidat & Abdalla, 2022),

most discussions remain conceptual and lack strong empirical validation (Yin, 2025).

Previous studies emphasize the importance of employee training, skill development, adaptability, and workforce readiness in supporting long-term organizational effectiveness and sustainability (Chowdhury, 2026; Papademetriou et al., 2025). However, insufficient research has examined how HR analytics and Sustainable HRM collectively contribute to responsible workforce development through strategic alignment processes. Therefore, the relationship between analytics-driven HR practices and sustainability-oriented workforce development remains underexplored in current literature. In view of these gaps, the present study attempts to develop and empirically validate an integrated framework connecting Human Resource Analytics, strategic alignment, and Sustainable HRM to explain responsible workforce development and long-term organizational sustainability.

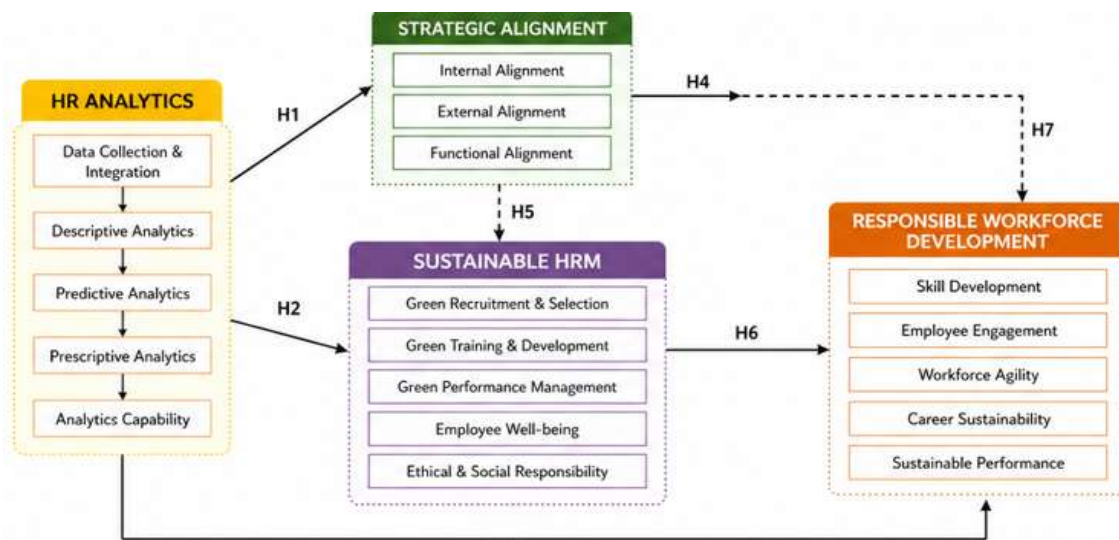


Figure 1 Conceptual Framework

Source: Compiled by the author(s) based on the literature reviewed.

4. OBJECTIVES OF THE STUDY

1. To examine the relationship between Human Resource Analytics, strategic alignment, and Sustainable Human Resource Management in promoting responsible workforce development.
2. To analyze the role of HR analytics in supporting data-driven decision-making and strategic HR alignment within organizations.
3. To examine the contribution of Sustainable HRM practices toward workforce sustainability, employee well-being, and organizational effectiveness.
4. To identify the mediating role of strategic alignment in connecting HR analytics with Sustainable HRM outcomes.



5. To propose an integrated conceptual perspective linking HRA, strategic alignment, and sustainability-oriented workforce management.

5. RESEARCH METHODOLOGY

5.1. Research Design

This study adopts a Systematic Literature Review (SLR) approach to examine the relationship between Human Resource (HR) analytics, strategic alignment, and Sustainable Human Resource Management (Sustainable HRM) in the context of responsible workforce development. The SLR method was selected because it provides a structured and transparent procedure for identifying, evaluating, and synthesizing existing academic literature. Unlike conventional narrative reviews, systematic reviews follow a clearly defined process that improves consistency and reduces the possibility of subjective bias.

To ensure methodological rigor and reporting transparency, the study follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The PRISMA framework offers a standardized process for conducting systematic reviews, including study identification, screening, eligibility assessment, and final inclusion. The use of this framework improves the reliability and replicability of the review process.

5.2. Sources and Search Strategy

The literature for this study was collected from several recognized academic databases to ensure broad and reliable coverage of relevant studies. The primary databases used for the search process included Scopus, Web of Science, ScienceDirect, and Google Scholar. A systematic keyword-based search strategy was adopted to identify studies related to HR analytics, strategic alignment, Sustainable HRM, and workforce development.

The search process included keywords such as “HR Analytics,” “People Analytics,” “Strategic Alignment,” “Strategic HRM,” “Sustainable HRM,” “Green HRM,” and “Workforce Development.” Boolean operators such as AND and OR were used to combine keywords and improve the relevance of search results. The search was carried out during January and February 2026. To capture recent developments in the field, the review focused on studies published between 2020 and 2026.

5.3. Inclusion and Exclusion Criteria

Specific inclusion and exclusion criteria were established to maintain the quality and relevance of the selected literature. The inclusion criteria consisted of peer-reviewed journal articles published in English between 2020 and 2026 that focused on HR analytics, strategic alignment, Sustainable HRM, and workforce development. Both empirical and conceptual studies were considered suitable for



inclusion in the review.

The exclusion criteria included conference proceedings, book chapters, dissertations, reports, duplicate records, non-English publications, and studies not directly connected to the core variables of the research. Applying these criteria ensured consistency in the selection process and improved the overall quality of the review.

5.4. Study Selection Process

The study selection procedure was conducted using the PRISMA framework (Figure 2), which consists of four stages: identification, screening, eligibility assessment, and final inclusion. Initially, a total of 1,280 records were identified from different academic databases, including Scopus (520 records), Web of Science (380 records), ScienceDirect (210 records), Google Scholar (104 records), and additional sources (26 records).

After removing duplicate entries, 1,044 studies remained for the screening process. During the screening stage, titles and abstracts were reviewed to assess relevance to the research topic. As a result, 694 studies were excluded due to insufficient relevance. Subsequently, 350 full-text articles were selected for further evaluation. Among these, 62 articles could not be retrieved or accessed. Therefore, 288 studies were assessed during the eligibility stage.

At the eligibility stage, 200 studies were excluded for various reasons, including failure to meet inclusion criteria (128 studies), limited relevance to the major research constructs (54 studies), and insufficient or inaccessible data (18 studies). Finally, 88 studies were selected for qualitative and quantitative synthesis. This systematic selection procedure enhanced the transparency, consistency, and reliability of the review process.

5.5. Data Extraction and Synthesis

A structured data extraction procedure was adopted to collect relevant information from the selected studies systematically. Important details such as author names, publication year, research objectives, methodology, variables examined, and major findings were recorded and organized for analysis. The collected data were analyzed using a thematic analysis approach to identify recurring concepts, relationships, and emerging research themes. Based on the review objectives, the selected studies were grouped into major thematic categories, including HR analytics, strategic alignment, Sustainable HRM, and workforce development. This thematic classification supported a comprehensive understanding of the literature and helped in identifying major research gaps and future research directions.



5.6. Quality Assessment

To improve the reliability and consistency of the review findings, the selected studies were assessed based on their methodological quality, relevance to the research objectives, and overall academic contribution. Particular attention was given to the clarity of research design, appropriateness of analytical methods, and relevance of findings to the major constructs examined in the study.

Only articles published in peer-reviewed journals were considered for inclusion in order to maintain academic credibility and research quality. Additional importance was given to studies indexed in recognized academic databases and those applying well-established research methods. This evaluation process helped reduce the possibility of bias and strengthened the overall dependability of the literature review findings.

5.7. Ethical Considerations

The present study is entirely based on secondary data collected from previously published academic literature and scholarly sources. Since the study did not involve direct interaction with human participants, ethical approval and participant consent were not required. To ensure academic integrity, all references and source materials used in the study were appropriately cited and acknowledged. Proper citation practices were followed throughout the review process to avoid plagiarism and maintain transparency in reporting. The study also followed accepted ethical standards related to academic writing, data usage, and research reporting.

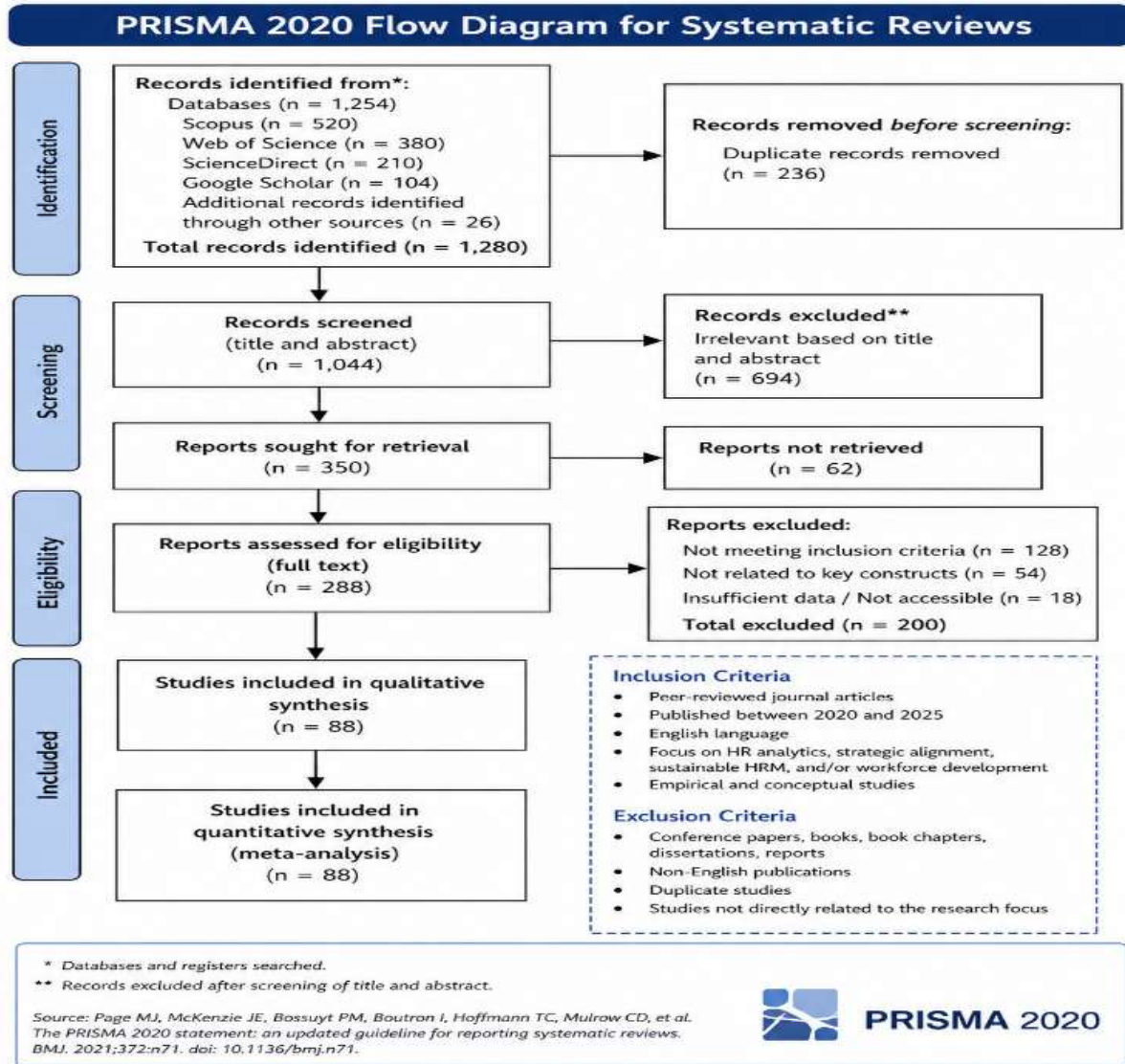


Figure 2 PRISMA Flow Diagram

Table 1 Tabular Representation of Research Objectives, Variables and Explanation

<i>S. No.</i>	<i>Research Objectives</i>	<i>Independent Variable(s)</i>	<i>Dependent Variable(s)</i>	<i>Explanation & Comparative Analysis</i>	<i>Methodology (in prior studies)</i>	<i>Relevant Literature</i>
1	To examine the role of HR analytics in enhancing strategic alignment	HR Analytics	Strategic Alignment	HR analytics enables data-driven decision-making, improving the alignment between HR practices and organizational strategies. Prior studies indicate that analytics strengthens HR's strategic role and supports business integration.	Review, Empirical	(Suri, 2024); (Dutraj, 2025); (Keerthiraj et al., 2024)
2	To analyze the impact of HR analytics on Sustainable HRM practices	HR Analytics	Sustainable HRM	HR analytics supports sustainability initiatives by integrating data insights into HR processes. Comparative studies highlight its role in promoting green HRM and long-term organizational sustainability.	Conceptual, Empirical	(Obeidat & Abdalla, 2022); (Yin, 2025); (Menon et al., 2024)
3	To investigate the relationship between strategic alignment and Sustainable HRM	Strategic Alignment	Sustainable HRM	Strategic alignment ensures that sustainability-oriented HR practices are effectively integrated with organizational goals. Studies show alignment acts as a key driver for implementing sustainable HRM practices.	Conceptual, Review	(Madhavi et al., 2025); (Ikawati & Rofiqoh, 2026)
4	To examine the effect of Sustainable HRM on responsible workforce development	Sustainable HRM	Workforce Development	Sustainable HRM enhances employee well-being, skills, and long-term development. Comparative findings indicate that sustainability-focused HR practices contribute to workforce adaptability and organizational performance.	Review, Empirical	(Jerónimo et al., 2020); (Chowdhury, 2026); (Papademetriou et al., 2025)
5	To assess the mediating role of strategic alignment between HR analytics and Sustainable HRM	HR Analytics	Sustainable HRM	Strategic alignment acts as a mediating mechanism that links HR analytics with Sustainable HRM outcomes. Prior studies suggest that analytics improves alignment, which in turn enhances sustainability	Empirical, Conceptual	Lubis et al. (2025); (Gurusinghe et al., 2021)

				practices.		
6	To evaluate the combined effect of HR analytics and Sustainable HRM on workforce development	HR Analytics, Sustainable HRM	Workforce Development	The integration of HR analytics and Sustainable HRM creates a synergistic effect on workforce development. Comparative literature highlights the importance of combining data-driven insights with sustainability practices.	Review, Analytical	(Stankevičiūtė et al., 2024); (Gaurav et al., 2025)

Source: Compiled by the author(s) based on reviewed literature

Table 2 Key Findings of Empirical Review

<i>S. No.</i>	<i>Research Objective</i>	<i>Key Empirical Insights</i>	<i>Representative Studies</i>
1	To examine the role of HR analytics in enhancing strategic alignment	Empirical evidence shows that HR analytics significantly improves data-driven decision-making and strengthens the alignment between HR practices and organizational strategies, thereby enhancing overall strategic effectiveness.	(Suri, 2024); (Dutraj, 2025); (Keerthiraj et al., 2024)
2	To analyze the impact of HR analytics on Sustainable HRM practices	Studies indicate that HR analytics positively influences the adoption of sustainable HRM practices by enabling measurement, monitoring, and optimization of sustainability-related HR outcomes.	(Obeidat & Abdalla, 2022); (Yin, 2025); (Menon et al., 2024)
3	To investigate the relationship between strategic alignment and Sustainable HRM	Empirical findings suggest that strategic alignment plays a crucial role in integrating sustainability-oriented HR practices with organizational goals, thereby improving implementation effectiveness.	(Madhavi et al., 2025); (Ikawati & Rofiqoh, 2026)
4	To examine the effect of Sustainable HRM on responsible workforce development	Evidence demonstrates that Sustainable HRM significantly enhances employee well-being, skills development, and long-term workforce adaptability, contributing to improved organizational performance.	(Jerónimo et al., 2020);(Chowdhury, 2026); (Papademetriou et al., 2025)
5	To assess the mediating role of strategic alignment between HR analytics and Sustainable HRM	Empirical studies reveal that strategic alignment mediates the relationship between HR analytics and Sustainable HRM, indicating that analytics-driven insights are more effective when aligned with organizational strategies.	Lubis et al. (2025); (Gurusinghe et al., 2021)



6	To evaluate the combined effect of HR analytics and Sustainable HRM on workforce development	Findings highlight a synergistic effect where the integration of HR analytics and Sustainable HRM significantly improves workforce development outcomes through enhanced decision-making and sustainability practices.	(Stankevičiūtė et al., 2024); (Gaurav et al., 2025)
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Source: Compiled by the author(s) based on reviewed literature

6. RESULTS

6.1. Thematic Overview of Selected Studies

The systematic review identified 88 studies related to Human Resource (HR) analytics, strategic alignment, Sustainable Human Resource Management (Sustainable HRM), and workforce development. The analysis revealed that the selected studies are mainly concentrated around four major themes, namely HR analytics and organizational decision-making, strategic alignment in HRM, Sustainable HRM practices, and workforce development outcomes.

The findings further indicate that HR analytics and strategic alignment have received relatively higher empirical attention in recent years ((Suri, 2024); (Keerthiraj et al., 2024); (Madhavi et al., 2025)). In contrast, comparatively fewer studies have examined the integration of these concepts with sustainability-oriented HR practices and workforce development outcomes ((Álvarez-Gutiérrez et al., 2022); (Stankevičiūtė et al., 2024)). This suggests that although research in this area is steadily increasing, the literature still lacks a sufficiently integrated perspective.

6.1.1. HR Analytics and Strategic Decision-Making

The review findings demonstrate that HR analytics contributes significantly to organizational decision-making processes. Existing empirical studies indicate that analytics-based HR practices improve workforce planning, talent management, employee-related decisions, and overall HR effectiveness ((Tessema et al., 2025); (Noor et al., 2025)). HR analytics additionally supports organizational strategy by aligning HR functions more closely with business objectives and operational priorities (Dutraj, 2025).

The adoption of big data technologies and artificial intelligence has further strengthened predictive and prescriptive decision-making capabilities in HR systems ((Keerthiraj et al., 2024); (Sharma et al., 2025)). These technologies enable organizations to identify workforce trends, forecast future workforce challenges, and improve strategic planning activities. However, the findings also reveal that many organizations continue to remain at an early stage of analytics maturity, which restricts the complete strategic utilization of HR analytics (Rigamonti et al., 2024).

6.1.2. Role of Strategic Alignment

The review identifies strategic alignment as an important factor connecting HR practices with organizational performance and effectiveness. Studies indicate that organizations achieve stronger outcomes when HR strategies are aligned effectively with business goals and operational priorities ((Boudreau et al., 2023); (Madhavi et al., 2025)). Such alignment improves the contribution of HR functions toward organizational success and long-term competitiveness.

The findings further suggest that strategic alignment acts as both a mediating and enabling mechanism in HRM-performance relationships (Ikawati & Rofiqoh, 2026). In addition, the concept of epistemic alignment emphasizes that HR analytics outputs should correspond with managerial expectations and organizational requirements to ensure practical relevance and effective decision-making (Ellmer, 2021). Despite these findings, limited studies have explored the integration of analytics capabilities within broader strategic alignment frameworks.

6.1.3. HR Analytics and Sustainable HRM Integration

The findings suggest that the integration of HR analytics with Sustainable HRM remains at a developing stage in current literature. Existing studies indicate that HR analytics supports sustainability-related initiatives such as green HRM practices and ESG-oriented organizational activities ((Obeidat & Abdalla, 2022); (Kushwaha et al., 2026)). HR analytics also helps organizations measure and monitor sustainability-related HR outcomes more effectively (Yin, 2025).

Technological advancements such as artificial intelligence and IoT-based systems have additionally strengthened the ability of HR analytics to support sustainability-oriented decision-making processes ((Menon et al., 2024); (Singh Miglani & Arora, 2025)). However, the review identifies a lack of integrated frameworks that combine HR analytics and Sustainable HRM within a comprehensive organizational model (Álvarez-Gutiérrez et al., 2022). This limitation affects the practical implementation of analytics-supported sustainability initiatives.

6.1.4. Sustainable HRM and Workforce Development

The findings reveal that Sustainable HRM positively influences workforce development and organizational sustainability. Empirical studies show that sustainability-oriented HR practices improve employee well-being, engagement, and performance outcomes (Jerónimo et al., 2020). Sustainable HRM also enhances employee skills, workforce adaptability, and future readiness, particularly in the context of digital transformation and Industry 4.0 environments ((Chowdhury, 2026); (Ozkan-Ozen & Kazancoglu, 2022)).

The review additionally indicates that Sustainable HRM contributes to long-term organizational



effectiveness by strengthening employee commitment, organizational resilience, and sustainable workforce growth ((Papademetriou et al., 2025); (Nakra et al., 2024)). Nevertheless, limited attention has been given to understanding how HR analytics can strengthen workforce development outcomes within sustainability-oriented HR systems.

6.1.4. Mediating Role of Strategic Alignment

The findings further indicate that strategic alignment plays a mediating role between HR analytics and Sustainable HRM outcomes. HR analytics strengthens strategic alignment by generating workforce-related insights that support the integration of HR strategies with organizational goals (Lubis et al., 2025). Through this process, organizations are able to align sustainability-oriented HR practices more effectively with long-term strategic objectives.

Strategic alignment also supports the implementation of Sustainable HRM initiatives by improving coordination between workforce management practices and organizational priorities (Ikawati & Rofiqoh, 2026). This relationship highlights the importance of combining analytical capabilities with strategic organizational frameworks to achieve improved workforce and organizational outcomes.

6.2. Integrated Framework Insight

One of the major findings of the review is the identification of an interconnected relationship among HR analytics, strategic alignment, Sustainable HRM, and workforce development. The findings indicate that HR analytics functions as a foundation for evidence-based workforce management and data-driven decision-making practices (Suri, 2024). At the same time, strategic alignment serves as a connecting mechanism linking HR activities with organizational objectives and business strategies (Madhavi et al., 2025).

Sustainable HRM functions as a pathway through which analytics-driven HR practices and strategic alignment contribute to long-term workforce development and sustainability outcomes (Ren et al., 2023). This integrated perspective provides a broader understanding of how organizations can combine analytics capabilities with sustainability-oriented HR practices to support responsible workforce development and long-term organizational sustainability.

Overall, the findings indicate that although the individual relationships among HR analytics, strategic alignment, and Sustainable HRM have been examined in earlier studies, their combined influence on workforce development remains insufficiently explored. Existing literature also highlights the need for integrated and empirically supported frameworks capable of explaining the interaction among these constructs ((Gaurav et al., 2025); (Stankevičiūtė et al., 2024)). Therefore, the present study contributes to the literature by presenting a unified perspective linking analytics-driven HR practices,



strategic alignment, sustainability-oriented HRM, and responsible workforce development.

7. DISCUSSION

7.1. HR Analytics and Organizational Outcomes

The findings of this study show that Human Resource (HR) analytics has become an important tool for improving organizational performance through data-based decision-making. By using workforce data effectively, organizations are able to generate meaningful insights that support managerial decisions and improve operational efficiency (Suri & Lakhanpal, 2024). The increasing use of analytics technologies and big data applications has also strengthened strategic decision-making processes within organizations (Keerthiraj et al., 2024).

The review findings further indicate that HR analytics supports talent management, workforce planning, and HR effectiveness through evidence-oriented HR practices (Noor et al., 2025). Predictive analytical systems also help organizations identify future workforce requirements and improve succession planning activities (Elugbaju et al., 2024). Even though HR analytics offers several strategic advantages, its practical integration into HRM systems remains limited in many organizations (Madhavi et al., 2025). Factors such as technological limitations, organizational preparedness, and lack of analytical expertise continue to affect the effective implementation of HR analytics practices (Khaliq & Saritha, 2023).

7.2. Strategic Alignment as a Mediating Mechanism

The findings also underline the importance of strategic alignment in strengthening the relationship between HR analytics and organizational outcomes. Strategic alignment helps organizations connect HR practices with business objectives, thereby improving organizational effectiveness and long-term performance (Boudreau et al., 2023). It also acts as an important link between organizational resources and performance outcomes (Ikawati & Rofiqoh, 2026).

HR analytics contributes to this process by integrating workforce information with organizational strategies and supporting informed managerial decisions (Lubis et al., 2025). Through analytics-driven approaches, HR activities can be aligned more effectively with organizational priorities and long-term goals (Dutraj, 2025). In addition, epistemic alignment highlights the importance of ensuring that analytical outputs remain relevant and useful for organizational decision-makers (Ellmer & Reichel, 2021). Despite its importance, current literature still lacks sufficient integration between HR analytics and strategic alignment frameworks, which creates gaps in theoretical understanding (Gurusinghe et al., 2021).



7.3. Sustainable HRM and Its Integration with Analytics

The discussion further emphasizes the growing significance of Sustainable Human Resource Management (Sustainable HRM) in supporting long-term organizational sustainability and workforce effectiveness. Sustainable HRM encourages responsible HR practices that improve employee well-being, organizational performance, and workforce sustainability (Jerónimo et al., 2020). It also supports organizational sustainability goals by integrating economic, social, and environmental considerations into HR activities (Ren et al., 2023).

The growing shift toward sustainability-oriented HR practices reflects the increasing importance of ethical, inclusive, and socially responsible management systems within organizations (Cooke, 2025). Sustainable HRM also follows the principles of the triple bottom line framework by balancing organizational success with environmental and social responsibility (Westerman et al., 2020).

However, the integration of HR analytics with Sustainable HRM practices is still developing. Existing studies suggest that HR analytics can support green HRM initiatives and sustainability-oriented workforce practices (Obeidat & Abdalla, 2022). Nevertheless, empirical evidence explaining how analytics and Sustainable HRM work together in practice remains limited (Yin, 2025). Previous studies also point out the absence of comprehensive frameworks that combine analytics capabilities with sustainability-focused HR practices (Álvarez-Gutiérrez et al., 2022). Therefore, the need for advanced analytics-supported Sustainable HRM models has become increasingly important in recent research (Gaurav et al., 2025).

7.4. Responsible Workforce Development

The findings additionally show that responsible workforce development is one of the important outcomes of Sustainable HRM practices. Sustainability-oriented HR activities help improve employee skills, adaptability, and long-term workforce effectiveness (Chowdhury, 2026). Sustainable HRM also contributes to the development of a future-ready workforce by integrating sustainability principles into training and employee development activities (Papademetriou et al., 2025).

Workforce development is closely associated with employee well-being, organizational commitment, and sustainable organizational growth (Okorie & De Guzman, 2025). Organizations that focus on sustainable workforce practices are more likely to improve employee engagement and long-term organizational effectiveness. However, the role of HR analytics in supporting workforce development strategies remains comparatively underexplored. Existing research provides limited evidence regarding the use of analytics-driven insights for designing sustainable talent development strategies (Stankevičiūtė et al., 2024). Consequently, empirical studies examining the relationship between HR analytics and responsible workforce development are still limited (Tessema et al., 2025).



7.5. Integrated Perspective and Research Gaps

Another important observation from the study is the limited availability of integrated models that simultaneously examine HR analytics, strategic alignment, Sustainable HRM, and workforce development. Most previous studies focus mainly on individual relationships among these variables, resulting in fragmented findings and limited theoretical integration (Álvarez-Gutiérrez et al., 2022). As a result, the interaction among these concepts remains insufficiently explored.

The findings therefore indicate the need for integrated frameworks capable of explaining how HR analytics supports Sustainable HRM through strategic alignment mechanisms. Such integration is important for understanding the combined influence of analytics-driven HR practices, sustainability-oriented management systems, and workforce development outcomes (Gaurav et al., 2025).

The study also highlights the need for more empirical and context-specific investigations in this field. Existing literature provides limited evidence from emerging economies, reducing the broader applicability of current findings (Tessema et al., 2025). Organizational culture, technological readiness, and contextual differences may significantly influence the implementation of HR analytics and Sustainable HRM practices. Therefore, more localized and evidence-based research is required to understand these relationships across different organizational settings (Okorie & De Guzman, 2025).

8. IMPLICATIONS

8.1. Theoretical Implications

The findings of the present study contribute to the existing literature by bringing together Human Resource (HR) analytics, strategic alignment, and Sustainable Human Resource Management (Sustainable HRM) within a single conceptual framework. Earlier studies mainly examined HR analytics in the context of organizational performance and decision-making processes (Suri, 2024). The current study extends this understanding by explaining the broader strategic role of HR analytics within HRM systems and organizational sustainability practices.

The study also contributes to strategic HRM literature by emphasizing the importance of strategic alignment in improving organizational effectiveness and workforce outcomes (Boudreau et al., 2023). In addition, the findings strengthen Sustainable HRM literature by showing the importance of integrating analytics-driven approaches into sustainability-oriented HR practices, which have often been studied separately in earlier research (Westerman et al., 2020).

Another important contribution of the study is its attempt to reduce the fragmented understanding found in previous studies by connecting HR analytics, sustainability practices, and workforce



development within an integrated perspective (Álvarez-Gutiérrez et al., 2022). The findings additionally support the mediating role of strategic alignment in linking HR analytics with organizational and workforce outcomes, thereby extending existing HRM-performance models (Ikawati & Rofiqoh, 2026).

8.2. Managerial Implications

The findings of the study offer several practical implications for organizational leaders, HR professionals, and management practitioners. The results indicate that organizations should strengthen their HR analytics capabilities in order to improve workforce-related decision-making and overall HR effectiveness (Keerthiraj et al., 2024). Organizations that effectively utilize workforce data may achieve better planning, talent management, and organizational coordination.

In addition, organizations can use HR analytics to support sustainability initiatives such as green HRM practices, responsible workforce management, and sustainability-oriented employee development programs (Obeidat & Abdalla, 2022). Workforce development strategies should also be designed in line with sustainability objectives to improve employee adaptability, resilience, and long-term organizational performance (Chowdhury, 2026). Therefore, organizations may benefit from adopting an integrated approach that combines HR analytics, strategic alignment, and sustainability-oriented HR practices within workforce management systems.

The study also emphasizes the importance of ethical practices and proper data governance in the implementation of HR analytics systems. Organizations need to ensure transparency, accountability, and responsible use of workforce data while applying analytics-based HR practices (Yin, 2025). Furthermore, the integration of HR analytics with Sustainable HRM practices may contribute to broader organizational sustainability goals, including social responsibility and environmental sustainability initiatives (Cooke, 2025). This highlights the need for organizations to align their policies with both sustainability principles and data-driven management practices.

9. FUTURE RESEARCH DIRECTIONS

The findings of the study identify several areas that require further academic investigation. Future research may focus on examining the integrated relationship among HR analytics, strategic alignment, Sustainable HRM, and workforce development through empirical studies conducted in different organizational settings. Additional studies are also needed to develop and validate comprehensive frameworks explaining the interaction among these variables (Stankevičiūtė et al., 2024). Longitudinal studies may further help researchers understand the long-term influence of HR analytics on sustainability outcomes and workforce development.



Moreover, there is a need for context-specific research examining the organizational, technological, and cultural factors influencing the adoption of HR analytics and Sustainable HRM practices, especially within developing and emerging economies (Okorie & De Guzman, 2025). Such studies may provide a more comprehensive understanding of the practical challenges and opportunities associated with analytics-driven and sustainability-oriented HR systems.

10. CONCLUSION

This study evolves around the discovery of strategic alignment of HRA and Sustainable HRM to underpin organizations with responsible workforce development. The outcome of this research shows that HR analytics plays an important role in boost decision making data-driven and reinforce the strategic role HR practices in the organizational process. Concurrently the study shows that the integration of HRA into a wide scope of sustainable HRM is in developing stage that curtails the strategic effectiveness.

The study also highlights the growing importance of Sustainable HRM in promoting employee well-being, workforce adaptability, skill enhancement, and long-term organizational sustainability. Sustainable HRM supports not only organizational effectiveness but also broader economic, environmental, and social objectives. However, the findings indicate that the integration of HR analytics with Sustainable HRM practices remains comparatively underdeveloped, particularly in the context of workforce development and sustainability-oriented HR strategies.

Another important conclusion of the study is the need for a comprehensive and integrated framework connecting HR analytics, strategic alignment, and Sustainable HRM. Such integration is necessary for improving responsible workforce development and supporting long-term organizational sustainability. The study therefore contributes to the existing literature by presenting a broader perspective that links analytics-driven HR practices with sustainability-oriented workforce management and strategic organizational goals.

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