



Mapping the evolution of people analytics in human resource decision-making: A PRISMA-based systematic literature review

Abdul Kadir¹, Abdurrahim²

^{1,2}Management Study Program, Universitas Islam Kalimantan Muhammad Arsyad Al Banjari Banjarmasin, Indonesia

ARTICLE INFO

Article history:

Received Jun 10, 2026

Revised Jun 17, 2026

Accepted Jun 27, 2026

Keywords:

HR Analytics;
Human Resource Decision-Making;
People Analytics;
Strategic Human Resource Management.

ABSTRACT

The rapid growth of digital technology, big data, and artificial intelligence (AI) has accelerated the adoption of data-driven human resource management. Consequently, people analytics has evolved into a strategic capability that supports more effective HR decision-making through the use of employee data. However, previous reviews mainly focused on conceptual issues or organizational benefits, leaving limited comprehensive evidence regarding recent developments, AI integration, ethical concerns, and HR decision-making. This study addresses this gap through a PRISMA-based SLR of Scopus-indexed literature. This study examines research developments, key themes, benefits, challenges, and future directions of people analytics through a Systematic Literature Review (SLR) following the PRISMA guidelines. Data were collected from the Scopus database, yielding 104 articles that met the inclusion criteria. The findings reveal a substantial increase in people analytics publications since 2021, reflecting the rapid pace of digital transformation. Five major themes emerged from the literature: people analytics in HR decision-making, AI and machine learning integration, organizational value creation, organizational readiness and analytical capability, and data ethics and privacy. The evidence indicates that people analytics enhances the objectivity, accuracy, and effectiveness of HR decisions in recruitment, talent management, performance evaluation, and employee retention. Nevertheless, its implementation remains constrained by issues related to data quality, analytical capability, organizational resistance, and ethical concerns surrounding algorithmic decision-making. Overall, this study offers both theoretical contributions and practical implications for organizations.

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Corresponding Author:

Abdurrahim,
Management Study Program,
Universitas Islam Kalimantan Muhammad Arsyad Al Banjari Banjarmasin,
Jl. Adhyaksa No.2, Sungai Miai, Kec. Banjarmasin Utara, Kota Banjarmasin, Kalimantan Selatan, 70123,
Indonesia
Email: abdurrahim.0805@gmail.com

1. INTRODUCTION

Recent advances in digital technologies, including artificial intelligence (AI), big data, and cloud computing, have fundamentally reshaped how organizations manage their human resources (HR). The ongoing digital transformation extends beyond improving operational processes and has encouraged organizations to replace intuition-driven HR practices with evidence-based approaches supported by data analytics (McCartney & Fu, 2022; Polzer, 2022). Within this evolving landscape,

people analytics has become a strategic capability that allows organizations to systematically gather, integrate, and analyze workforce data, thereby enabling more accurate, objective, and informed human resource decision-making. (Marler & Boudreau, 2017; Tursunbayeva et al., 2018).

People analytics refers to the use of data, statistical methods, and analytical technology to understand, predict, and optimize workforce behavior and performance (Coolen et al., 2023; Espegren & Hugosson, 2023). This concept evolved from the practices of human resource analytics and workforce analytics, which previously focused on descriptive HR measurement. Today, people analytics has evolved into predictive and prescriptive analytics capable of providing strategic recommendations for organizations in various aspects, such as recruitment, retention, employee development, and workforce planning (Huselid, 2018; Levenson, 2018; McCartney & Fu, 2022; Polzer, 2022).

The increasing adoption of people analytics is closely associated with the rapid growth of organizational data generated from various digital sources, including Human Resource Information Systems (HRIS), online learning platforms, performance management systems, social media, and internal communication channels. Advances in digital technologies have enabled organizations to integrate these data into a unified analytical system, providing deeper insights into employee behavior, performance, and workforce dynamics (Falletta & Combs, 2021; Guo et al., 2024; Kurikala & V.Parvathi, 2023; Penpokai et al., 2023).

In practice, people analytics has become a crucial tool in HR decision-making. Organizations use analytics to identify factors influencing productivity, predict turnover rates, evaluate training effectiveness, and determine talent development strategies (Hastuti & Timming, 2022; Pagnozzi, n.d.). This approach enables more evidence-based decision-making than those relying solely on experience or managerial intuition (Marler & Boudreau, 2017; Rasmussen & Ulrich, 2015).

The importance of people analytics has become increasingly evident as organizations face a more complex and dynamic work environment (Bechter et al., 2022; Siddiqua et al., 2023). Developments such as remote work arrangements, hybrid working models, evolving employee expectations, and intensifying global competition for highly skilled talent have created a greater need for advanced analytical capabilities to effectively interpret workforce dynamics. Under these circumstances, organizations must rely on timely and evidence-based HR decision-making to strengthen organizational agility and sustain their competitive advantage (Minbaeva, 2018; Peeters et al., 2020).

However, the implementation of people analytics still faces various challenges. Many organizations struggle to integrate data scattered across multiple systems, build analytical competency among HR practitioners, and translate analytical results into implementable policies (Ekka & Singh, 2022; Wirges & Neyer, 2023). Furthermore, numerous studies indicate that many HR functions are still at the stage of using descriptive metrics and have not yet fully utilized the potential of predictive and prescriptive analytics (Boudreau & Cascio, 2017; Coolen et al., 2023; Espegren & Hugosson, 2023; Margherita, 2022).

In addition to technological challenges, the implementation of people analytics raises significant ethical concerns that organizations must carefully address. The growing reliance on algorithms and artificial intelligence (AI) to support HR decision-making may introduce risks such as algorithmic bias, discriminatory outcomes, infringements of employee privacy, and limited transparency in evaluation and decision-making processes (Böhmer & Schinnenburg, 2023; Weiskopf & Hansen, 2023). Consequently, the successful adoption of people analytics depends not only on advanced technological capabilities but also on the establishment of robust governance mechanisms that promote fairness, accountability, transparency, and the protection of employee data (Martin, 2019; Tursunbayeva et al., 2022).

A number of literature reviews have examined people analytics from different perspectives, including its conceptual foundations, organizational value, and implementation challenges. For instance, Marler & Boudreau (2017) provided an evidence-based review of HR analytics, whereas Tursunbayeva et al. (2018) employed a scoping review approach to explore the conceptual boundaries and value propositions of people analytics. Nevertheless, the rapid advancement of digital technologies over recent years has stimulated a substantial increase in research on this topic, broadening the scope of people analytics to include emerging areas such as machine

learning, natural language processing, and algorithmic management in human resource management. Unlike previous reviews that primarily examined conceptual foundations or implementation issues, this study synthesizes recent evidence (2012–2026), identifies emerging AI- and ethics-related themes, and provides an updated research agenda specifically for HR decision-making.

Based on literature searches exported from the Scopus database, over one hundred documents related to people analytics and HR decision-making were found. These findings indicate that the topic is experiencing significant growth and attracting the attention of researchers from various disciplines, including HR management, information systems, data science, and organizational behavior. This growth in publications indicates the need for a more comprehensive literature synthesis to understand the direction of research development and identify areas requiring further exploration.

Despite the growing body of research, a knowledge gap remains regarding how people analytics can be effectively used to support HR decision-making. Most research focuses on technological aspects and analytical methods, while studies integrating strategic, organizational, and ethical dimensions are relatively limited (Jörden et al., 2021; Soltis et al., 2023). Furthermore, there is still a lack of a comprehensive understanding of dominant research themes, development trends, and future research opportunities that could strengthen the contribution of people analytics to organizational decision-making (Margherita, 2022; Peeters et al., 2020). Existing studies are fragmented across technological, organizational, and ethical perspectives, with few reviews integrating these dimensions into a comprehensive framework for HR decision-making.

This gap highlights the need for a Systematic Literature Review (SLR) that can present a systematic, transparent, and structured synthesis of knowledge. Through the SLR approach, research can identify patterns of literature development, key research themes, relationships between concepts, and future research directions. This approach also allows for the development of a more integrated conceptual framework regarding the role of people analytics in HR decision-making.

identify major research themes, evaluate the strategic contributions of people analytics, analyze the challenges associated with its implementation, and highlight potential directions for future studies. From a theoretical perspective, the findings are expected to advance the existing body of knowledge on people analytics and evidence-based HR decision-making. From a practical standpoint, this review aims to provide valuable guidance for HR professionals, organizational leaders, and policymakers in designing decision-making processes that are more data-driven, effective, and sustainable.

2. RESEARCH METHOD

This study adopted a qualitative-descriptive Systematic Literature Review (SLR) approach to comprehensively identify, critically evaluate, and synthesize previous studies concerning people analytics and human resource decision-making. The SLR methodology was selected because it provides a structured, transparent, and reproducible framework for reviewing the literature, thereby producing a more rigorous and comprehensive synthesis of existing knowledge than conventional narrative literature reviews (Kitchenham & Charters, 2007; Snyder, 2019). To ensure methodological rigor, the review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, which encompass four sequential stages: identification, screening, eligibility assessment, and final inclusion of relevant studies (Page et al., 2021). The dataset analyzed in this review was retrieved exclusively from the Scopus database, the literature search covered publications from January 2012 to March 2026, selected for its extensive coverage of international publications and high reputation in the fields of management, human resources, and information systems. Scopus was selected as the sole database because it provides broad international coverage, rigorous indexing standards, and high-quality peer-reviewed publications, making it appropriate for conducting a reliable and reproducible systematic literature review. Data collection was conducted through a literature review using keywords related to "people analytics," "HR analytics," "workforce analytics," and "human resource decision-making." The selected articles are English-language scientific journal articles that are

relevant to the research topic and published within the specified time period. TITLE-ABS-KEY"HR analytics" OR "people analytics" OR "workforce analytics"

In SLR research, the unit of analysis is not a respondent or a human sample, but rather scientific documents that meet the inclusion and exclusion criteria. Therefore, the sample selection technique uses purposive sampling based on the relevance of the articles to the research objectives. Inclusion criteria relevance was independently assessed based on article titles, abstracts, and full texts, ensuring that each selected study explicitly discussed people analytics in the context of HR decision-making include publications discussing people analytics in the context of HR decision-making, available in full-text form, and having undergone a peer-reviewed process. These criteria were established to ensure methodological consistency, reduce irrelevant studies, and include only publications that directly contribute to understanding the role of people analytics in HR decision-making. Meanwhile, articles that are irrelevant, duplicate, or do not provide adequate information are excluded from the analysis process. The collected data are then analyzed using content analysis and thematic synthesis techniques to identify key themes, research trends, benefits, implementation challenges, and future research directions. Through these procedures, this research is expected to produce valid, reliable findings that can provide a deeper understanding of the development of people analytics in supporting human resource decision-making.

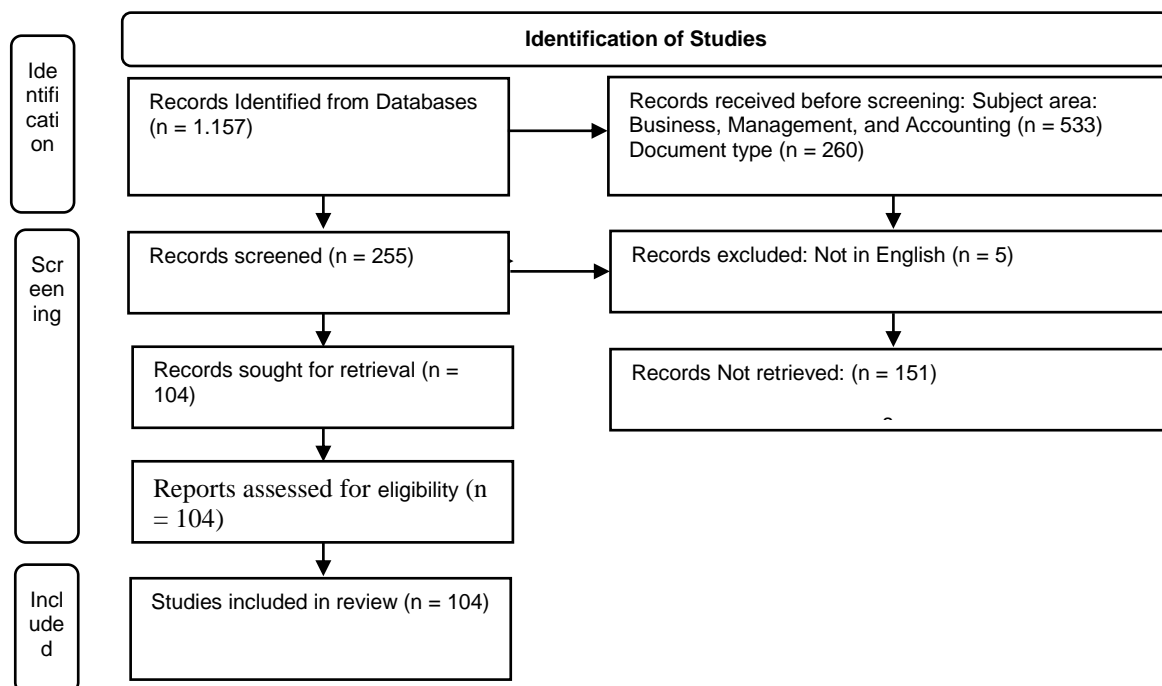


Figure 1. PRISMA process, source: prepared by author

3. RESULTS AND DISCUSSIONS

Research Results

General Description of the Analyzed Literature

Based on the literature search and screening process in the Scopus database, 104 scientific articles relevant to the topic of People Analytics and Human Resource Decision-Making were obtained. All documents that met the inclusion criteria were journal articles, indicating that the study of people analytics has developed as a relatively mature research field and is dominated by reputable academic publications. The publications found span the period 2012–2026, indicating that research on people analytics is a relatively new field but has grown rapidly over the past decade. Analysis of publication trends shows a significant increase in research, particularly after 2020, in line with the increasing digital transformation of organizations, the development of artificial intelligence (AI), and the need for data-driven HR decision-making.

Table 1. Distribution of publications by year

Year	Number of Articles
2012	1
2015	1
2016	1
2017	2
2018	2
2019	3
2020	3
2021	10
2022	8
2023	16
2024	21
2025	22
2026*	14
Total	104

*Data for 2026 was still running at the time of the search

Table 1 shows that over 80% of publications were found in the period 2021–2026. This indicates that people analytics has become a strategic topic in modern human resource management research. Publication trends were analyzed descriptively using annual frequencies without inferential statistical testing, consistent with the objectives of this systematic literature review.

Most Productive Journals

Analysis of publication sources shows that people analytics research is mostly published in journals that focus on HR management, organizational effectiveness, and employee performance development.

Table 2. Journals with the most publications

Journal	Number of Articles
Journal of Organizational Effectiveness	8
Personnel Review	6
Human Resource Management Journal	6
Human Resource Management Review	4
Journal of Work-Applied Management	3
Management Decision	3
Journal of Chinese Human Resources Management	3
Human Resource Management	3

These findings suggest that people analytics is developing primarily in the domains of strategic human resource management and organizational effectiveness.

Research Keyword Analysis

The author's keyword analysis shows the dominant themes that are the focus of the research.

Table 3. Most frequently appearing keywords

Keywords	Frequency
HR Analytics	42
People Analytics	30
Human Resource Analytics	8
Human Resource Management	6
Workforce Analytics	5
Artificial Intelligence	5
Organizational Performance	5
AI	3
Ethics	3
Strategic HRM	3
Big Data	3

Table 3 shows that the terms HR Analytics and People Analytics dominate existing research. Furthermore, the emergence of keywords like Artificial Intelligence, Big Data, and Ethics

indicates a shift in research focus from simply measuring HR to utilizing intelligent technology and data governance issues.

Main Research Themes

The content analysis identified five major research themes in the reviewed literature. Theme 1, People Analytics for HR Decision-Making, emphasizes the role of people analytics in improving the objectivity of HR decisions across recruitment and selection, turnover prediction, talent management, workforce planning, performance evaluation, and career development. The findings indicate that data-driven approaches provide more accurate outcomes than decisions based solely on managerial intuition. Theme 2, Artificial Intelligence and Machine Learning Integration, has gained considerable attention since 2021. Studies within this theme examine the application of predictive analytics, machine learning, natural language processing (NLP), and Generative AI to predict employee behavior and enhance HR decision-making.

Theme 3, Organizational Value Creation, highlights the strategic contribution of people analytics to employee productivity, employee engagement, organizational effectiveness, business performance, and competitive advantage. These findings suggest that people analytics has evolved beyond an operational HR tool into a strategic organizational capability. Theme 4, Organizational Readiness and Analytical Competency, demonstrates that successful implementation depends on several critical factors, including data quality, top management support, technological infrastructure, HR analytical competency, and a data-driven organizational culture. Theme 5, Data Ethics and Privacy, has become increasingly prominent in recent years. Research in this area focuses on algorithmic bias, AI transparency, employee data privacy, HR data governance, and organizational justice, highlighting the growing importance of ethical and responsible use of people analytics.

Discussion

The Evolution of People Analytics in HR Decision Making

Research shows that people analytics has undergone a significant transformation from a mere administrative tool to a strategic instrument in human resource decision-making. In its early development, HR analytics' primary function was limited to data collection, reporting HR indicators, and compiling workforce statistics such as absenteeism, turnover, and employee productivity. This approach was descriptive and focused more on historical reporting than supporting strategic decision-making. Recent advances in information technology, including big data, cloud computing, and artificial intelligence (AI), have significantly transformed the role of people analytics in organizational management. Rather than using workforce data solely to explain past events, organizations increasingly leverage analytical capabilities to anticipate future outcomes and identify the most appropriate strategic actions. Consequently, people analytics has progressed beyond descriptive analysis toward predictive and prescriptive analytics, enabling organizations to make more proactive and evidence-based human resource decisions (Espegren & Hugosson, 2023; McCartney & Fu, 2022; Polzer, 2022).

These findings are consistent with the principles of Evidence-Based Human Resource Management (EBHRM), which advocate that human resource decisions should be grounded in empirical evidence, reliable data, and systematic analytical processes rather than relying primarily on managerial intuition or personal experience. Within this framework, people analytics functions as a strategic tool that supports organizations in minimizing subjective judgments and promoting greater objectivity throughout the HR decision-making process.

For instance, during the recruitment process, organizations can apply predictive models to identify applicants whose characteristics are most closely associated with successful job performance. Similarly, in employee retention initiatives, behavioral and workforce data can be analyzed to estimate the probability of employee turnover, enabling organizations to implement preventive interventions before employees decide to leave. These applications illustrate that people analytics has evolved into a strategic capability that empowers organizations to adopt a proactive, rather than reactive, approach to managing their human resources.

Furthermore, the increasing number of publications since 2020 demonstrates that organizations are increasingly recognizing the importance of data as a strategic asset. The increasingly dynamic business environment demands rapid and accurate decision-making. In this

context, people analytics provides a tool that enables organizations to gain real-time, data-driven insights, thereby improving the quality of their decisions.

The Strategic Role of People Analytics for Organizations

The study's findings indicate that people analytics has a strategic role that extends far beyond the administrative functions of HR. People analytics is no longer viewed solely as a tool for measuring employee performance, but as a mechanism capable of linking HR practices to the achievement of an organization's business goals. In general, there are three main contributions of people analytics to organizations. First, it increases the objectivity of decisions. In traditional practice, HR decisions are often influenced by subjective perceptions, intuition, or individual biases. With people analytics, decisions can be based on measurable data, reducing the risk of decision-making errors. Second, people analytics helps reduce organizational uncertainty. The modern business environment is characterized by rapid change, intense competition, and the need for continuous adaptation. In such situations, the ability to predict workforce needs, turnover rates, and employee performance potential becomes crucial. Predictive analytics enables organizations to anticipate various risks before they occur. Third, people analytics supports alignment between HR strategy and business strategy. Findings from various articles indicate that organizations that successfully integrate people analytics into their strategic planning processes tend to have better talent management capabilities, increase productivity, and achieve competitive advantage.

From the perspective of Strategic Human Resource Management (SHRM) theory, people analytics serves as a bridge connecting human resource investments with organizational results. Through systematic data analysis, organizations can more accurately measure the contribution of training programs, compensation systems, and career development policies to business performance. Thus, the HR function is no longer viewed as a cost center but rather as a strategic partner contributing to organizational value creation.

The Influence of Digital Transformation on the Development of People Analytics

Research findings indicate that digital transformation has been a key factor driving the development of people analytics in recent years. This is evident in the surge in publications since 2021, coinciding with the accelerated digitalization of organizations across various sectors. The COVID-19 pandemic has been a significant catalyst in this process. The shift to remote working, hybrid working, and the use of digital platforms has generated a much larger volume of employee data than ever before. This data encompasses digital work activities, internal communications, productivity, employee engagement, and even team collaboration patterns.

The availability of vast amounts of data creates both opportunities and challenges for organizations. On the one hand, organizations have access to richer information to understand employee behavior. On the other hand, organizations need adequate analytical capabilities to transform this data into valuable insights. Technological advances such as machine learning, artificial intelligence, natural language processing, and generative AI are further expanding the capabilities of people analytics. These technologies enable organizations to perform analyses previously difficult to perform manually, such as detecting burnout risks, identifying employee engagement patterns, or predicting future competency needs. These findings reinforce the view that digital transformation is not only changing the way organizations work, but also how they understand and manage their human resources. Therefore, the ability to integrate digital technology with HR management practices is a critical factor in creating sustainable competitive advantage.

Challenges of People Analytics Implementation

Despite the significant benefits of people analytics, studies show that its implementation still faces a number of complex challenges. These challenges are not only technical but also encompass organizational, cultural, and human resource aspects. From a technological perspective, many organizations face challenges such as poor data quality, data scattered across multiple systems, and a lack of integration between platforms. HR data is often stored in disparate systems, making comprehensive analysis difficult. Furthermore, inaccurate and incomplete data can lead to misleading conclusions.

From an organizational perspective, the success of people analytics implementation depends heavily on top management support. Without leadership commitment, investment in technology and analytical competency development often falls short of priority. Furthermore, resistance to change is a common obstacle. Many managers still rely more on experience and intuition than on recommendations generated by analytics systems.

In terms of competency, there is a significant skills gap between organizational needs and the capabilities of HR practitioners. Implementing people analytics requires a combination of business competencies, statistics, information technology, and an understanding of human behavior. However, many HR professionals lack the analytical skills to effectively manage and interpret data. These findings suggest that the success of people analytics is determined not only by the technology used, but also by the overall readiness of the organization. Therefore, organizations need to develop a data-driven culture that encourages the use of empirical evidence in every decision-making process.

Ethical Issues as a Future Research Agenda

Recent studies have increasingly highlighted the ethical implications associated with the adoption of people analytics, particularly as artificial intelligence (AI) and algorithm-driven decision-making become more prevalent in human resource management. Among the primary concerns are issues related to fairness, transparency, accountability, and the protection of employee rights throughout the decision-making process. In recruitment, promotion, and performance evaluation, algorithm-based systems may unintentionally reinforce existing inequalities when they are trained on historical datasets containing embedded biases. As a result, discriminatory outcomes based on gender, age, race, or other demographic characteristics may persist, demonstrating that high predictive accuracy does not necessarily translate into equitable HR decisions.

Another critical issue involves employee privacy. People analytics frequently relies on the collection and analysis of sensitive workforce information, including behavioral patterns, communication records, location data, and digital activities. Without appropriate safeguards and governance mechanisms, such practices may be perceived as excessive workplace surveillance, ultimately eroding employees' trust in the organization. In addition, the widespread use of complex AI models introduces the challenge of algorithmic opacity, often referred to as the "black-box" problem, where decision recommendations are generated without clear and interpretable explanations. This lack of explainability raises important concerns regarding the transparency and accountability of AI-assisted HR decisions. To address these challenges, future developments in people analytics should be guided by the principles of responsible AI, emphasizing transparency, fairness, accountability, and respect for individual rights. These principles must be reinforced through comprehensive data governance policies that ensure ethical data management and responsible algorithmic decision-making. By integrating technological innovation with sound governance practices, organizations can maximize the strategic value of people analytics while safeguarding employee trust, privacy, and ethical standards.

Research Contribution

Compared with earlier systematic literature reviews, this study offers a more up-to-date synthesis by incorporating recent evidence on artificial intelligence (AI) adoption, responsible AI, organizational readiness, and ethical governance within a unified framework of human resource decision-making. This integrated perspective reflects the rapid evolution of people analytics and addresses emerging issues that have received increasing attention in contemporary HRM research. From a theoretical perspective, this review advances the literature by synthesizing current knowledge on the role of people analytics in HR decision-making. It highlights key research trends, major thematic areas, implementation success factors, and existing research gaps while reinforcing the conceptual relationship between people analytics, digital transformation, and evidence-based HR decision-making in contemporary human resource management.

From a practical perspective, the findings provide useful guidance for organizations implementing people analytics. Successful implementation requires not only advanced technology but also high-quality data, strong analytical competencies among HR professionals, managerial support, and a data-driven organizational culture. These findings offer a foundation for strengthening analytical capabilities, improving HR data literacy, and establishing responsible AI

governance, thereby enhancing the quality of HR decisions and supporting sustainable organizational performance.

Research Limitations

This study has several limitations. First, the review was limited to articles indexed in the Scopus database, which may have excluded relevant studies from other sources. Second, the predominance of English-language publications may have reduced the representation of evidence from developing countries and locally published research. Third, because this study is based on literature synthesis, it does not empirically examine causal relationships among variables. In addition, the rapid evolution of AI may have introduced emerging concepts and approaches that were not fully captured in this review. Finally, advanced bibliometric techniques, such as co-citation, co-authorship, and keyword network analyses, were not employed, limiting a deeper understanding of the intellectual structure of the people analytics literature.

Future Research Agenda

The findings of this SLR suggest several directions for future research. These include investigating the integration of Generative AI into people analytics and its influence on HR decision quality, developing ethical frameworks and employee data governance based on responsible AI principles, and expanding research on people analytics in public and nonprofit organizations, where empirical evidence remains limited. Future studies should also conduct cross-country and cross-cultural comparisons to examine how contextual factors affect implementation success, employ longitudinal designs to assess organizational performance outcomes, explore the links between people analytics, employee experience, well-being, and organizational sustainability, and develop competency frameworks for HR professionals operating in data- and AI-driven environments.

4. CONCLUSION

This systematic literature review (SLR) examines the evolution of people analytics in human resource decision-making by analyzing 104 Scopus-indexed articles published between 2012 and 2026. The findings reveal that people analytics has become a prominent research area in contemporary HRM, driven by digital transformation, advances in artificial intelligence (AI), and the increasing demand for evidence-based decision-making. This trend is reflected in the rapid growth of publications since 2021. The review highlights the significant contribution of people analytics to improving the objectivity and effectiveness of HR decisions across recruitment, talent management, employee retention, performance evaluation, career development, and workforce planning. These developments demonstrate the transformation of HR from an administrative function into a strategic partner that supports organizational performance. Five major research themes emerged from the literature: people analytics in HR decision-making, AI and machine learning integration, organizational value creation, organizational readiness and analytical capability, and data ethics and privacy. Among these, AI integration and data governance have become the most rapidly expanding areas of research.

Despite its strategic value, the implementation of people analytics remains constrained by several challenges, including poor data quality, limited system integration, insufficient analytical capabilities, organizational resistance to change, and ethical issues related to algorithmic decision-making. Therefore, organizations should combine technological innovation with effective governance to ensure transparency, fairness, accountability, and employee data protection while maximizing the benefits of people analytics. This study contributes theoretically by strengthening the understanding of the relationship between people analytics, digital transformation, and evidence-based HR decision-making. Practically, it provides guidance for organizations in developing implementation strategies, enhancing analytical competencies, and establishing sustainable data-driven HR practices. Future research should investigate the application of Generative AI in people analytics, develop more comprehensive ethical governance frameworks, and assess its long-term impact on organizational performance through empirical and longitudinal studies. Organizations should strengthen responsible AI governance through transparent data policies, ethical oversight mechanisms, and continuous development of analytical competencies among HR professionals to support fair and evidence-based decision-making. This study is limited

to Scopus-indexed English-language journal articles and descriptive literature synthesis; therefore, future reviews should include multiple databases and bibliometric analyses for broader coverage.

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