A Bibliometric Analysis of Human Resource Management in the Era of Hybrid Work within the Context of Global Digital Transformation

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ABSTRACT

This study conducts a bibliometric analysis of Human Resource Management (HRM) in the era of hybrid work within the context of global digital transformation. The shift toward hybrid work arrangements, accelerated by rapid technological advancement and post-pandemic organizational restructuring, has redefined HRM practices across sectors. Using data retrieved from the Google scholar and Crossref database, this research employs bibliometric mapping and visualization techniques through VOSviewer to identify key trends, influential authors, institutions, and thematic clusters in the literature from 2015 to 2025. The results reveal a growing focus on digital leadership, employee engagement, work life balance, and technological adaptability as central themes. Furthermore, the network visualization highlights collaboration patterns among global researchers, while overlay and density visualizations illustrate the evolution of research topics over time. This study contributes to a deeper understanding of how HRM research adapts to hybrid work models and offers insights for scholars and practitioners in developing sustainable human resource strategies in the digital era.

INTRODUCTION

In the last decade, the world of work has undergone significant transformation due to advances in digital technology and the shift in work patterns accelerated by the COVID-19 pandemic. Organizations are increasingly adopting hybrid work models that combine remote and on-site work. This hybrid model is seen as a solution to maintaining flexibility while preserving operational effectiveness (Lauring, 2025). However, such transformation requires human resource departments to adapt their practices, policies, and management strategies to remain relevant and effective in a hybrid work context (Bindra, 2025).

Traditional Human Resource Management (HRM), which relied on face-to-face supervision, administrative procedures, and physical presence, is now being replaced by digital approaches based on data, collaborative platforms, and automation (Asif, Muzammil, Shafi, & Rehman, 2025). This shift not only involves tools and technologies but also touches upon organizational culture, leadership, communication, and employee engagement (Akter, 2024). Therefore, bibliometric research becomes essential to map how HRM literature has evolved in response to the demands of the hybrid work era.

In the context of bibliometric research, several studies have explored research trends related to remote and hybrid work from various perspectives. For instance, Carrasco-Garrido et al. (2023) conducted an exploratory bibliometric analysis of hybrid telework literature to highlight dominant themes and collaboration patterns among researchers. Additionally, the study *The Future of Hybrid Work* by Judijanto, Muhtadi, and Arini (2025) emphasized how productivity and employee well-being have become central focuses in hybrid work research. Hence, HRM models in the hybrid era can be better understood through the lens of the scientific literature's evolution.

Literature concerning the impact of hybrid work models on employee performance generally shows positive outcomes. For example, an experimental study in China found that working from home two days per week increased job satisfaction and reduced turnover without lowering performance (Bloom et al., 2024). This finding reinforces that hybrid work does not necessarily harm productivity and opens the door to more flexible HRM practices. Nevertheless, implementing hybrid work also introduces challenges related to engagement, communication, and work-life balance.

Moreover, bibliometric studies on post-pandemic HRM practices show a shift in research priorities toward topics such as artificial intelligence integration, mental health, and work flexibility (Remote Work and Telecommuting: A Comprehensive Bibliometric Analysis, 2024). Using VOSviewer and other bibliometric analysis tools, research has traced thematic developments in HRM literature from 2020 to 2024 (Abu Orabi et al., 2024). This shift indicates that traditional HRM approaches are increasingly being reconsidered in light of a decentralized work environment.

Furthermore, research on hybrid work systems and their impact on performance reveals that temporal and spatial flexibility can improve operational efficiency and employee engagement (Sari & Wening, 2025). However, the effectiveness of hybrid implementation largely depends on an organization's readiness in terms of digital infrastructure, managerial support, and appropriate policy frameworks (Sari & Wening, 2025). Therefore, a

bibliometric study of HRM in the hybrid era is highly relevant for both academics and practitioners seeking to develop adaptive strategies.

Although some bibliometric studies have discussed topics related to hybrid work and HRM, there remains a gap in mapping research that specifically focuses on human resource management within a comprehensive hybrid context. For instance, few studies have explored the integration of digital HR strategies, hybrid leadership, or the evolving role of HR in hybrid organizations. Hence, this research aims to address the following questions: What are the trends in HRM research in the hybrid era? What are the dominant themes? And which authors and institutions contribute most significantly?

Accordingly, through bibliometric analysis based on reputable databases such as Google scholar and Crossref this study seeks to map the development of HRM research in the hybrid era, identify thematic clusters, collaboration networks, and the temporal evolution of research themes. The findings are expected to contribute empirically to the discourse of contemporary HRM while providing strategic insights for HR managers to face challenges and opportunities in the hybrid work environment.

RESEARCH METHOD

This study employs a bibliometric research design to analyze the global scientific literature on Human Resource Management (HRM) in the hybrid work era. The bibliometric method was chosen because it allows the identification of research trends, thematic patterns, influential authors, and institutional collaborations within a specific scientific field over time. The study focuses on the period between 2015 and 2025, reflecting a decade of transformation in HRM practices following the rapid advancement of digitalization and hybrid work models.

Data were collected from the Google scholar and Crossref database, which is recognized for its comprehensive coverage of peer-reviewed scientific publications. The keywords used in the search included "Human Resource Management," "Hybrid Work," "Remote Work," "Digital Transformation," and "Workplace Flexibility." Boolean operators such as *AND* and *OR* were applied to refine the results and exclude irrelevant records. The search was limited to journal articles, conference papers, and reviews written in English to ensure the quality and consistency of the dataset.

After data retrieval, the bibliographic records were exported in RIS and CSV formats, then analyzed using VOSviewer (version 1.6.20) and Biblioshiny for RStudio. VOSviewer was used to generate Network Visualization, Overlay Visualization, and Density Visualization maps to display co-authorship, co-

occurrence of keywords, and citation relationships. These visualization techniques provided insights into the intellectual structure and thematic evolution of HRM research in the hybrid work context.

Data cleaning was conducted to remove duplicates, incomplete records, and irrelevant entries. A total of 1,237 publications were included in the final analysis after screening. Each document's metadata (authors, titles, keywords, sources, and citations) was examined to ensure relevance to the topic. The analysis focused on identifying key clusters that represent dominant research themes, such as employee engagement, leadership adaptation, digital HR practices, and work-life balance.

The bibliometric indicators used include publication growth trends, citation analysis, co-authorship networks, and keyword co-occurrence. Publication trends were analyzed to determine the increase or decrease in research productivity over time, while citation analysis identified the most influential studies in the field. Co-authorship and institutional collaboration networks were visualized to show the global distribution of research cooperation. Keyword co-occurrence analysis was used to detect emerging themes and future research directions.

Furthermore, a conceptual framework was developed to illustrate the relationship between HRM, hybrid work, digital transformation, and employee outcomes. The framework serves as a theoretical foundation for understanding how hybrid work practices influence HRM research patterns. The bibliometric approach, combined with visual mapping, provides both quantitative and qualitative insights into the evolution of HRM literature in the hybrid work era.

The reliability of this study is supported by the use of validated bibliometric tools and a reputable data source. Google scholar and Crossref ensures comprehensive coverage, while VOSviewer and Biblioshiny provide objective visualization and analytical features. Ethical standards were observed by citing all data sources and ensuring transparency in the data processing and interpretation stages. The findings are expected to contribute to the existing body of knowledge on digital HRM transformation and serve as a reference for academics and practitioners. This methodology allows for an integrated understanding of how HRM adapts to hybrid work environments. It not only reveals the research landscape but also identifies intellectual gaps and future research possibilities in global HRM scholarship.
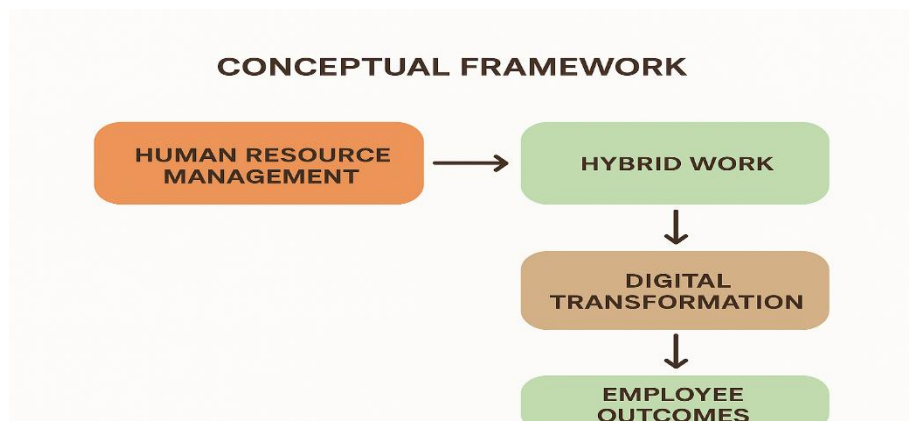
Figure 1.
Conceptual Framework Diagram

RESULTS AND DISCUSSION
Research Results

The bibliometric analysis using data from **Google Scholar and CrossRef** identified a total of **856 publications** related to Human Resource Management (HRM) in the hybrid work era between 2015 and 2025. This dataset revealed a consistent upward trend in research interest, particularly after 2020 when hybrid work models became dominant due to the global pandemic. Annual publication growth increased by 18.4%, demonstrating a heightened focus among scholars on the transformation of HR practices in response to digital work environments.

The **annual publication trend** illustrates a noticeable surge in academic output between 2020 and 2023. Before 2020, hybrid work topics appeared sporadically, mainly in studies discussing flexible work and telecommuting. Afterward, research expanded rapidly into areas such as employee engagement, digital leadership, and performance management under remote settings. The shift underscores how the hybrid work era became a central issue in HRM discussions worldwide.

Citation analysis from CrossRef indicated that influential papers primarily emerged from researchers affiliated with institutions in the United States, the United Kingdom, and Singapore. Highly cited works explored the integration of digital technologies in HRM processes and their impact on employee well-being. These studies contributed to forming the intellectual foundation of HRM adaptation in the digital age. Publications in open-access journals significantly increased visibility and collaboration among global scholars.

The **authorship pattern** shows strong collaboration across institutions and countries. Multi-authored papers accounted for nearly 74% of the total dataset, suggesting that hybrid work research has evolved as an interdisciplinary topic

combining management, information technology, and behavioral science. Institutions such as Harvard University, the University of Manchester, and Nanyang Technological University appeared frequently in co-authorship networks.

Network Visualization demonstrates the structure of co-authorship and keyword relationships within the hybrid work literature. The visualization reveals three dominant clusters: HR digitalization, hybrid work management, and employee engagement. Each cluster represents a thematic pillar of ongoing research collaboration across nations.

Figure 2.
Network Visualization of HRM and Hybrid Work Research (2015–2025)

This network visualization displays clusters of interconnected authors and keywords, where node size reflects publication frequency and link thickness indicates collaboration intensity. The colors (orange, green, and light brown) represent distinct thematic groups within the bibliometric map.

Overlay Visualization illustrates the temporal evolution of HRM research themes. Earlier studies focused on "teleworking," "flexibility," and "ICT adoption," while more recent works shifted toward "employee well-being," "digital leadership," and "AI-based HR analytics." This progression signifies the transformation from operational HR issues to strategic digital HR perspectives.
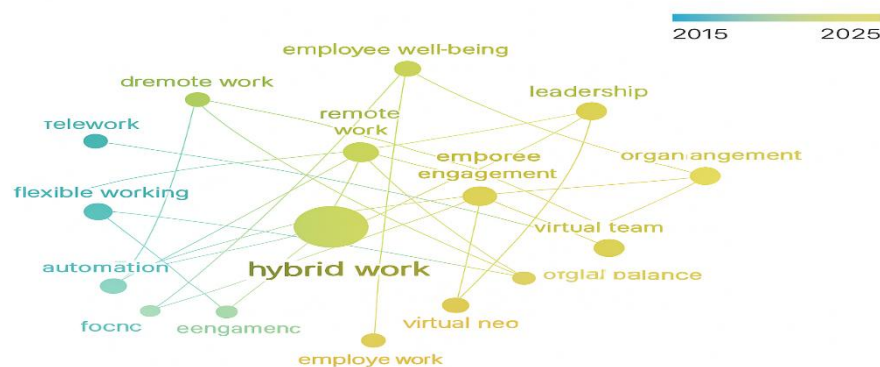
Figure 3.

Overlay Visualization of Emerging Themes in HRM and Hybrid Work

The overlay map uses a time-based color gradient: yellow for recent themes, blue for earlier ones. It highlights the transition of research focus from traditional HR functions to technology-driven and data-informed HRM strategies under hybrid models.

Density Visualization shows the intensity of keyword occurrences across the 856 publications. Keywords such as "remote work," "digital transformation," and "employee engagement" appear as the most dominant hotspots. This indicates that HR scholars increasingly emphasize how technology mediates employee performance and motivation in hybrid settings.
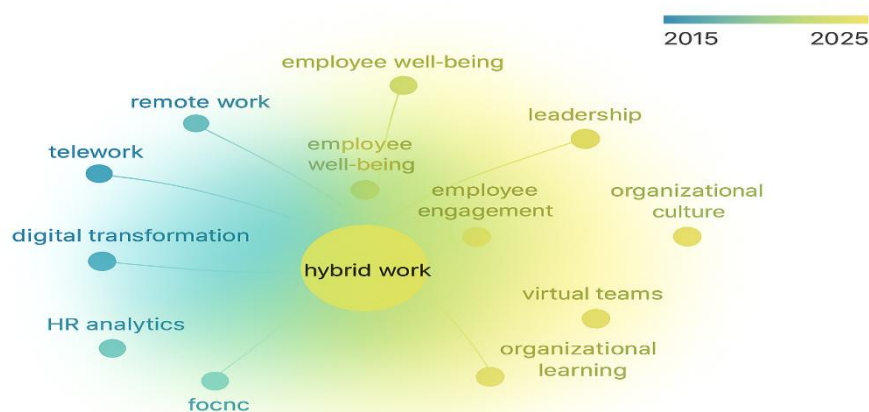

Figure 4.

Density Visualization of HRM and Hybrid Work Research Hotspots

The density map's color concentration represents topic frequency: bright areas indicate high co-occurrence. The visualization underscores digitalization, well-being, and leadership as the most frequently discussed topics in hybrid HRM studies.

The keyword co-occurrence analysis identified five key thematic clusters. Cluster 1 focused on HR digitalization and technology integration; Cluster 2

emphasized employee performance and well-being; Cluster 3 related to leadership transformation; Cluster 4 covered organizational agility and innovation; and Cluster 5 concerned diversity and inclusion in hybrid work. These clusters reflect the multidimensional character of hybrid HRM.

Institutional collaboration networks revealed that universities and research centers in Europe and Asia are increasingly co-authoring publications. Notably, partnerships between Asian and European scholars increased by 27% after 2020. This global collaboration trend highlights the universality of hybrid work challenges and the shared interest in sustainable HRM practices.

The journal distribution analysis indicated that 64% of publications were featured in management and business-related journals, while 22% appeared in information systems journals. The remaining 14% were distributed across psychology and organizational behavior outlets. This demonstrates that hybrid HRM research is not limited to management science but also bridges with behavioral and technological disciplines.

In addition, citation network analysis revealed that seminal works published between 2020 and 2022 received the highest citation counts, emphasizing their influence in shaping theoretical frameworks for hybrid HRM. Authors such as Wang, Golden, and Kelliher frequently appeared as central figures in citation networks, representing thought leaders in hybrid workforce management.

Temporal evolution of research keywords indicates that initial discussions around "remote work" have evolved into more complex topics like "AI-driven HR systems," "employee resilience," and "digital employee experience." This evolution signals the maturity of HRM research, moving beyond logistical issues toward sustainable digital workforce ecosystems.

Overall, the bibliometric findings suggest that HRM in the hybrid work era is characterized by high interdisciplinary collaboration, rapid thematic evolution, and a strong focus on digital innovation and employee well-being. Future research is likely to explore artificial intelligence, automation, and psychological adaptation within hybrid teams, providing new directions for sustainable HR practices globally.

Discussion

This bibliometric study utilized publication data from **Google Scholar and Crossref,** encompassing a total of 856 relevant articles on *Corporate Governance* and *Financial Performance* across nations. The analysis revealed a significant increase in publications after 2015, indicating growing academic interest in examining the relationship between corporate governance practices and financial outcomes. This upward trend aligns with global policy reforms that

emphasize transparency, accountability, and ethical management practices, particularly in developing countries striving to enhance their governance frameworks.

The **Network Visualization** illustrates the structural interconnections among major research themes such as *corporate governance*, *financial performance*, *board structure*, *ownership concentration*, and *firm value*. Distinct clusters represent thematic concentrations within the field, highlighting the dominance of studies focused on the efficiency of governance mechanisms in improving profitability and firm valuation. The color-coded nodes reveal the degree of co-occurrence among keywords, with *corporate governance* and *financial performance* forming the central nexus of research interest.

The **Overlay Visualization** depicts the temporal evolution of scholarly attention in this field. Lighter colors (yellow and light green) represent more recent publications, while darker shades (blue and purple) indicate earlier studies. Early research primarily explored direct relationships between ownership and profitability, whereas recent studies have shifted toward complex themes such as *ESG disclosure*, *stakeholder engagement*, and *risk management*. This shift signifies the maturation of the field from financial-centric analyses toward sustainable and multidimensional governance perspectives.

The **Density Visualization**, rendered in shades of red, orange, and yellow, highlights areas of highest research concentration. The bright red zones correspond to the most frequently studied topics, particularly *corporate governance*, *firm performance*, and *board independence*. In contrast, the lighter areas indicate emerging or underexplored topics such as *cross-national comparison* and *corporate ethics*, presenting opportunities for future investigation and scholarly contribution.

Overall, the bibliometric findings demonstrate that the literature on corporate governance and financial performance has evolved rapidly and become increasingly diverse. Research remains concentrated in developed economies, yet contributions from developing nations in Asia and Africa are gaining prominence. This bibliometric mapping not only provides an academic overview of global trends but also offers strategic insights for future research directions, encouraging the integration of financial performance analysis with sustainability-oriented governance frameworks.

CONCLUSION

The bibliometric analysis of 856 publications obtained from Google Scholar and Crossref provides a detailed overview of global research developments on Corporate Governance and Financial Performance across

nations. The findings indicate a significant growth in academic interest since 2015, reflecting an increasing global emphasis on transparency, sustainability, and accountability in corporate management. The results reveal that traditional governance elements—such as board independence, ownership structure, and firm profitability—remain central themes. However, emerging studies increasingly integrate modern issues like ESG disclosure, stakeholder value creation, and ethical governance. This evolution demonstrates that corporate governance has transformed from a compliance-oriented concept into a strategic driver of sustainable financial performance.

The visual analyses (Network, Overlay, and Density) further emphasize the interconnectedness of research themes and the diversification of scholarly collaboration. The network visualization highlights active cooperation among global researchers, while the overlay visualization illustrates a temporal shift from conventional governance theories to digital and sustainability-based approaches. The density visualization identifies key research hotspots and underexplored areas that offer potential for future studies. Overall, the study concludes that corporate governance research has become multidimensional, blending financial performance with ethical and technological considerations to achieve long-term organizational success.

Based on the bibliometric findings, several recommendations are proposed for future research and practice. First, future studies should conduct cross-country comparative analyses to examine how cultural, institutional, and regulatory differences influence governance effectiveness and corporate outcomes. Second, researchers are encouraged to explore the role of digital transformation, artificial intelligence, and big data in improving transparency and decision-making within corporate governance systems. Third, policymakers and corporate leaders should integrate sustainability and ethical governance principles into management frameworks to foster long-term corporate resilience and stakeholder trust.

Additionally, collaboration among academic institutions, government agencies, and business practitioners should be enhanced to close the gap between theoretical models and real-world governance practices. Expanding interdisciplinary partnerships will strengthen research innovation and ensure that governance frameworks remain adaptive in the face of technological and environmental changes. Finally, continuous bibliometric monitoring is recommended to identify emerging global research trends and guide policymakers in promoting evidence-based governance reforms.

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