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Change Management: A Bibliometric Mapping of Research Fronts and Collaboration Networks

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ABSTRACT

This study aims to map the intellectual structure, research fronts, and collaboration networks in the field of change management using a bibliometric approach. Data were collected from the Scopus database, covering publications related to change management within a specified time frame, and analyzed using VOSviewer to generate co-occurrence, density, and network visualizations. The results reveal that change management research has evolved into a highly interdisciplinary domain, with dominant themes centered on human-related factors and environmental issues, particularly climate change and sustainability. The findings indicate a significant shift from traditional organizational change models toward broader systemic perspectives that integrate public health, ecological transformation, and social adaptation. In addition, emerging topics such as machine learning and risk assessment highlight the growing role of data-driven approaches in understanding and managing complex change processes. The collaboration network analysis suggests that while the field demonstrates increasing connectivity, it remains partially fragmented across disciplinary boundaries. This study contributes by providing a comprehensive overview of the development and structure of change management research, identifying key themes and emerging trends, and offering directions for future research to enhance integration and innovation in the field.

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1. INTRODUCTION

Organizations today operate in an increasingly dynamic and uncertain environment characterized by technological advancement, globalization, and intense competition [1]. These conditions require organizations to continuously adapt their strategies, structures, and processes to remain competitive and sustainable. In this context, change management has become a crucial managerial discipline that focuses on guiding organizations through transitions and transformations. Effective change management helps organizations align their internal

capabilities with external environmental demands, enabling them to respond proactively to emerging challenges and opportunities. Scholars have emphasized that the ability to manage change effectively plays a significant role in determining organizational performance and long-term success. In rapidly evolving markets, organizations that fail to adapt to change risk losing competitiveness and relevance in their industries [2], [3].

The concept of change management encompasses a wide range of organizational activities aimed at planning, implementing, and sustaining transformation within organizations. These transformations may include structural changes, technological innovations, cultural adjustments, or strategic realignments. Over the past few decades, the study of change management has gained significant attention among researchers in the fields of business, management, and organizational studies [4], [5]. Academic interest in this topic has expanded as organizations increasingly face complex changes driven by digital transformation, economic fluctuations, and evolving consumer expectations. Consequently, scholars have sought to explore various theoretical perspectives and practical approaches to understanding how organizations can effectively manage change processes. The growing number of publications in this field reflects the importance of change management as a central theme in contemporary management research.

As the body of literature on change management continues to expand, it becomes increasingly important to systematically analyze and map the development of research in this field. Bibliometric analysis has emerged as a valuable method for examining the intellectual structure, research trends, and collaboration networks within a specific academic domain. Through bibliometric techniques, researchers can identify influential authors, institutions, and countries contributing to a particular field of study, as well as emerging research themes and patterns of collaboration. This approach provides a comprehensive overview of how scientific knowledge evolves over time and allows scholars to evaluate the impact and direction of research within a discipline. In the context of change management, bibliometric analysis can reveal how scholarly attention has shifted across different topics and theoretical perspectives over the years.

Recent studies have shown that research on change management has experienced significant growth in the past two decades [6], [7]. Scholars have used bibliometric methods to examine publication trends, citation patterns, and collaboration networks related to organizational change. Findings from previous research indicate that the field has attracted contributions from diverse regions and disciplines, reflecting the global relevance of change management as a managerial practice and research topic. Furthermore, bibliometric mapping has enabled researchers to identify key research clusters such as organizational transformation, leadership roles in change processes, resistance to change, and the relationship between change management and organizational performance. These analyses provide valuable insights into the development of knowledge structures and highlight areas that require further exploration in future research.

Despite the increasing volume of research on change management, the literature remains fragmented across different themes, methodologies, and disciplinary perspectives. Many studies focus on specific aspects of change management, such as leadership, employee readiness, or technological transformation, without providing a comprehensive overview of the entire research landscape. As a result, it becomes challenging for scholars and practitioners to identify the most influential research streams, emerging topics, and collaborative patterns within the field. A bibliometric mapping approach offers a systematic way to address this challenge by

visualizing research fronts and collaboration networks among scholars and institutions. By examining the structure and evolution of change management research, bibliometric studies can provide valuable guidance for future investigations and contribute to a deeper understanding of the field's intellectual development.

Although change management has been widely studied in the fields of management and organizational studies, the rapid growth of publications has created a fragmented body of knowledge that makes it difficult to clearly understand the evolution of research themes and scholarly collaboration patterns. Previous studies have examined certain aspects of change management literature, but many of them focus on limited datasets or specific topics, leaving gaps in understanding the broader research structure and emerging fronts within the field. Consequently, there is a need for a comprehensive bibliometric mapping that can systematically identify the development of change management research, reveal influential authors and institutions, and analyze collaboration networks that shape the intellectual landscape of the discipline. The objective of this study is to analyze the development of change management research using a bibliometric mapping approach.

2. METHODS

This study employs a bibliometric analysis approach to examine the development of research on change management. Bibliometric analysis is a quantitative method used to evaluate and map scientific publications by analyzing patterns in academic literature, including citations, co-authorship, and keyword occurrences. This method is widely used to identify research trends, influential publications, and the intellectual structure of a particular field. By applying bibliometric techniques, this study aims to provide a systematic overview of the evolution of change management research and to identify key research fronts as well as collaboration networks among scholars. The bibliometric approach enables researchers to objectively assess the growth and direction of scholarly publications and to visualize relationships among various research components within a scientific domain.

The data used in this study were collected from a reputable academic database that indexes peer-reviewed journal articles, conference proceedings, and other scholarly documents related to change management. The search process was conducted using relevant keywords such as "change management," "organizational change," and related terms to ensure comprehensive coverage of the literature. Publications included in the dataset were limited to documents written in English and published within a specified time period to capture the most relevant developments in the field. After the initial search, the collected records were screened and refined to remove duplicates and irrelevant documents, resulting in a dataset suitable for bibliometric analysis. Bibliographic information such as authors, titles, abstracts, keywords, affiliations, and citation counts was extracted for further analysis.

3. RESULT AND DISCUSSION

3.1 Citation Analysis

Table 1. Top Cited Literature

Citations	Authors and year	Title	Source
24,489	[8]	Dynamic capabilities and strategic management	Strategic Management Journal, 18(7), pp. 509–533
21,912	[9]	The third international consensus definitions for sepsis and septic shock (Sepsis-3)	JAMA, 315(8), pp. 801–810
10,724	[10]	Global consequences of land use	Science, 309(5742), pp. 570–574
10,283	[11]	Plastic waste inputs from land into the ocean	Science, 347(6223), pp. 768–771
9,948	[12]	A comparative risk assessment of burden of disease and injury attributable to 67 risk factors	The Lancet, 380(9859), pp. 2224–2260
9,540	[13]	The behaviour change wheel: A new method for characterising and designing behaviour change interventions	Implementation Science, 6(1), p. 42
9,472	[14]	Food security: The challenge of feeding 9 billion people	Science, 327(5967), pp. 812–818
6,934	[15]	Stages and processes of self-change of smoking: Toward an integrative model of change	Journal of Consulting and Clinical Psychology, 51(3), pp. 390–395
6,842	[16]	Soil carbon sequestration impacts on global climate change and food security	Science, 304(5677), pp. 1623–1627
6,608	[17]	The 2016 revision of the World Health Organization classification of lymphoid neoplasms	Blood, 127(20), pp. 2375–2390

Source: Scopus Database

3.2 Keyword Co-Occurrence Network Visualization

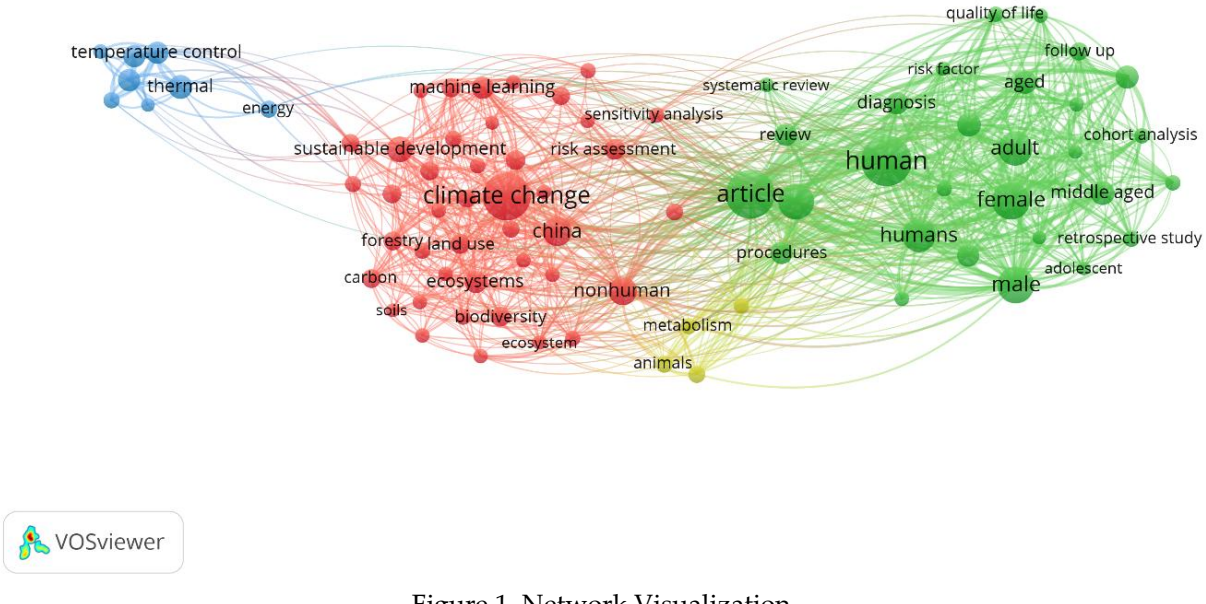

Figure 1. Network Visualization

Source: Data Analysis

Figure 1 reveals a highly interconnected and multidisciplinary structure of the research landscape. At the center of the map, the keyword "climate change" emerges as a dominant and highly connected node, indicating that it serves as a major thematic anchor within the dataset. This suggests that a substantial portion of the literature is oriented toward environmental and sustainability-related change, highlighting how change management research has expanded beyond traditional organizational boundaries into global and ecological contexts.

The red cluster, which surrounds "climate change", represents a strong concentration of research on environmental transformation, sustainability, and ecological systems. Keywords such as "sustainable development," "ecosystems," "biodiversity," "carbon," and "land use" indicate that this cluster is deeply rooted in environmental science and policy-oriented change. The presence of terms like "risk assessment" and "machine learning" further suggests that this domain is increasingly integrating advanced analytical tools to manage and predict environmental change, reflecting a shift toward data-driven and technology-supported approaches.

In contrast, the green cluster highlights a distinctly different but equally dominant research stream focused on human-centered and biomedical perspectives. Keywords such as "human," "male," "female," "adult," and "quality of life" indicate that change is also being studied in the context of health, demographics, and clinical outcomes. This cluster reflects how change management concepts are applied in healthcare systems and public health research, where managing change involves improving patient outcomes, adapting clinical practices, and addressing population-level challenges.

The blue cluster, though smaller, introduces a more technical and engineering-oriented dimension to the research landscape. Terms such as "temperature control," "thermal," and "energy" suggest a focus on technological systems and operational efficiency. This indicates that change management is also relevant in engineering and industrial contexts, particularly in optimizing systems and managing technological transitions. The relatively smaller size of this cluster may imply that while important, this area is less dominant compared to environmental and human-centered research streams.

The connections between clusters demonstrate a significant level of interdisciplinary integration. The linkage between environmental themes (red cluster) and human-related studies (green cluster) suggests an emerging convergence around topics such as climate impacts on human health and societal adaptation. Similarly, the inclusion of analytical tools like machine learning across clusters indicates methodological convergence.

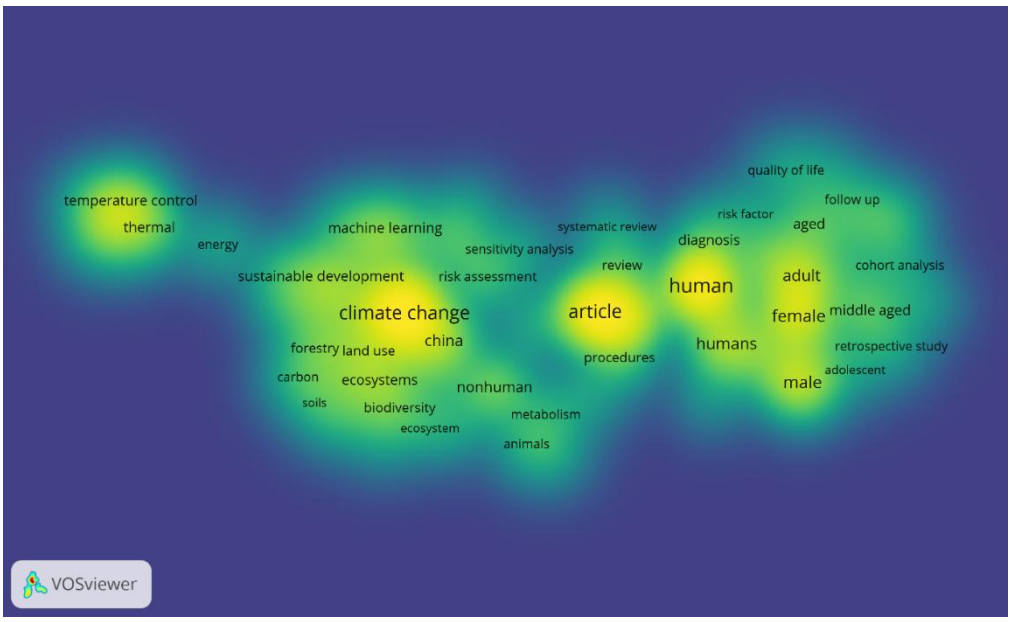

Figure 2. Density Visualization

Source: Data Analysis

Figure 2 highlights the concentration of research activity within the field by using color gradients, where yellow indicates the highest density and blue represents lower intensity. The map shows that terms such as "human," "article," and "climate change" are among the most prominent and frequently occurring keywords, forming the core of the research landscape. This indicates that the literature is heavily centered on human-related studies and environmental change, suggesting that change management research is strongly aligned with societal, health, and sustainability challenges. The presence of "adult," "female," and "male" in high-density areas further reinforces the dominance of demographic and health-oriented research streams.

In contrast, areas with lower density, such as "temperature control," "thermal," and "energy," represent more specialized or emerging topics with relatively limited coverage. Similarly, terms like "machine learning," "risk assessment," and "sensitivity analysis" appear in moderate-density zones, indicating growing but not yet dominant methodological trends. The spatial distribution also suggests a bridging role played by topics like "climate change", which connects environmental research with human-centered studies.

Discussion

The findings of this bibliometric study reveal that research on change management has evolved into a highly interdisciplinary domain, extending beyond its traditional roots in organizational and managerial studies. The dominance of keywords such as "climate change" and "human" indicates that the concept of change management is increasingly applied to broader societal and environmental contexts. This shift suggests that contemporary change management is no longer confined to internal organizational transformation but is also concerned with large-scale systemic changes, including sustainability transitions and public health challenges. Such expansion reflects the growing complexity of change processes in the modern era, where organizations must respond not only to market dynamics but also to global environmental and social pressures.

The cluster and density analyses further highlight the central role of human-

related factors in the change management discourse. The prominence of terms such as "adult," "female," "male," and "quality of life" suggests that the literature increasingly emphasizes the human dimension of change, particularly in healthcare and social systems. This aligns with contemporary theories that stress the importance of employee engagement, behavioral adaptation, and psychological readiness in successful change implementation. It indicates a paradigm shift from purely structural or procedural approaches toward more human-centered and participatory models of change management, where individual and collective responses to change are critical determinants of outcomes.

Another important insight is the strong presence of environmental and sustainability-related themes, particularly within the "climate change" cluster. This reflects the integration of change management principles into sustainability science, where managing change involves addressing ecological risks, resource management, and long-term environmental resilience. The inclusion of keywords such as "biodiversity," "ecosystems," and "sustainable development" suggests that researchers are increasingly exploring how organizations and societies can adapt to environmental disruptions. This convergence between change management and sustainability highlights an important research frontier, where strategic change is closely linked to global environmental governance and policy-making.

In addition, the emergence of methodological and technological keywords such as "machine learning," "risk assessment," and "sensitivity analysis" indicates a growing trend toward data-driven and analytical approaches in studying change processes. These tools enable researchers to model complex systems, predict outcomes, and support evidence-based decision-making. However, their relatively moderate density suggests that while these approaches are gaining traction, they are not yet fully integrated into the mainstream of change management research. This presents an opportunity for future studies to further explore the role of advanced analytics and digital technologies in enhancing the effectiveness of change initiatives.

4. CONCLUSION

This study provides a comprehensive bibliometric mapping of change management research, revealing a dynamic and increasingly interdisciplinary field characterized by the convergence of environmental, human, and technological perspectives. The findings highlight that while traditional organizational change themes remain relevant, contemporary research is strongly driven by global challenges such as climate change, public health, and digital transformation. The dominance of human-centered and sustainability-related topics underscores the shift toward more holistic and systemic approaches to managing change. At the same time, the emergence of data-driven methods signals new opportunities for advancing the field through analytical and technological innovation. However, the observed fragmentation across research clusters suggests the need for greater integration and collaboration among disciplines.

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