

MAPPING EMPLOYEE ENGAGEMENT IN THE HEALTHCARE INDUSTRY: A BIBLIOMETRIC REVIEW

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Abstract

Employee engagement has emerged as a critical factor influencing organizational performance, employee well-being, and patient outcomes in the healthcare sector. However, there is still a lack of comprehensive research mapping the development and trends of employee engagement studies in healthcare. This study addresses this gap through a bibliometric review of scholarly literature published between 2001 and 2024. The findings indicate a consistent growth in publications on employee engagement, particularly during the last decade. Many highly cited and influential studies were published around the middle of the previous decade, while recent studies have had less time to accumulate citations. Geographically, Europe produced the largest share of influential research, followed by the United States. Using bibliometric coupling, the study identified seven major themes in healthcare employee engagement research. Overall, this bibliometric review provides a comprehensive understanding of the development, key trends, influential research, and existing gaps in the field. The findings can support researchers, healthcare organizations, and policymakers in developing strategies to strengthen employee engagement, improve employee well-being and productivity, enhance organizational performance, and ultimately contribute to better patient outcomes.

Keywords: Employee Engagement, Healthcare Sector, Human Resource Management, Bibliometric Analysis, Employee Performance

1. INTRODUCTION

Employee engagement is a complex concept that includes job happiness, personal dedication, and emotional attachment to the organisation. Employee engagement denotes the degree of emotional investment, excitement, and commitment that employees demonstrate towards their organisation and its goals. Engaged personnel exhibit enthusiasm for contributing to the organization's success and tend to be more productive, innovative, and willing to surpass their fundamental work obligations. . It is essential for enhancing productivity, reducing turnover, and fostering a positive work environment. Engaged employees are more inclined to exceed expectations, contribute to inventive problem-solving, and enhance customer service, all of which positively impact the organization's financial performance. Engaged workers



demonstrate increased productivity, motivation, and devotion to their positions, resulting in improved efficiency and higher quality of work (Osborne & Hammoud, 2017).

This increased commitment reduces attrition rates, resulting in cost savings on recruitment and training while fostering a more stable workforce. Organizations with engaged employees typically achieve superior financial performance, a robust workplace culture, and an elevated brand reputation, rendering employee engagement a crucial element for long-term success. The terms work engagement and employee engagement are sometimes used synonymously. Therefore, this study considers these two ideas as equivalent.

Employees in the healthcare sector are essential for protecting and promoting public health. This workforce is enormous, consisting of physicians, nurses, paramedics, pharmacists, laboratory technicians, administrative staff, and support professionals, each contributing independently to patient care and the efficient operation of healthcare institutions. Their duties include diagnosing and treating ailments, overseeing hospital operations, and ensuring a positive patient experience. Healthcare practitioners frequently operate in high-pressure settings, necessitating not only technical expertise but also empathy, resilience, and effective communication skills. Their commitment profoundly affects patient outcomes, rendering their responsibilities essential to the health of individuals and communities.

Employee engagement is essential in the healthcare sector, as the quality of service directly affects patient outcomes and organizational performance. Engaged healthcare professionals exhibit greater dedication, compassion, and motivation to deliver high-quality patient care, hence enhancing patient satisfaction and safety (Lowe, 2012). They are also more inclined to communicate effectively, leading to enhanced collaboration and operational efficiency. Evaluating the impact of employee participation in health care research and identifying gaps necessitates an understanding of its development. This study use bibliometric analysis, which assesses patterns in academic literature through statistical and mathematical methods, to thoroughly examine global trends in employee engagement in healthcare. This study seeks to deliver a thorough examination of employee engagement utilising several bibliometric methodologies, concentrating on themes, authors, and the influence of published articles.

This study specifically covers the following research questions:

RQ1. What is the prevailing trend in studies concerning health care employee engagement?

RQ2. What are the predominant, influential, and significant sources and contributors to the existing literature?

RQ3. What are the most impactful articles in this study domain?

RQ4. What are the predominant themes in this field of research?

RQ5. In what ways has the concept developed over time?

RQ 6. What are the prospects for further research?

The subsequent sections of this work are organized as follows. Section 2 comprehensively outlines the methodology employed in this study, detailing the database and search techniques,

along with the bibliometric methods applied. Section 3 delineates the outcomes of the bibliometric study, encompassing citation analysis, bibliometric coupling analysis to delineate thematic clusters, co-occurrence analysis to discern emerging trends for prospective research, a discourse on the predominant research topics, and recommendations for future research agendas. Section 4 contains a final observation.

2 METHODOLOGY

This study uses bibliometric analysis to examine the performance of diverse research components and topics within a certain research domain (Ramos-Rodríguez & Ruíz-Navarro, 2004). Bibliometrics is a methodology employed across various fields to quantify and analyse scientific publications through mathematical and statistical techniques (Pritchard, 1969).

2.1 SEARCH STRATEGY AND DATA RETRIEVAL PROCESS

The data employed in this study was extracted from the Scopus database utilising the search phrases of "Employee Engagement" OR "Work Engagement" AND "health care" OR "hospital*" under the topic category. Scopus database was chosen because it has a broad coverage of good papers in all academic subjects and is one of the largest archives. It is now recognized as the most comprehensive repository of scientific literature (Hassan et al., 2022).

Table 1 summarizes the data retrieval method. The search query ensured that documents produced between 2001 and 2024 with relevant keywords appeared in the search results. The first stage of filtration was using keywords as search parameters in the Scopus database. To assure the consistency and quality of the sample publications, the study concentrated on only journal and review papers published in English and in the "Business, management and accounting", "Economics, econometrics and finance", "Arts and Humanities" and "Social sciences" domain. Subsequent to these modifications, 334 records were incorporated into the final bibliometric analysis.

Table-1: Article inclusion and exclusion criteria

Filtering criteria	Excluded	Included
Database: "Scopus"		
Date of Search: "15 January 2025"		
Period of Publications: 2001-2024		
Search term: "Employee Engagement" OR "Work Engagement" AND ("health care" OR "hospital*")		2248
Subject area: "Business, management and accounting", "Economics, econometrics and finance", "Arts and Humanities" and "Social sciences",	1842	406
Document type: "Articles" and "Reviews"	52	354
Language screening: Include documents in English only	20	334
Content Screening: Documents relevant to Employee Engagement or Work Engagement in health care only		

2.2 RESEARCH METHODS

This research employed bibliometric and descriptive content methodologies to analyze the data. Bibliometrics is a very dependable research methodology since it mitigates the potential for subjective bias, prevalent in qualitative literature synthesis (Nerur et al. 2008). The bibliometric analysis was performed utilizing the VOS viewer (Version 1.6.16). The VOS viewer allows users to construct and visualize bibliometric networks, commonly referred to as maps, that illustrate connections between authors and keywords. It facilitates the analysis of co-authorship and co-occurrence. This research examined the progression of topics/themes through bibliographic coupling and keyword co-occurrence analysis.

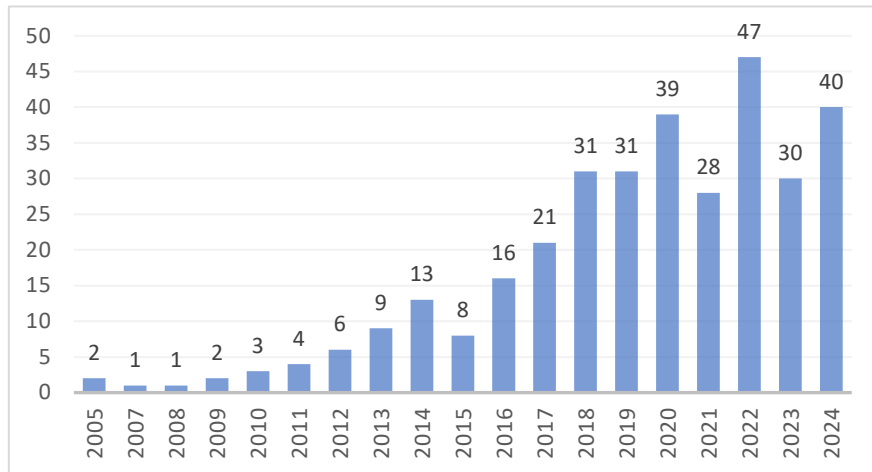
3 RESULTS

The ensuing conclusions correspond with the research purpose, which sought to investigate the structure and patterns of scientific information pertaining to employee engagement via bibliometric analysis. This entails analysing publication trends by year and country, identifying notable authors, journals, and institutions, and investigating collaboration networks and thematic relationships within the literature. The findings are displayed in tables and figures to provide a thorough overview of the significant patterns and trends seen in the dataset.

3.1 PUBLICATION ACTIVITY OF EMPLOYEE ENGAGEMENT RESEARCH IN HEALTH CARE

Figure 1 depicts the publishing trend on employee engagement in the healthcare sector between 2005 and 2024, indicating a gradual increase in academic interest over time. The first few years (2005-2011) showed little activity, with only one to six papers per year, indicating the beginning of study in this field. Between 2012 and 2015, there was a modest increase in staff engagement, reflecting rising acknowledgment of its role in improving healthcare outcomes. The period from 2016 to 2019 saw tremendous growth, with publications peaking at 31 in 2018 and 2019, perhaps due to increased awareness of workforce concerns such as fatigue and retention. A significant jump occurred during the COVID-19 pandemic, with a record 47 publications in 2021, underlining the crucial role of healthcare employees during disasters. This trend emphasizes the evolving importance of employee engagement in healthcare, driven by global challenges, policy focus, and technological advancements

Figure 1: Publication trend of Employee Engagement in Health care



3.2 MAJOR CONTRIBUTING AUTHORS, COUNTRIES, AND INSTITUTIONS

Table 2 illustrates the leading authors, countries, and institutions that have made significant contributions. Among authors, Mauno, S. leads with 857 citations, followed by Kinnunen, with 831 and Ruokolainen, with 662, indicating their significant impact on the field. Geographically, the United States leads with 2,416 citations, demonstrating its leading influence in this field, but the Netherlands (1,004 citations) and Finland (959 citations) also contribute significantly. The University of Jyväskylä, Finland, is leading this research with Mauno's work, followed by the University of Tampere, Finland, and the University of South Australia, Australia, demonstrating their dedication to enhancing employee involvement in healthcare. These findings identify significant global participants in academic research into this critical topic.

Table 2: Major authors, countries, and institutions of Employee Engagement in Health care

TC	Author	TP	TC	Country	TP	TC	Institution	TP
857	Mauno, S.	3	2416	United states	99	662	University of Jyväskylä, Finland	1
831	Kinnunen, U.	2	1004	Netherlands	25	662	University of Tampere, Finland	1
662	Ruokolainen, M.	1	959	Finland	5	295	University of south Australia, Australia	1
608	Shuck, B.	4	953	Australia	19	266	Maastricht university, Netherlands	1
318	Dollard, M.F.	2	674	United Kingdom	37	266	Utrecht university, Netherlands	1
295	Coward, J.	1	435	China	18	266	Yongkang nursing school of Zhejiang province, China	1
295	Hall, G.B.	1	431	Italy	13	251	Politecnico di Milano, Italy	1
289	Hu, Q.	2	421	Germany	7	251	University of Tennessee, United states	1
289	Taris, T.W.	2	404	Canada	11	251	Università degli studi di Milano, Italy	1

273	Schaufeli, W.B.	2	342	Hong kong	4	249	University of Louisville, United states	1
266	Schreurs, B.H.J.	1	287	Spain	9	242	Yilburg university, Netherlands	2
266	Van Beek, I.	1	281	Portugal	12	189	Diakonessen hospital Utrecht, Netherlands	1
251	Guerci, M.	1	238	Malaysia	17	189	Eindhoven university of technology, Netherlands	1
251	Huisingh, D.	1	213	Turkey	9	189	Erasmus university Rotterdam, Netherlands	1
251	Lettieri, E.	1	198	Ireland	6	189	Julius Maximilian university of würzburg, Germany	1
251	Pinzone, M	1	198	South Korea	5	189	Lingnan university, Hong kong	1

Abbreviations: TC - top citations; T - total publications

Source: Author's Calculation

3.3 MAJOR CONTRIBUTING JOURNALS

Table 3 delineates the most significant sources of employee engagement research in health care. The top journals contributing to employee engagement research in healthcare, ranked by total citations (TC), provide substantial academic contributions. The Journal of Vocational Behavior leads with 994 citations, demonstrating its leading influence in influencing this subject, especially between 2001 and 2010, when it received 805 citations. The International Journal of Stress Management is next, with 386 citations, including a remarkable contribution of 295 citations between 2001 and 2010, indicating its focus on workplace stress and engagement. The Health Care Management Review ranked third with 376 citations, demonstrating consistent contributions over all time periods, particularly between 2016 and 2020, when it received 134 citations. Similarly, the European Journal of Work and Organizational Psychology received 363 citations, greatly affecting the area with 169 citations from 2001 to 2005.

Table 3: Top journals contribution to Employee Engagement in Health care

Journal	TC	TP	2001 - 2005	2006 - 2010	2011 - 2015	2016 - 2020	2021 - 2024
Journal of vocational behavior	994	3		805		189	
International journal of stress management	386	4		295		85	6
Health care management review	376	16		64	130	134	48
European journal of work and organizational psychology	363	4	169	26	122	46	
Human resources for health	344	7			178	150	16
Human resource development quarterly	337	4			255	82	
Applied psychology	266	1			266		
Journal of cleaner production	251	1				251	

Human resource development review	249	1			249		
Service industries journal	194	3			126	30	38
journal of leadership and organizational studies	175	1			175		
International journal of human resource management	146	2			135		11
Nurse education today	134	2			119		15
Human resource management journal	120	1				120	
Academic medicine	104	3		22		82	
Journal of the academy of marketing science	103	1				103	

Abbreviations: TC - top citations; TP - total publications

Source: Author's Calculation

3.4 MAJOR CONTRIBUTING ARTICLES

Table 4 illustrates the most significant articles pertaining to employee engagement research within the healthcare sector. The most cited study, "Job demands and resources as antecedents of work engagement: A longitudinal study," by Mauno et al., (2007), highlights the crucial role that job demands and resources play in determining employee engagement. It has 662 citations. The article "Psychosocial Safety Climate: Development of the PSC-12," by Hall et al., (2010), which has 295 citations, then makes a substantial contribution to our knowledge of workplace safety and how it affects engagement. Van Beek et al., (2012) in their article "For Fun, Love, or Money: What Drives Workaholic, Engaged, and Burned-Out Employees at Work?" (with 266 citations), offer insights into the factors that influence workaholicism and engagement. Pinzone et al., (2019) discusses sustainability in the healthcare industry and has received 265 citations for their research on how green training affects worker satisfaction and pro-environmental behaviors. A thorough summary of engagement studies may be found in Shuck's (2011) integrative literature review, "Four emerging perspectives of employee engagement," which has 249 citations. These foundational studies, addressing diverse subjects such as work design, safety climate, and sustainability, have significantly impacted both the theoretical and practical comprehension of employee involvement within the healthcare sector.

Table 4: Most influential articles on Employee Engagement research in Health care

Author	Title	TC
Mauno et al. (2007)	"Job demands and resources as antecedents of work engagement: A longitudinal study"	662
Hall et al. (2010)	"Psychosocial Safety Climate: Development of the PSC-12"	295
Van Beek et al. (2012)	"For Fun, Love, or Money: What Drives Workaholic, Engaged, and Burned-Out Employees at Work?"	266
Pinzone et al. (2019)	"Effects of 'green' training on pro-environmental behaviors and job satisfaction: Evidence from the Italian healthcare sector"	251

Shuck (2011)	“Integrative literature review: Four emerging perspectives of employee engagement: An integrative literature review”	249
Gordon et al. (2018)	“Individual job redesign: Job crafting interventions in healthcare”	189
Lee et al. (2013)	“Correlates of physician burnout across regions and specialties: A meta-analysis”	178
Shuck and Reio (2014)	“Employee Engagement and Well-Being: A Moderation Model and Implications for Practice”	175
Mauno et al. (2005)	“Psychological consequences of fixed-term employment and perceived job insecurity among health care staff”	169
Shuck et al. (2014)	“Human resource development practices and employee engagement: Examining the connection with employee turnover intentions”	168
Weigl et al. (2010)	“Work engagement accumulation of task, social, personal resources: A three-wave structural equation model”	143
Zhang et al. (2013)	“Exploring the effects of high-performance work systems (HPWS) on the work-related well-being of Chinese hospital employees”	135
S. M. Lee et al. (2012)	“The impact of high-performance work systems in the health-care industry: Employee reactions, service quality, customer satisfaction, and customer loyalty”	126
Bal and Kooij (2011)	“The relations between work centrality, psychological contracts, and job attitudes: The influence of age”	122
Van De Voorde et al. (2016)	“Connecting empowerment-focused HRM and labour productivity to work engagement: The mediating role of job demands and resources”	120
Walker and Campbell (2013)	“Work readiness of graduate nurses and the impact on job satisfaction, work engagement and intention to remain”	119

Abbreviations: TC- top citations

Source: Author’s Calculation

3.5 THEMATIC CLUSTERS FOR EMPLOYEE ENGAGEMENT RESEARCH IN HEALTH CARE

A technique for examining the connections between scientific publications based on their shared references is called bibliometric coupling. If two documents share one or more references, they are said to be bibliometrically related. The strength of their connection is shown by the quantity of references they share, which suggests comparable research interests or intellectual underpinnings (Boyack and Klavans ,2010). The thematic structure is explored by using bibliographic coupling analysis.

Based on bibliometric coupling, thematic clusters (Table 5 & Figure 2) of healthcare employee engagement research identify a variety of focal areas that have greatly influenced the subject. These clusters, which are backed by significant research, cover important subjects including

work engagement, job resources, burnout, empowerment, work satisfaction, and health and safety.

Cluster1 highlights foundational research exploring the dynamics of engagement at work. The groundbreaking study by Mauno (2007), which has 662 citations, looks at how job demands and resources function as predictors of work engagement. Hall (2010) emphasizes the value of a supportive work environment by developing the Psychosocial Safety Climate (PSC-12), which has garnered 295 citations. Additionally, Van Beek's (2012) study (266 citations) explores the factors that influence engagement and workaholism, providing important insights into employee behavior.

Cluster2 focuses on the accumulation and impact of resources on engagement. Using a three-wave structural equation model, Weigl (2010) (143 citations) investigates how task, social, and personal resources contribute to maintaining engagement. The impact of psychological contracts and work centrality on employment attitudes, especially among various age groups, is examined by Matthijs Bal (2011) (122 citations). Menguc (2017) (103 citations) emphasizes how corporate atmosphere can improve customer service performance and encourage staff engagement.

Cluster3 focuses on burnout, a serious issue in the healthcare industry. The meta-analysis (178 citations) conducted by Lee (2013) examines the relationships between physician burnout in different specializations and geographical areas. In their analyses of the effects of high-performance work systems (HPWS) on customer satisfaction, service quality, and staff well-being, Zhang (2013) (135 citations) and Lee (2012) (126 citations) highlight the wider effects of burnout on healthcare performance.

Cluster 4 emphasizes human resource management and its impact on engagement. Shuck (2011), with 249 citations, provides an integrative literature analysis that includes four evolving perspectives on engagement. Gordon (2018) (189 citations) considers job creating interventions, whereas Gadolin (2017) (38 citations) investigates quality improvement in healthcare from the standpoint of professional employees.

Cluster 5, the empowerment cluster highlights methods for improving the vitality and engagement of employees. Here, Mauno (2007) and Van Beek (2012) return, highlighting the interaction between employee outcomes, job expectations, and resources. In particular, Shah (2018) (67 citations) discusses reviving academic medicine faculty vitality and offers ways to combat burnout.

Cluster 6, connects employee happiness and engagement, with studies such as Lee (2013) and Zhang (2013) reinforcing the link between job satisfaction, well-being, and systemic workplace variables. Mihail (2016) (78 citations) expands on this by investigating the impact of HPWS on hospital personnel' happiness and well-being in Greece.

Cluster 7, emphasizes the significance of psychological and environmental factors in engagement. Hall (2010) has 295 citations and focuses on the development of the PSC-12. Taipale (2011) (70 citations) assesses the importance of social support, autonomy, and job

demands in eight European nations., whereas Sarti (2014) (59 citations) examines job resources as predictors of involvement in long-term care settings.

These clusters provide a complete overview of the intellectual landscape of employee engagement research in healthcare, focusing on essential themes such as work dynamics, resource allocation, burnout, and employee well-being. This thematic arrangement provides a road map for future research addressing emerging challenges and opportunities in healthcare workforce management.

Table 5: Thematic clusters of Employee Engagement research in Health care

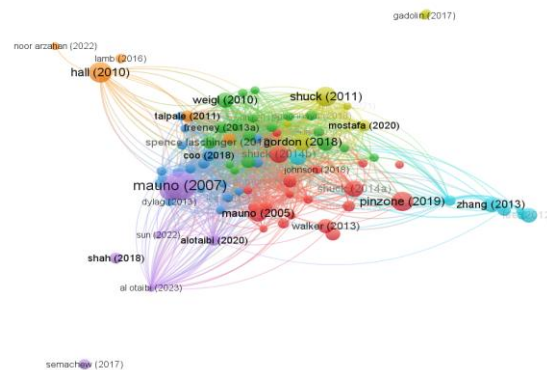
Clusters	Author(s)	Title	TC
Work Engagement	Mauno et al. (2007)	“Job demands and resources as antecedents of work engagement: A longitudinal study”	662
	Hall et al. (2010)	“Psychosocial Safety Climate: Development of the PSC-12”	295
	Van Beek et al. (2012)	“For Fun, Love, or Money: What Drives Workaholic, Engaged, and Burned-Out Employees at Work?”	266
Job Resources	Weigl et al. (2010)	“Work engagement accumulation of task, social, personal resources: A three-wave structural equation model”	143
	Bal and Kooij (2011)	“The relations between work centrality, psychological contracts, and job attitudes: The influence of age”	122
	Menguc et al. (2017)	“The role of climate: implications for service employee engagement and customer service performance”	103
Burnout	Lee et al. (2013)	“Correlates of physician burnout across regions and specialties: A meta-analysis”	178
	Zhang et al. (2013))	“Exploring the effects of high-performance work systems (HPWS) on the work-related well-being of Chinese hospital employees”	135
	S. M. Lee et al. (2012)	“The impact of high-performance work systems in the health-care industry: Employee reactions, service quality, customer satisfaction, and customer loyalty”	126
Human Resource	Shuck (2011)	“Integrative literature review: Four emerging perspectives of employee engagement: An integrative literature review”	249
	Gordon et al. (2018)	“Individual job redesign: Job crafting interventions in healthcare”	189

	Gadolin and Andersson (2017)	Healthcare quality improvement work: a professional employee perspective	38
Empowerment	Mauno (2007)	“Job demands and resources as antecedents of work engagement: A longitudinal study”	662
	Van Beek et al., (2012)	“For Fun, Love, or Money: What Drives Workaholic, Engaged, and Burned-Out Employees at Work?”	266
	Shah et al. (2018)	“Restoring faculty vitality in academic medicine when burnout threatens”	67
Work Satisfaction	Lee et al. (2013)	“Correlates of physician burnout across regions and specialties: A meta-analysis”	178
	Zhang et al. (2013)	“Exploring the effects of high-performance work systems (HPWS) on the work-related well-being of Chinese hospital employees”	135
	Mihail and Kloutsiniotis (2016)	“The effects of high-performance work systems on hospital employees' work-related well-being: Evidence from Greece”	78
Health & Safety	Hall et al. (2010)	“Psychosocial Safety Climate: Development of the PSC-12”	295
	Taipale et al. (2011)	“Work engagement in eight European countries: The role of job demands, autonomy, and social support”	70
	Sarti (2014)	“Job resources as antecedents of engagement at work: Evidence from a long-term care setting”	59

Abbreviations: TC- top citations

Source: Author’s Calculation

Figure: 2 Thematic clusters of Employee Engagement research in Health care



3.6 THEMATIC TRENDS ESTABLISHED IN THE DISCIPLINE OF EMPLOYEE ENGAGEMENT IN HEALTH CARE

Theme clusters per year are displayed in Figures 3 and 4, and co-occurrence analysis was used to further examine them. To do co-occurrence analysis, the author keyword is used. The co-occurrence analysis for 2006-2010 focuses on major themes in employee engagement research, with work engagement at the centre and linked to critical aspects such as job resources and job expectations. The green cluster emphasises the dual role of needs and resources in influencing engagement levels, aligning with the Job Demands-Resources (JD-R) paradigm. The red cluster also investigates interpersonal and relational dimensions, with themes including work relationships, job crafting, meaningfulness, and activity planning. These interwoven factors emphasize the importance of personal initiative, relational dynamics, and meaningful labor in increasing engagement over this time period. The study emphasizes a comprehensive approach, focusing on both individual and organizational factors to maintaining work engagement.

The co-occurrence analysis from 2011 to 2015 reveals major topics in employee engagement studies in the healthcare sector. The central focus of this investigation is work involvement, with particular emphasis placed on stress management, coping strategies, and the overall well-being of healthcare professionals, including nurses and physicians. . Another important issue is human resource development, which emphasizes organizational strategy, dedication, and job satisfaction while taking into account cross-cultural factors, such as study conducted in China. The employee engagement topic delves into emotional and psychological issues, specifically burnout, emotional tiredness, and psychosocial safety. The report also addresses healthcare-specific topics such as career growth, health risks, and maintaining engagement among older workers. Finally, a link between engagement and quality improvement demonstrates the impact of worker engagement on patient care and organizational performance, highlighting the varied character of employee engagement study during this time period.

The co-occurrence analysis from 2016 to 2020 indicates a complex network of interconnected themes in employee engagement research in the healthcare sector. Work engagement remains a prominent subject, linked to job resources, organizational culture, and well-being, with a focus on the relevance of supportive settings and resource distribution in promoting engagement. Employee engagement emerges as a separate focus, with links to employee performance, patient happiness, and well-being, representing the overall influence of engagement on healthcare outcomes. The study also identifies burnout as a major topic, linked to stress and emotional weariness, particularly among healthcare professionals such as nurses. Furthermore, organizational leadership, professional development, and job designing are identified as important factors influencing engagement and overall workplace dynamics. This period represents a shift toward a more holistic notion of engagement, balancing human well-being with organizational success and patient care.

The co-occurrence analysis for 2021-2024 shows key themes in employee engagement research in the healthcare industry. Work engagement remains the primary focus, with strong links to essential aspects such as job demands, employment resources, and well-being, underlining the importance of balancing challenges and support in creating engagement. The influence of the

COVID-19 pandemic is apparent, connecting issues such as burnout, occupational health, and organizational resilience, reflecting the increased burden on healthcare personnel at this time. Employee engagement is significantly correlated with outcomes such as patient satisfaction, organisational performance, and workplace initiatives, thereby illustrating its extensive influence on the delivery of healthcare services. Additional themes include medical leadership, social support, and continual learning, emphasizing the necessity of leadership and development in maintaining participation. The data also highlights a renewed emphasis on mental health, stress management, and community health workers, showing a change toward addressing systemic and individual well-being in the healthcare workforce in the aftermath of the epidemic. This time period represents a dynamic interaction between crisis response and strategic engagement initiatives.

Figure 3: Influential topics during 2006 - 2010 and 2011–2015

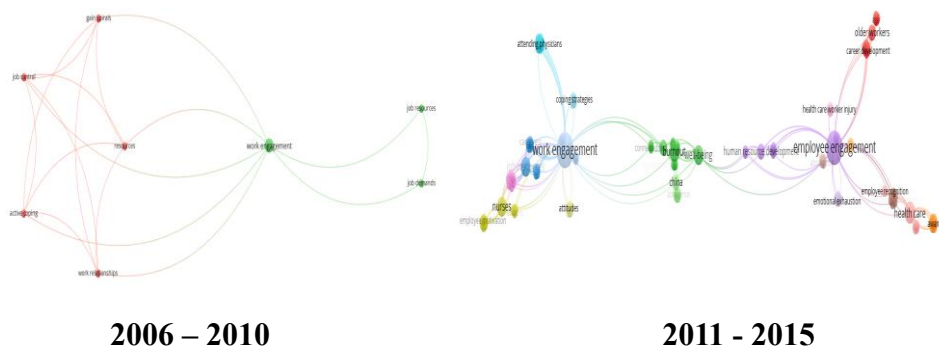
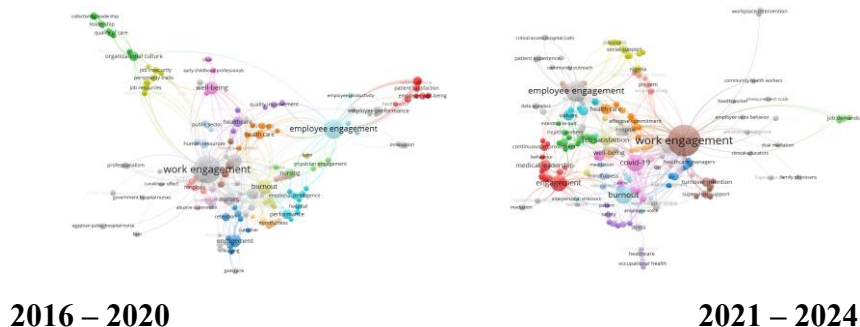


Figure 4: Influential topics during 2016 - 2020 and 2021–2024



4. CONCLUSIONS AND FUTURE STUDY SUGGESTIONS

The bibliometric analysis of employee engagement in the healthcare sector provides useful information about the evolution of this important research field. By identifying prominent authors, publications, and trends, this study illustrates the increased emphasis on tackling difficulties such as burnout, job satisfaction, and organizational culture in healthcare settings. The current study examined publishing and citation patterns in the domains of employee engagement, as well as identifying key contributors in these areas. Furthermore, it did an examination of the key topics that have emerged in the field of knowledge surrounding employee engagement, from 2001 to January 2024. A thorough bibliometric review of the

literature on employee engagement in the health care sector demonstrates consistent and ongoing growth in this research area. The use of bibliometric analysis helped to study the research topics, which led to the identification of three major primary findings and their related implications.

The number of publications in the field of employee engagement has constantly increased, particularly in the last decade. Many of the most prominent studies appeared to be published in the middle of the previous decade. This finding is unsurprising given that the rigor of the study began to grow about this time. Recently published works, within the previous 3-4 years, have not had a chance to gather as much traction because citations have yet to accumulate. The geographical distribution of the works did demonstrate that Europe had very influential publications and appeared to have the biggest number of works, with the United States in second place. Seven essential themes have been discovered in studies on employee engagement in the health care sector using the bibliometric coupling method. These themes can serve as the framework for future studies, allowing researchers to build on and contextualize their own research.

The conclusions of this bibliometric review can help healthcare businesses and policymakers increase employee engagement. This analysis uses major trends, influential research, and literature gaps to propose areas for further research to improve healthcare personnel happiness, well-being, and productivity. These findings can help healthcare administrators create focused actions and policies to engage workers, improving patient outcomes, turnover, and job satisfaction. Researchers and practitioners can also use the identified trends and challenges to develop evidence-based strategies tailored to the healthcare sector's unique needs, taking into account cultural and contextual factors that affect engagement levels across diverse healthcare environments.

Future research can also include cross-cultural analysis to investigate how employee engagement differs between countries and healthcare systems. Future study may reveal inequalities in research activities between developed and developing countries, as well as the repercussions. A limited choice of academic databases may exclude significant studies from grey literature or non-English publications in this bibliometric analysis. Relevance may also be measured by citation counts, not study quality or methodological rigor. Fixed search phrases may exclude researching on employee involvement under alternative terms. Additionally, the analysis may favour research from English-speaking countries and miss new field trends. Bibliometric methodologies focus on quantitative indicators, which may ignore qualitative insights that help explain healthcare staff engagement's difficulties. The research is confined to a bibliometric analysis of biographical information exclusively obtained from the Scopus database. Consequently, subsequent research may be undertaken utilising integrated bibliographic data from Scopus and Web of Science.

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