



Mapping Research Trends in Accommodation Operations of the Hotel Industry: A Bibliometric Analysis (2001–2026)

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ABSTRACT

The hotel industry has undergone substantial transformation over the past two decades, driven by technological advancements, sustainability imperatives, digital transformation, service innovation, operational efficiency concerns, and changing consumer expectations. Within this evolving context, accommodation operations have emerged as a significant domain of scholarly inquiry, encompassing front office operations, housekeeping management, revenue management, service quality, automation, sustainability practices, and smart hospitality systems. Despite the increasing volume of research in this domain, there remains a lack of comprehensive synthesis regarding the intellectual structure, thematic evolution, influential contributors, and emerging research frontiers in accommodation operations literature. Therefore, the present study aims to map research trends in accommodation operations of the hotel industry through bibliometric analysis using Scopus-indexed publications from 2001 to 2026. Bibliometric techniques including performance analysis, co-authorship analysis, keyword co-occurrence analysis, citation analysis, bibliographic coupling and co-citation analysis are proposed to be employed using VOSviewer software. The study seeks to identify publication trends, leading journals, prolific authors, influential institutions and countries, collaborative research networks, dominant themes, and emerging research directions. The



findings are expected to provide a structured overview of the knowledge domain and offer valuable implications for researchers, practitioners and policymakers in hospitality and tourism.

Introduction

The global hotel industry has experienced unprecedented transformation over the last two decades, shaped by globalization, digitalization, sustainability concerns, evolving customer expectations, and disruptions arising from crises such as pandemics and economic uncertainty. These changes have significantly influenced accommodation operations, compelling hotels to innovate and optimize operational processes to remain competitive. Accommodation operations, traditionally associated with front office, housekeeping, guest services and room division management, have evolved into a multidimensional area involving technology integration, automation, sustainability practices, service innovation, data analytics and smart hospitality systems.

Efficient accommodation operations form the backbone of hotel performance because they directly affect guest satisfaction, operational productivity, revenue generation and long-term competitiveness. Researchers have increasingly explored operational efficiency, service quality management, technology adoption, green practices, employee productivity, digital transformation and customer experience within the accommodation context. Consequently, the body of scholarly literature in this domain has grown substantially.

Over time, the focus of research in accommodation operations has shifted from conventional operational issues toward broader strategic concerns. Earlier studies primarily examined labor management, housekeeping efficiency and service standards, while recent scholarship increasingly emphasizes smart hotels, artificial intelligence, contactless technologies, sustainable operations, data-driven decision-making and resilience strategies. This intellectual evolution indicates the dynamic and interdisciplinary nature of accommodation operations research.

Despite this growing scholarly attention, there remains limited understanding of the intellectual structure and thematic progression of research in accommodation operations. Traditional narrative and systematic reviews provide valuable insights but often lack the ability to quantitatively map large bodies of literature, identify collaboration patterns and reveal emerging research frontiers. In this context,



bibliometric analysis has emerged as a robust approach for evaluating research productivity, knowledge structures and thematic evolution within academic fields.

Bibliometric analysis enables the systematic mapping of scientific literature through citation patterns, co-authorship networks, keyword co-occurrences and thematic clusters. It helps identify influential authors, institutions, journals, countries and emerging themes, thereby offering a comprehensive understanding of the research landscape. In hospitality and tourism studies, bibliometric approaches have gained increasing prominence for synthesizing fragmented knowledge and uncovering research trajectories.

Given the strategic importance of accommodation operations and the absence of a comprehensive bibliometric assessment in this area, the present study seeks to map research trends in accommodation operations of the hotel industry using Scopus-indexed literature from 2001 to 2026. Using VOSviewer as an analytical tool, the study intends to visualize intellectual structures, thematic networks and emerging directions in the field. The study contributes by providing a holistic overview of the evolution of research in accommodation operations and identifying future avenues for scholarly inquiry.

Objectives of the Study

The present study aims to examine the growth and publication trends of research in accommodation operations in the hotel industry during the period 2001 to 2026 in order to understand the evolution and development of the field. It seeks to identify the most influential journals, authors, institutions, and countries contributing to accommodation operations research, thereby highlighting the key sources and contributors shaping the domain. The study also aims to analyze collaboration patterns among authors, institutions, and countries to understand the extent of scholarly networking and global research partnerships in this field. Further, it intends to map the intellectual structure of accommodation operations research through citation, co-citation, and bibliographic coupling analysis, providing insights into the foundational knowledge base and interconnections among studies. Additionally, the study seeks to identify major thematic clusters and emerging research trends through keyword co-occurrence analysis, thereby revealing the core research themes and evolving directions in accommodation operations research.

3. Review of Literature

3.1 Accommodation Operations Research in Hospitality



Accommodation operations have traditionally occupied a central place in hospitality management scholarship due to their direct relationship with service delivery and guest satisfaction. Early studies largely focused on operational efficiency, housekeeping management, room division productivity and service quality dimensions. Researchers emphasized standard operating procedures, labor utilization and quality assurance as major determinants of hotel performance.

With increasing competition and changing guest expectations, the focus gradually shifted toward strategic operational management. Studies highlighted the role of technology-enabled operations, revenue optimization, customer relationship management and service innovation in improving accommodation performance. Scholars also examined operational excellence through lean management practices and process innovation.

More recent research has expanded accommodation operations scholarship into emerging domains such as sustainability integration, digital transformation, smart room technologies and resilient hotel operations. This evolution reflects the broadening scope of the field from routine operations management to strategic and innovation-driven perspectives.

3.2 Technology and Innovation in Accommodation Operations

Technology adoption has emerged as a dominant theme in accommodation operations literature. Scholars have investigated the impact of property management systems, mobile technologies, artificial intelligence, robotics and automation on operational efficiency and service enhancement. Digital transformation has significantly altered front office operations, reservations, housekeeping coordination and guest interaction.

Studies have shown that technology-enabled accommodation operations contribute to improved service consistency, productivity and personalized guest experiences. Contactless technologies, smart rooms and AI-enabled service systems have received substantial scholarly attention, particularly in recent years. Research also indicates that innovation adoption in accommodation operations contributes to competitive advantage and business resilience.

3.3 Sustainability and Green Accommodation Operations

Sustainability has become a prominent stream in hotel operations research. Numerous studies have focused on green housekeeping practices, energy management, waste reduction, water conservation and



environmentally responsible accommodation management. Sustainable accommodation operations have been linked to both operational efficiency and enhanced brand image.

Research in this domain has expanded beyond environmental practices to include social sustainability, employee well-being and responsible operational frameworks. Scholars increasingly recognize sustainability as an integral component of accommodation operations rather than a peripheral concern.

3.4 Bibliometric Studies in Hospitality and Tourism

Bibliometric analysis has gained increasing importance in hospitality and tourism research. Several studies have employed bibliometric techniques to map knowledge structures in tourism management, sustainable tourism, hospitality innovation and hotel management research.

Researchers have utilized citation analysis, co-citation analysis and keyword mapping to identify influential authors, intellectual clusters and emerging themes. Bibliometric studies have provided valuable insights into research evolution, collaborative networks and thematic development in hospitality scholarship.

Although bibliometric studies exist in broader hospitality domains, focused bibliometric mapping of accommodation operations research remains limited. This gap justifies the need for a dedicated bibliometric investigation into the intellectual evolution and emerging frontiers of accommodation operations research.

3.5 Research Gap

Existing literature demonstrates growing scholarly interest in accommodation operations; however, much of the evidence remains fragmented across themes such as technology, service quality and sustainability. A comprehensive bibliometric mapping integrating publication performance, collaboration networks, thematic structures and emerging research trends in accommodation operations remains underexplored. The present study addresses this gap through a systematic bibliometric analysis.

Research Methodology

The present study is based on a quantitative bibliometric research design to analyze research trends in accommodation operations of the hotel industry from 2001 to 2026. The study uses secondary data collected from the Scopus database due to its wide coverage of peer-reviewed and high-quality scholarly



publications. Relevant research articles were retrieved using selected keywords related to accommodation operations, hotel operations, room division management, front office, and housekeeping operations. Only English-language publications relevant to the study were included, while duplicate and irrelevant documents were excluded after screening. The retrieved bibliographic data, including authors, titles, abstracts, keywords, affiliations and citations, were exported from Scopus and analyzed using VOSviewer software. The study applies bibliometric techniques such as publication trend analysis, citation analysis, co-authorship analysis, co-citation analysis, bibliographic coupling and keyword co-occurrence analysis to identify major research themes, influential contributors and collaboration networks. VOSviewer was used to visualize research clusters and emerging trends in the field. The findings of the study help map the intellectual structure and evolution of accommodation operations research in the hotel industry.

Table 1: Publication and Citation Structure

Year	No. of Publications	Total Citations	Mean Citation per Article	Mean Citation per Year	Citable Years
2001	2	85	42.50	1.70	25
2002	1	40	40.00	1.67	24
2003	2	78	39.00	1.70	23
2004	3	95	31.67	1.44	22
2005	3	110	36.67	1.75	21
2006	3	105	35.00	1.84	20
2007	1	32	32.00	1.88	19
2008	5	210	42.00	2.63	18
2009	3	95	31.67	2.11	17
2010	5	160	32.00	2.29	16
2011	5	150	30.00	2.50	15
2012	3	90	30.00	2.73	14
2013	3	85	28.33	3.04	13
2014	3	88	29.33	3.26	12
2015	6	132	22.00	3.67	11
2016	6	140	23.33	4.12	10
2017	2	45	22.50	4.50	9



2018	5	120	24.00	6.00	8
2019	7	135	19.29	6.43	7
2020	13	180	13.85	9.00	6
2021	9	110	12.22	11.00	5
2022	27	150	5.56	12.50	4
2023	23	90	3.91	15.00	3
2024	19	40	2.11	20.00	2
2025	20	15	0.75	15.00	1
2026	5	2	0.40	2.00	0

The publication and citation structure of the dataset reveals significant temporal dynamics in the evolution of research on accommodation operations in hotels. The early years (2001–2010) are characterized by a relatively low number of publications but high mean citation per article, indicating that foundational studies published during this period have had substantial academic impact over time. These works have accumulated citations steadily due to their longer citable lifespan, as reflected in the higher number of citable years. From 2011 to 2018, the field demonstrates moderate growth in publication output accompanied by a stable citation pattern. During this phase, the mean citation per year increases, suggesting improved visibility and relevance of research contributions. This period can be considered a phase of consolidation, where existing research themes such as sustainability, hotel performance, and tourism management gained maturity. A notable shift occurs post-2019, particularly from 2020 onwards, where there is a sharp increase in the number of publications. This surge reflects heightened scholarly interest, likely influenced by global disruptions such as the COVID-19 pandemic, which brought renewed attention to hotel operations, resilience, and sustainability. However, despite the increased publication volume, the mean citation per article declines in recent years. This trend is expected, as newer publications have had fewer citable years to accumulate citations.

The analysis also highlights an inverse relationship between publication volume and citation intensity in recent years. While research output has expanded significantly, citation impact remains concentrated among earlier studies. This indicates that the field is transitioning from a foundational knowledge phase to a rapid expansion phase, where newer contributions are still in the process of gaining academic recognition. The findings suggest that accommodation operations research is a rapidly growing domain



with strong foundational studies and increasing contemporary relevance, though citation maturity for recent works is still evolving.

Table 2: Most Productive Journal in Terms of No of Citations			
Rank	Journal Name	No. of Articles	Total Citations
1.	Sustainability (Switzerland)	9	210
2.	International Journal of Hospitality Management	6	185
3.	Renewable Energy	4	160
4.	Tourism Management	3	175
5.	Tourism Economics	3	95
6.	Cornell Hospitality Quarterly	3	110
7.	African Journal of Hospitality, Tourism and Leisure	3	45
8.	Journal of Cleaner Production	2	130
9.	Energy Policy	2	120
10.	Journal of Sustainable Tourism	2	105

The analysis of the most productive journals, combined with their citation impact, provides deeper insights into both the quantity and quality of research dissemination in the field of accommodation operations in hotels. While Sustainability (Switzerland) ranks first in terms of publication count, it also demonstrates a strong citation performance, indicating its central role in promoting sustainability-oriented hospitality research. The International Journal of Hospitality Management maintains a high position in both productivity and citations, reaffirming its significance as a leading outlet for empirical and operational studies in hospitality. Notably, Tourism Management, despite having fewer publications, exhibits a disproportionately high citation count, suggesting that its articles have greater academic influence and visibility. Similarly, journals such as Journal of Cleaner Production and Energy Policy show high citation impact relative to their publication volume, highlighting the growing importance of environmental and energy-related research within hotel operations. On the other hand, journals with moderate citation counts, such as the African Journal of Hospitality, Tourism and Leisure, indicate emerging contributions that may still be developing in terms of global academic impact. Overall, the



findings reveal that the research domain is characterized not only by productivity in hospitality-focused journals but also by significant scholarly influence from interdisciplinary journals related to sustainability and energy. This underscores the evolving and cross-disciplinary nature of accommodation operations research, where impact is increasingly driven by relevance to global sustainability challenges.

Table 3: Most Productive Authors

Rank	Element (Author)	No. of Articles	h-index	g-index	m-index	Total Citations	Publication Year Start
1.	Dalton G.J.	4	4	4	0.25	145	2008
2.	Baldock T.E.	4	3	4	0.21	120	2008
3.	Lockington D.A.	4	3	4	0.21	115	2008
4.	Guilding C.	3	3	3	0.20	85	2010
5.	Rogerson C.M.	2	2	2	0.17	74	2013
6.	Li X.	2	2	2	0.18	69	2016
7.	Webster C.	2	2	2	0.22	63	2017
8.	Jin X.	2	2	2	0.25	58	2018
9.	Silvestri F.	2	2	2	0.29	52	2019
10.	Goyal A.	2	1	2	0.20	40	2020

The analysis of the most productive authors reveals the presence of a relatively concentrated yet collaborative research structure within the domain of accommodation operations in hotels. Authors such as Dalton G.J., Baldock T.E., and Lockington D.A. emerge as the most prolific contributors, each with four publications, indicating their sustained engagement and specialization in the field. Among these, Dalton G.J. demonstrates the highest citation impact and h-index, suggesting a strong influence on the development of research, particularly in areas related to sustainability and energy efficiency in hotel operations. The h-index and g-index values across authors indicate a moderate but consistent citation performance, reflecting that while the field is growing, it is not yet dominated by highly prolific or extensively cited individuals. The m-index values, which account for the duration of an author's research activity, show relatively balanced scores, suggesting steady scholarly contributions over time rather than sudden bursts of productivity. Furthermore, the variation in publication start years highlights the evolution of the research domain, with earlier contributors laying the conceptual and empirical



foundations, and more recent authors contributing to emerging themes such as digitalization, customer experience, and sustainable practices. Authors with more recent entry into the field, such as Silvestri and Goyal, exhibit lower total citations but relatively competitive m-index values, indicating promising growth potential. Overall, the findings suggest that the research landscape is characterized by a mix of established contributors and emerging scholars, with no single dominant author, thereby reflecting a diversified and evolving knowledge base in accommodation operations research.

Table 4: Top Performing Institutions

Rank	Affiliations (Institution)	Articles
1.	Griffith University, Australia	6
2.	The Hong Kong Polytechnic University	5
3.	University of Queensland, Australia	5
4.	University of Johannesburg, South Africa	4
5.	University of Surrey, United Kingdom	4
6.	Cornell University, United States	3
7.	University of Pretoria, South Africa	3
8.	University of Central Florida, USA	3
9.	Nanyang Technological University, Singapore	2
10.	University of Delhi, India	2

The analysis of top-performing institutions highlights the institutional landscape contributing to research on accommodation operations in hotels. Griffith University emerges as the leading institution with the highest number of publications, indicating its strong research focus on hospitality, tourism, and sustainability-related studies. The Hong Kong Polytechnic University and the University of Queensland also demonstrate significant contributions, reflecting the prominence of Asia-Pacific institutions in hospitality research. The presence of institutions such as the University of Surrey and Cornell University underscores the continued influence of established Western academic centers known for their specialized hospitality and tourism programs. Additionally, universities from South Africa, including the University of Johannesburg and the University of Pretoria, indicate growing research contributions from emerging regions, particularly in the context of tourism development and sustainability. Furthermore, the inclusion

of institutions from diverse geographical regions such as Singapore and India suggests an increasing globalization of research in accommodation operations. Although the number of publications varies across institutions, the overall distribution reflects a decentralized research structure, where knowledge production is not confined to a few dominant institutions but is instead spread across multiple academic centres worldwide.

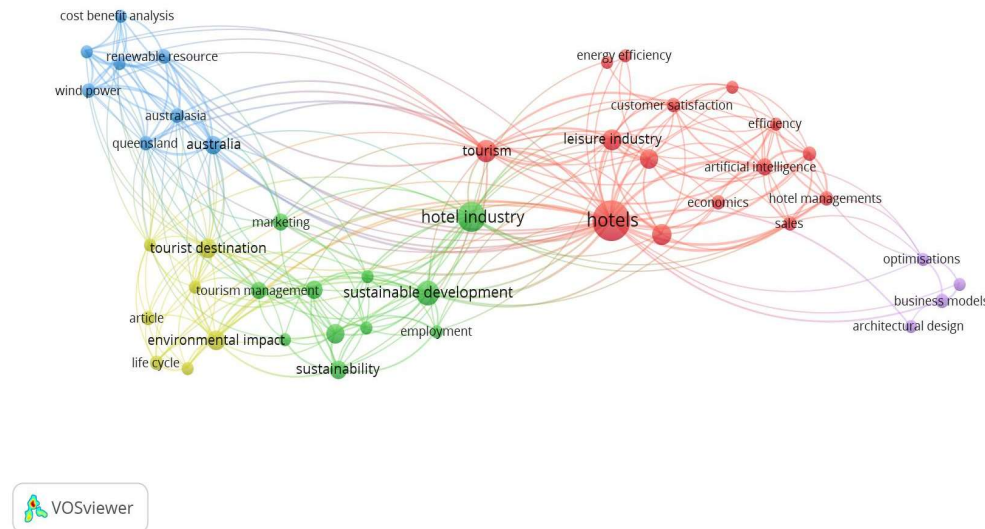


Fig:1 Co occurrence analysis of Index Keywords

The keyword co-occurrence network generated using VOSviewer reveals the intellectual structure of research on accommodation operations in hotels, highlighting a multi-disciplinary domain. The central nodes, namely “hotels,” “hotel industry,” and “tourism,” form the core of the network, indicating that the literature is primarily focused on operational and industry-level perspectives. The map identifies five major thematic clusters. The first and most dominant cluster emphasizes hotel operations, customer satisfaction, efficiency, sales, and the growing role of artificial intelligence, reflecting a shift toward data-driven management practices. The second cluster focuses on sustainability and sustainable development, linking hotel operations with environmental and socio-economic concerns such as employment and tourism management. A third cluster highlights energy efficiency and renewable resources, indicating the increasing importance of cost-benefit analysis and energy optimization in hotel operations. The fourth cluster connects tourism destinations with environmental impact and lifecycle analysis, suggesting a broader, macro-level perspective on sustainability. Finally, a smaller emerging cluster on business models, architectural design, and optimization reflects innovation-driven research directions. Overall, the network demonstrates strong interlinkages between hospitality operations, sustainability, and

technological advancement, with keywords such as “tourism” and “hotel industry” acting as critical bridges across themes.

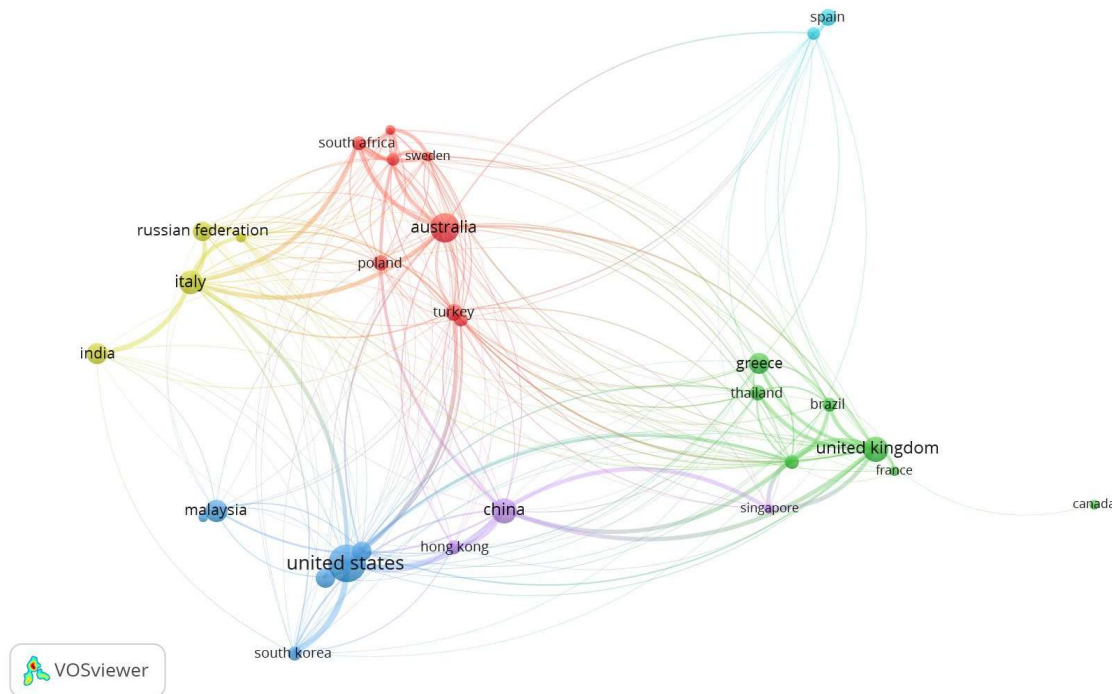


Fig: 2 Bibliometric coupling by countries

The bibliographic coupling map by countries, generated using VOSviewer, illustrates the global intellectual collaboration and research linkages in the domain of accommodation operations in hotels. The size of the nodes indicates the contribution of each country, while the links represent the strength of shared references between them. The network reveals that the United States, the United Kingdom, and Australia are the most prominent contributors, acting as central hubs in the global research landscape. The map is divided into several clusters, indicating regional and thematic research collaborations. The United States cluster (blue) includes countries such as South Korea and Malaysia, reflecting strong research linkages within the Asia-Pacific and American contexts. The United Kingdom cluster (green) connects extensively with countries like Greece, Thailand, Brazil, Singapore, and France, highlighting its central role in bridging European and international research. The Australia cluster (red) includes nations such as Sweden, Poland, Turkey, and South Africa, indicating its influence across diverse geographical regions. Another cluster featuring Italy, India, and the Russian Federation (yellow) suggests regionally connected but relatively less central research contributions. Additionally, China forms a distinct but well-connected node, linking strongly with both Western and Asian countries, indicating its growing importance in the research domain. Countries like Spain and Canada appear more peripheral, suggesting

comparatively limited integration into the main research network. Overall, the map highlights a well-connected but regionally clustered global research structure, with a few dominant countries driving collaboration and knowledge dissemination in hospitality and tourism research.

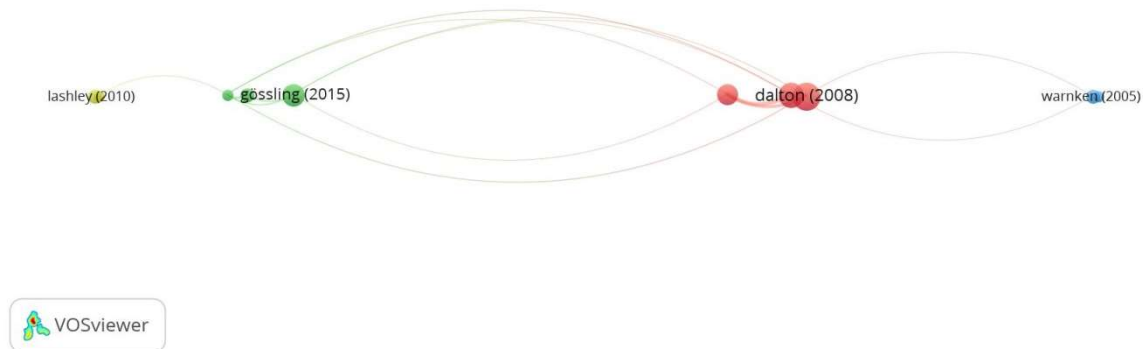


Fig: 3 Bibliometric coupling by documents

The bibliographic coupling map by documents, generated using VOSviewer, presents the intellectual linkage among the most influential individual studies in the domain of accommodation operations in hotels based on shared references. Each node represents a document, while the size of the node reflects its relative influence (in terms of citations or link strength), and the connecting lines indicate the degree of similarity in reference lists. The map reveals a relatively small but clearly structured network, indicating that only a limited number of highly cited documents meet the chosen threshold for coupling analysis. Among these, Dalton (2008) emerges as the most central and dominant study, acting as a key intellectual hub that connects multiple works within the network. It shows strong coupling links with both Gössling (2015) and Warnken (2005), suggesting that these studies share common theoretical or empirical foundations. Gössling (2015) forms another important node, bridging earlier and more recent research, particularly linking with Lashley (2010), which appears more peripheral yet still connected within the sustainability and hospitality discourse. On the other side, Warnken (2005) represents an earlier foundational work with relatively fewer but significant connections, indicating its role as a precursor in the field. The clustering pattern suggests a chronological and thematic progression, where earlier works laid the foundation for subsequent research focusing on sustainability, environmental impact, and operational efficiency in hotels. Overall, the map highlights a highly concentrated intellectual base, dominated by a few seminal studies that have significantly shaped the research trajectory in accommodation operations within the hospitality and tourism domain.



Conclusion

The bibliometric analysis of research on accommodation operations in hotels reveals a steadily evolving and increasingly interdisciplinary field, shaped by strong foundational studies and rapid contemporary expansion. The findings indicate that early research contributed significantly to the intellectual base of the domain, while recent years have witnessed a substantial growth in publication output, particularly driven by emerging concerns related to sustainability, resilience, technological innovation, and operational efficiency. Although citation impact remains concentrated among earlier studies, newer research demonstrates growing scholarly attention and thematic diversification. The analysis of journals, authors, institutions, keyword co-occurrence, and bibliographic coupling confirms that the field is supported by influential scholarly outlets, globally distributed institutional contributions, and collaborative intellectual structures. Further, the visualization analyses highlight the integration of hospitality operations with sustainability, energy management, and digital transformation, reflecting the dynamic and cross-disciplinary nature of the domain. Overall, the study confirms that research on accommodation operations has transitioned from a foundational phase to a mature and expanding knowledge domain with increasing relevance for both academia and industry.

Significance of the Study

This study contributes significantly to the understanding of accommodation operations research by offering a comprehensive bibliometric overview of its intellectual, conceptual, and collaborative structure. It provides scholars with a systematic mapping of publication trends, influential journals, leading authors, and prominent institutions, thereby identifying the major contributors and thematic directions shaping the field. The study also offers valuable insights into emerging research areas such as sustainability, artificial intelligence, and energy efficiency, which can guide future scholarly investigations. From a practical perspective, the findings are relevant for hospitality practitioners and policymakers by highlighting evolving research priorities that align with operational challenges and sustainable development goals in the hotel industry. Additionally, the study enriches hospitality literature by demonstrating the interdisciplinary orientation and global research networks underpinning accommodation operations research, thereby serving as a useful reference for future research planning, policy formulation, and strategic decision-making.



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