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A Bibliometric Analysis of Scopus Literature (1987–2024) On Smart Technologies in Hospitality: From Artificial Intelligence to Augmented Reality.

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ABSTRACT

This study aims to explore the research landscape involving smart technologies in the hospitality and hotel industry employing a bibliometric analysis of publications from 1987 to 2024. In the paper, the researchers aim to focus on technologies like Artificial Intelligence, Machine Learning, Internet of Things, Augmented Reality, Virtual Reality, and robotics, identification of the key trends, most productive authors and journals, as well as the emerging themes, while highlighting research gaps for future exploration.

This study employed bibliometric analysis, collecting data from 1987 to 2024 from the Scopus database. This study analyzes publication types, collaborative patterns, subject areas, citation impacts, leading authors, affiliations, countries, and publication sources. It examines research trends and keyword co-occurrences and creates a thematic map to visualize key themes in the field.

This bibliometric analysis of 176 publications (1988–2024) reveals a surge post-2018, peaking at 70 papers in 2024 with 3,218 citations (average 18.3 per paper). Authorship is collaborative (3.3 authors/paper; 582 authors). Top authors include Bowen, Morosan, and Yu. Leading institutions are Amity University and the University of South Florida. Countries: India leads in output, while the USA leads in impact. Major journals are IJHM and Electronic Markets.

The study was confined to articles in the English language, primarily published in chosen subject areas and Scopus-indexed journals, potentially excluding relevant non-English or non-indexed research. The study captures quantitative patterns and may overlook the depth of qualitative insights and their related real-world applications. The study has been conducted on articles published between 1987 and 2024

This study presents a unique bibliometric analysis, shedding light on key research trends in various innovative technologies within the hospitality industry. It offers insightful perspectives on collaborative research patterns, institutional contributions, and the growth and evolution of innovative technology-related themes in hospitality research.

Keywords: Artificial Intelligence, Machine Learning, Internet of Things, Augmented Reality, Virtual Reality, Robotics, Humanoids, hospitality, bibliometric analysis

INTRODUCTION

Significant technological advancements have marked the beginning of the digital era. Rapidly growing technology has redrawn the way people perceive things and enabled easy access to everything (Buhalis et al., 2019). Advanced technologies are being introduced regularly and have made a deep penetration into industrial environments (Liu & Hung, 2020).

The hotel industry has incorporated various technological tools, including smart sensors, chatbots, service robots, and AI-embedded equipment, into its operations (Singh et al., 2022).

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Modern technologies, including artificial intelligence, machine learning, robotics, humanoids, and the Internet of Things, are transforming the hospitality industry by providing enhanced guest experiences while also improving operational efficiency. While research on these technologies in hospitality has grown across business, sociology, and economics, a systematic analysis is needed to identify key trends, contributors, and gaps. Bibliometric analysis offers a valuable means of mapping this evolving scholarly landscape and informing future research and practice.

Through customization, the hospitality sector has adopted artificial intelligence to enhance the guest experience. The study of guest data to provide custom, customer-centric hospitality services according to personal preferences and behavior patterns has been made possible with the introduction of AI technology (Yang et al., 2021). Utilizing modified operations, data-driven decision-making, and personalized guest experiences (Kaur et al., 2024), the Internet of Things, machine learning, and similar technologies are revolutionizing the hospitality sector. The IoT presents an opportunity for the travel and hospitality industries to enhance customer service, increase productivity, and offer more personalized services (Car et al., 2019).

Kabadayi et al. (2019) conceptualize the smart service experience in hospitality and tourism, where intelligent use of data and technology enables the provision of unique and personalized services.

Chi et al. (2020) identify seven major themes in their study, including current AI technology, levels of AI, AI agents, human and AI service encounters, theoretical frameworks of AI acceptance, reasons for adopting AI, and potential challenges.

Goel et al. (2021) conducted a review of the factors influencing customer adoption of AI-based services. Their findings revealed that usefulness perceived, trust, and ease of use are the critical factors. It has been said that understanding customer psychology is crucial for the successful implementation of this approach. Zhu et al. (2023) provide a review of customer acceptance and the alleged ethical issues associated with AI technology within the tourism and hospitality sector, and examine customer acceptance and perceptions of robots in the service sector. Their findings highlighted the importance of ethical design, transparency, and emotional intelligence in fostering trust and a positive attitude toward adoption.

Kumar et al. (2021) in their study explain how AI and service robots are utilised in improving customer service through more personalized, efficient, and automated services. They point out that these technologies shall emerge as essential components of future hospitality operations.

Ivanov et al. (2019) provided a brief overview of robotics and its adoption trends, highlighting its key applications across front-office and back-office functions. It gave a comprehensive review of research on robotic technology in travel, tourism, and hospitality, identifying the key research areas. McCartney and McCartney (2020) proposed a model for incorporating service robots, providing a foundation for understanding how robots can be gradually and systematically integrated into hospitality operations. This framework addresses both dimensions of operational design and customer interaction.

Bowen and Morosan (2018) looked ahead to 2030, predicting that robots might comprise approximately 25 percent of the hospitality staff. The study highlights the operational benefits and the social as well as ethical implications, which may include potential resistance from staff and guests.

Gaur et al. (2020) provided a strategic research framework to aid the exploration of integrating AI and robotics in the hospitality industry. It was suggested that these technologies had the potential to impact staff roles, enhance the customer engagement process, and introduce innovation in the services provided to customers.

Mercan et al. (2020) discuss how Internet of Things technologies are aiding automation, increased energy efficiency, and personalization. The key point to highlight is that the hospitality industry has been taking significant steps in acquiring innovative technologies, improving, and revolutionizing the quality of service.

Buhalis and Moldavska (2021) highlight the increasing use of voice assistants (VAs) in the hotel and tourism sectors. The study explains how these voice assistant systems facilitated contactless, unique, and personalized

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interactions, which proved to be of immense value during the onset of the COVID-19 pandemic, enabling enterprises to maintain continuity in their services while ensuring enhanced safety for guests.

Nayyar et al. (2018) studied the applications of virtual reality (VR) and augmented reality (AR) in tourism. Their study has revealed that any immersive experiences, such as virtual hotel tours and AR-guided navigation, enhance customer engagement and become key factors affecting travel decisions.

Osadare et al. (2021) investigated the application of Artificial Intelligence and other modern technologies in hospitality management to enhance customer satisfaction and improve decision-making.

Given the steady integration of these advanced technologies and their significant impact on hospitality operations and guest experiences, it becomes crucial to target research questions that can guide future scholarly inquiry and practical implementation.

The research questions are as follows:

1. What is the current research status in the field of smart technologies in the hospitality/hotel sector
2. Who are the most active researchers, affiliations, and countries in smart technologies in the hospitality/hotel sector
3. What are the trending topics in this field?

METHODS

Search strategy

Smart technologies in the hospitality industry encompass a vast academic horizon. The articles are primarily scattered over several disciplines. Therefore, the search string was formed in this research by limiting the search to article titles, which enhanced the relevance of the data obtained by focusing on publications where the key topics were relevant and matched the study purpose. This approach aided in reducing irrelevant records and improving data quality. (Donthu et al., 2021). The search string was formed using keywords that include various smart technologies that have gained traction in the hospitality segment over the last decade, as well as terms associated with the hospitality and hotel sectors. Only English articles published in journals and reached the final publication stage were shortlisted for the study.

The following search string has been framed to perform the search query:

(TITLE ((“hospitality management" OR "hotel management" OR "hospitality industry" OR "hotel industry" OR "hospitality sector”) AND (“smart technology"OR"artificial intelligence" OR "augmented reality" OR "AR "OR "virtual reality" OR "VR" OR "AI" OR "robot*" OR "humanoid" OR "machine learning" OR "ML" OR "internet of things" OR "IoT”))

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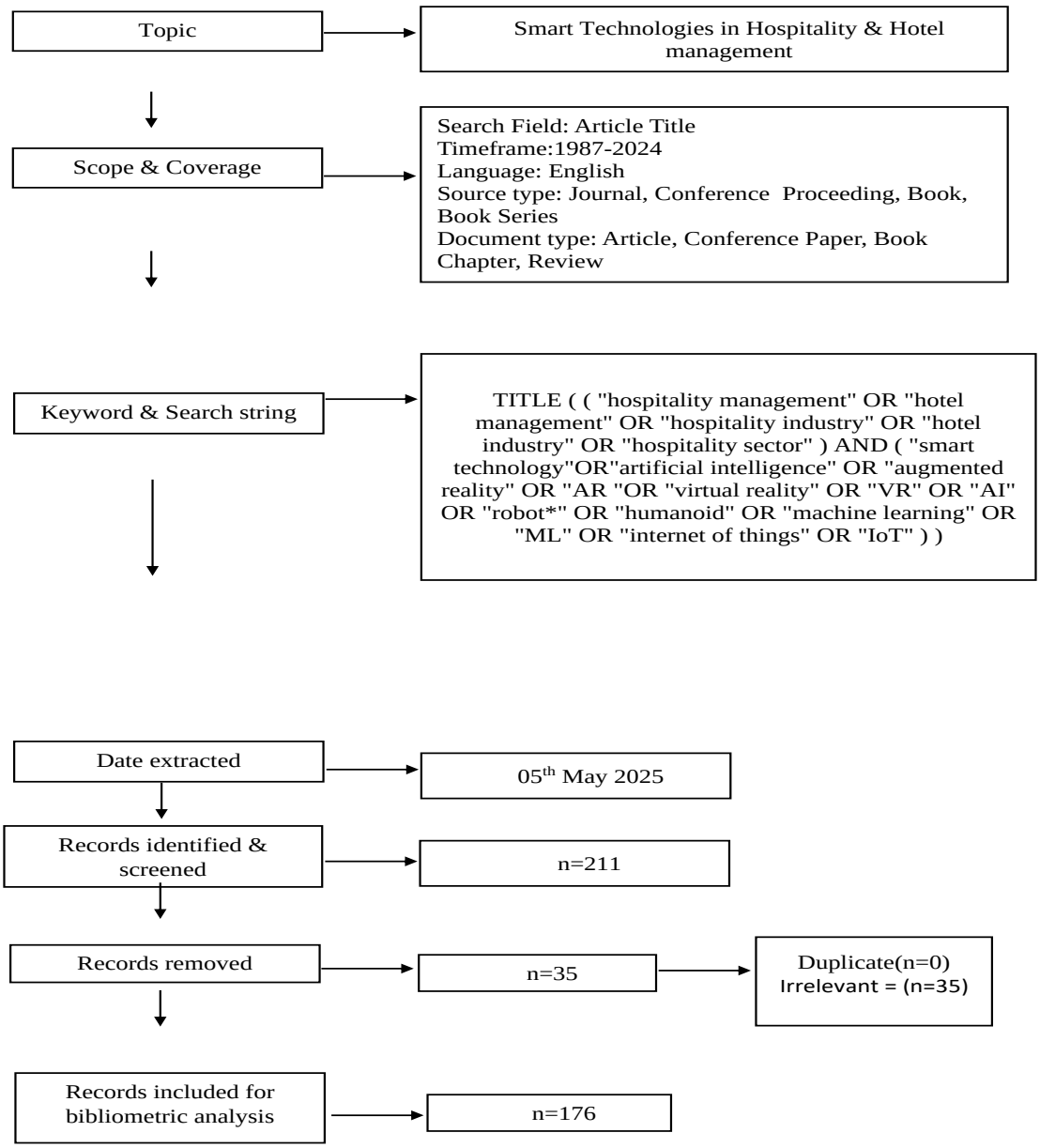

Figure I. Flow diagram of the search strategy(Moher et al., 2009; Zakaria et al., 2021).

Data cleaning, harmonization, and analysis

A total of 211 records were initially identified using the keyword, as per the search strategy. Later, the search filters were applied, thereby eliminating articles irrelevant to the context. As a result, 35 irrelevant documents were removed. Preliminary screening and duplicate data analysis yielded no results, leaving 176 documents for further analysis. These documents were assessed for relevance by the researchers through a careful study of the article titles and cross-verification of their abstracts to ensure relevance to the study. These 176 papers were found relevant and selected for bibliometric analysis. This comprehensive screening process, which included duplicate removal, ensured the careful selection of articles.

Bibliometric measures

Any bibliometric analysis includes the performance analysis of authors, institutions, and countries. It consists of a productivity analysis of journals, descriptive qualitative analysis that includes citation metrics, and bibliometric mapping, which covers the relationships between different domains. Here, the researchers have included analyses of annual productivity, prolific authors, institutions, countries, journals, most cited articles, and thematic analysis using Bibliometrix(.Aria & Cuccurullo, 2017) and VOSviewer tools(Van Eck & Waltman, 2010)

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RESULTS

Document profiles

Table I: Citation Metrics	
Main Information	**Data**
Publication Years	1988 - 2024
Total Publications	176
Citable Year	38
Number of Contributing Authors	582
Number of Cited Papers	129
Total Citations	3218
Citation per Paper	18.28
Citation per Cited Paper	24.95
Citation per Year	89.39
Citation per Author	5.53
Author per Paper	3.31
Citation sum within h-Core	2,986
h-index	29
g-index	53
m-index	0.763
Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)	

Table I presents the essential details of the bibliometric analysis conducted to examine the scope, collaboration patterns, and citation impact of publications on the topic over 38 years, from 1988 to 2024. The data, comprising 176 publications, were analysed using biblioMagika® (Ahmi, 2024), yielding valuable insights into the development and scholarly influence of research within the studied domain. Over the studied time period, 176 academic documents were published, depicting a sustained yet moderate research output. The publication data shows an increasing trend toward collaborative authorship, along with an average of 3.31 authors per publication. Five hundred eighty-two unique contributors have been identified, indicating a multidisciplinary and networked research environment.

The studied dataset has received a total of 3,218 citations, with 129 papers, which is nearly 73%, that have received at least one citation. It has to be noted that he average citation per paper stands at 18.28. The citation per cited paper is 24.95, proving that a significant portion of the literature is generating a substantial academic impact. It is observed that citations have accumulated over time, with an annual citation rate of 89.39. The analysis of impact indices reveals that the h-index is 29, indicating that a minimum of 29 publications have received 29 citations. A g-index of 53 shows the concentration of citations among top-performing papers, where

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the top 53 papers as a whole account for nearly 2,809 citations. The m-index, obtained by dividing the h-index by the number of citable years, was found to be 0.763, reflecting a moderate and consistent level of scholarly impact over time.

Table II: Document type

Document Type	TP	%
Article	73	0.41
Conference Paper	56	0.32
Book Chapter	40	0.23
Review	7	0.04

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Table II presents the breakdown of document types within the dataset, showing that journal articles constitute the most significant proportion of publications (41.48%), indicating a strong emphasis on peer-reviewed dissemination. Conference papers, which account for 31.82% of the output, depict vibrant and active participation in academic conferences, as well as a healthy tendency toward the prompt communication of ongoing research. Book chapters account for 22.73% of the publications, demonstrating a notable contribution to edited volumes and thematic compilations, often associated with interdisciplinary or foundational work. It is observed that review articles are relatively underrepresented, comprising only 3.98% of the total works, pointing to a gap in the existing literature and a potential for future contributions to academic knowledge in the field.

Table III: Subject Area

Subject Area	TP	%
Computer Science	97	0.55
Business, Management and Accounting	94	0.53
Engineering	44	0.25
Social Sciences	44	0.25
Economics, Econometrics and Finance	38	0.22
Decision Sciences	28	0.16
Environmental Science	12	0.07
Mathematics	11	0.06
Energy	10	0.06
Medicine	7	0.04
Biochemistry, Genetics and Molecular Biology	6	0.03

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Agricultural and Biological Sciences	5	0.03
Physics and Astronomy	5	0.03
Earth and Planetary Sciences	4	0.02
Chemical Engineering	3	0.02
Psychology	3	0.02
Arts and Humanities	2	0.01
Neuroscience	2	0.01
Health Professions	1	0.01
Materials Science	1	0.01
Multidisciplinary	1	0.01
Note(s): The percentages exceed 100% because some publications are categorized under multiple subject areas		
Source(s): Generated by the author(s) using BiblioMagika		

Table III indicates that the dominant subject areas are Computer Science (97 publications, 55.11%), Business, Management and Accounting (94 publications, 53.41%), Engineering (44 publications, 25.00%), and Social Sciences (44 publications, 25.00%). Economics, Econometrics and Finance (38 publications, 21.59%), Decision Sciences (28 publications, 15.91%), Environmental Science (12 publications, 6.82%), and Mathematics (11 publications, 6.25%), Energy (10 publications, 5.68%) and Medicine (7 publications, 3.98%). This analysis highlights the multidisciplinary nature of the research, with a strong focus on technology, business, and social sciences subject domains.

Publication Trends

Table IV: Publication by year

Year	TP	NCA	NCP	TC	C/P	C/CP	h	g	m
1988	1	1	1	1	1.00	1.00	1	1	0.026
2011	1	2	1	10	10.00	10.00	1	1	0.067
2016	1	2	1	25	25.00	25.00	1	1	0.100
2017	1	3	1	2	2.00	2.00	1	1	0.111
2018	4	10	4	401	100.25	100.25	3	4	0.375
2019	10	26	10	365	36.50	36.50	8	10	1.143
2020	13	42	13	908	69.85	69.85	11	13	1.833
2021	14	39	12	365	26.07	30.42	7	14	1.400

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2022	24	101	24	433	18.04	18.04	10	20	2.500
2023	37	117	26	379	10.24	14.58	11	19	3.667
2024	70	239	36	329	4.70	9.14	10	17	5.000
Total	176	582	129	3218	18.28	24.95	29	53	0.763

Note: TP=total number of publications; NCA=number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index, m=m-index.

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

From the analysis of annual research contributions and bibliometric data from 1988 to 2024, as depicted in **Table IV**, it was found that from the initial phase (1988-2017), publication output remained limited. However, the situation has changed since 2018, as there has been a modest increase in output (4 publications) and a significant citation impact, totalling 401 citations, which translates to an average of 100.25 citations per publication —the highest in the dataset. The following years display continuity in this upward trend in productivity and influence: 2019 (10 publications, 365 citations), 2020 (13 publications, 908 citations), and 2021 (14 publications, 365 citations), thus revealing a phase of intense scholarly involvement. 2024 marks the highest volume of research output, with nearly 70 publications. The citation impact was relatively lower, at 329 citations (C/P = 4.70), which may be attributed to the citation lag, a common phenomenon for recent publications.

The sharp rise in both publication volume and citation metrics after 2018 may be attributed to the increasing popularity of these technologies in public life. **Figure II** highlights Publication by Year and Citation.

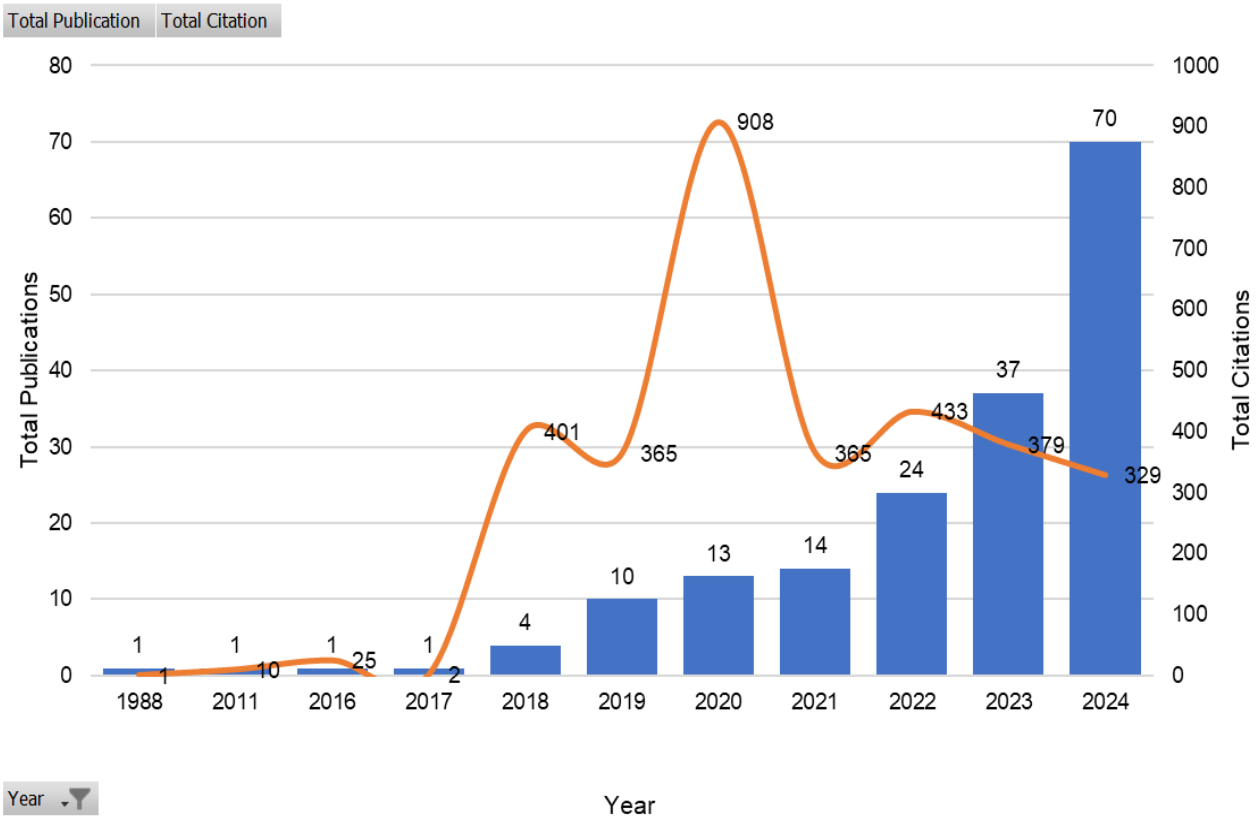

Figure II: Publication by year & citation

Source: Generated by the author(s) using Bibliomagika

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Publications by authors

Table V: Most Productive Author

Full Name	Current Affiliation	Country	TP	NCP	TC	C/P	C/CP	h	g	m
Bowen, John	University of Houston	United States	1	1	214	214	214	1	1	0.125
Morosan, Cristian	University of Houston	United States	1	1	214	214	214	1	1	0.125
Yu, Chung-En	Salzburg University of Applied Sciences	Austria	1	1	208	208	208	1	1	0.167
Nam, Kichan	American University of Sharjah	United Arab Emirates	1	1	200	200	200	1	1	0.200
Dutt, Christopher S.	The Emirates Academy of Hospitality Management Dubai	United Arab Emirates	1	1	200	200	200	1	1	0.200
Chathoth, Prakash	American University of Sharjah	United Arab Emirates	1	1	200	200	200	1	1	0.200
Daghfous, Abdelkader	American University of Sharjah	United Arab Emirates	1	1	200	200	200	1	1	0.200
Khan, M. Sajid	American University of Sharjah	United Arab Emirates	1	1	200	200	200	1	1	0.200
Nayyar, Anand	Duy Tan University	Viet Nam	1	1	160	160	160	1	1	0.125
Mahapatra, Bandana	SOA University	India	1	1	160	160	160	1	1	0.125
Le, DacNhuong	Haiphong University	Viet Nam	1	1	160	160	160	1	1	0.125
Suseendran, G.	VELS Institute of Science	India	1	1	160	160	160	1	1	0.125

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Reis, João	Aveiro University	Portugal	2	2	201	100.5	100.5	2	2	0.333
Melão, Nuno	Polytechnic Institute of Viseu	Portugal	1	1	146	146	146	1	1	0.167
Salvadorinho, Juliana	Aveiro University	Portugal	2	2	201	100.5	100.5	2	2	0.333
Soares, Barbara	Aveiro University	Portugal	2	2	201	100.5	100.5	2	2	0.333

Note: TP=total number of publications; NCA=number of contribution authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index, m=m-index.

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Table V here, presents the most productive authors based on bibliometric indicators such as total publications (TP), number of cited publications (NCP), total citations (TC), average citations per publication (C/P), average citations per cited publication (C/CP), and author impact indices including the h-index, g-index, and m-index.

It is noted that Bowen and Morosan, from the University of Houston (United States), have received the highest citation count (TC = 214) with a single publication, underscoring their substantial individual academic impact (C/P = 214). Similarly, Yu (Austria) and several authors from the United Arab Emirates, including Nam, Dutt, Chathoth, Daghfous, and Khan, have received 200 or more citations from a single publication, indicating high-impact contributions. Authors such as Reis, Salvadorinho, and Soares from Aveiro University (Portugal) have shown sustained academic contribution with two publications each and an m-index of 0.333—the highest among all listed researchers. The data highlights the prominence of authors from the United States, the United Arab Emirates, and Portugal in producing high-impact publications from within the studied subject area.

Publications by institutions

Table VI: Most Productive Institutions

Institution Name	Country	TP	NCA	NCP	TC	C/P	C/CP	h	g	m
Amity University	India	8	15	5	28	3.50	5.60	3	5	0.750
Graphic Era Deemed to Be University	India	5	9	5	51	10.20	10.20	4	5	1.000
Chandigarh University	India	4	18	2	11	2.75	5.50	2	3	0.500
University of South Florida	United States	4	7	4	121	30.25	30.25	4	4	1.000
Lovely Professional University	India	3	8	3	4	1.33	1.33	1	2	0.500
Kyung Hee University	South Korea	3	8	3	110	36.67	36.67	3	3	0.429

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Eastern Mediterranean University	Turkey	3	3	3	165	55.00	55.00	3	3	0.500
Sharda University	India	3	4	1	50	16.67	50.00	1	3	0.500
Bahria University	Pakistan	3	3	2	6	2.00	3.00	2	2	0.667
Sejong University	South Korea	3	6	3	76	25.33	25.33	3	3	0.500
Polytechnic Institute of Cávado and Ave	Portugal	3	7	3	5	1.67	1.67	2	2	0.333
Porto Polytechnic	Portugal	3	6	3	5	1.67	1.67	2	2	0.333
University of the Punjab	Pakistan	3	4	3	18	6.00	6.00	2	3	1.000
Neapolis University Pafos	Cyprus	3	4	2	11	3.67	5.50	2	3	0.286
University of Education	Pakistan	2	2	2	17	8.50	8.50	2	2	1.000

Note: TP=total number of publications; NCA=number of contribution authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index, m=m-index.

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Table VI provides insights into the most productive institutions contributing to academic output in the study area. It is worth noting that Indian institutions dominate in terms of publication output, with Amity University leading the way with eight publications, followed by Graphic Era Deemed to Be University and Chandigarh University from the country. However, when considering citation impact, institutions from other countries emerge as academically more impactful. The University of South Florida (USA) and Eastern Mediterranean University (Turkey) are noted to have the highest average citations per publication (C/P = 30.25 and 55.00, respectively), showing the significance and academic reach of their research contributions. Similarly, Kyung Hee University and Sejong University (South Korea) demonstrated strong performance in citation metrics, with C/P values of 36.67 and 25.33, respectively. Graphic Era Deemed to Be University and the University of the Punjab (Pakistan) stand tall with a high m-index of 1.000, demonstrating a significant scholarly impact that has evolved. Institutions from Portugal and Cyprus have contributed multiple publications, and their citation metrics were comparatively modest. Here, the study reveals that a notable concentration of publication activity is in the Asian continent, particularly India. Institutions from the United States, Turkey, and South Korea produced research works with a superior citation impact, indicating a higher influence within the scholarly community.

Publications by countries

Table VII: Top 20 most productive countries

Country	TP	NCA	NCP	TC	C/P	C/CP	h	g	m
India	56	166	36	536	9.57	14.89	11	23	1.375
China	28	60	22	532	19.00	24.18	11	23	1.833
United States	20	42	20	846	42.30	42.30	12	20	0.316

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Pakistan	11	26	11	222	20.18	20.18	6	11	1.500
Turkey	10	18	7	188	18.80	26.86	4	10	0.571
Malaysia	9	19	6	32	3.56	5.33	4	5	1.000
United Arab Emirates	8	26	5	220	27.50	44.00	3	8	0.600
Portugal	7	28	6	208	29.71	34.67	2	7	0.222
Indonesia	7	22	4	29	4.14	7.25	3	5	0.750
South Korea	6	16	6	186	31.00	31.00	6	6	0.857
United Kingdom	6	9	6	272	45.33	45.33	5	6	0.714
Greece	5	10	3	20	4.00	6.67	3	4	0.429
Italy	5	15	3	82	16.40	27.33	3	5	0.600
Cyprus	4	5	3	43	10.75	14.33	3	4	0.429
Viet Nam	3	6	2	181	60.33	90.50	2	3	0.250
Spain	3	6	3	137	45.67	45.67	3	3	0.200
Bangladesh	2	6	2	19	9.50	9.50	2	2	0.333
Serbia	2	9	2	7	3.50	3.50	1	2	0.500
Egypt	2	6	1	23	11.50	23.00	1	2	0.500
Israel	2	2	2	53	26.50	26.50	2	2	0.500

Note: TP=total number of publications; NCA=number of contribution authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index, m=m-index.

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Table VII presents the bibliometric analysis of the top 20 most productive countries in the studied subject area, based on various bibliometric indicators. It is found that India leads the list with the highest number of publications (TP = 56), followed by China (TP = 28) and then by the United States (TP = 20). Further study reveals that despite India and China dominating in the volume of research, the United States has the highest research impact, owing to its greater total citations (TC = 846) and average citations per publication (C/P = 42.30). indicating high citations and high influence. Countries such as Vietnam, Spain, and the United Kingdom also demonstrate strong citation performance, underscoring their research contributions. Vietnam has recorded the highest average citations per publication (C/P = 60.33) and per cited publication (C/CP = 90.50), after having only three publications. Countries like Malaysia, Indonesia, and Greece, to the contrary, despite contributing a moderate number of publications, have been able to earn lower citation metrics (e.g., Malaysia's C/P = 3.56 and C/CP = 5.33), thus testifying to their limited global visibility and academic impact.

Interestingly, smaller research economies, such as Israel, Cyprus, and Bangladesh, despite having fewer total outputs, still manage to secure moderate citation counts and maintain a presence through consistent h- and g-index values, suggesting focused yet credible contributions to niche areas—**Figure III** highlights Worldwide scientific production on smart technology research related to hospitality and tourism.

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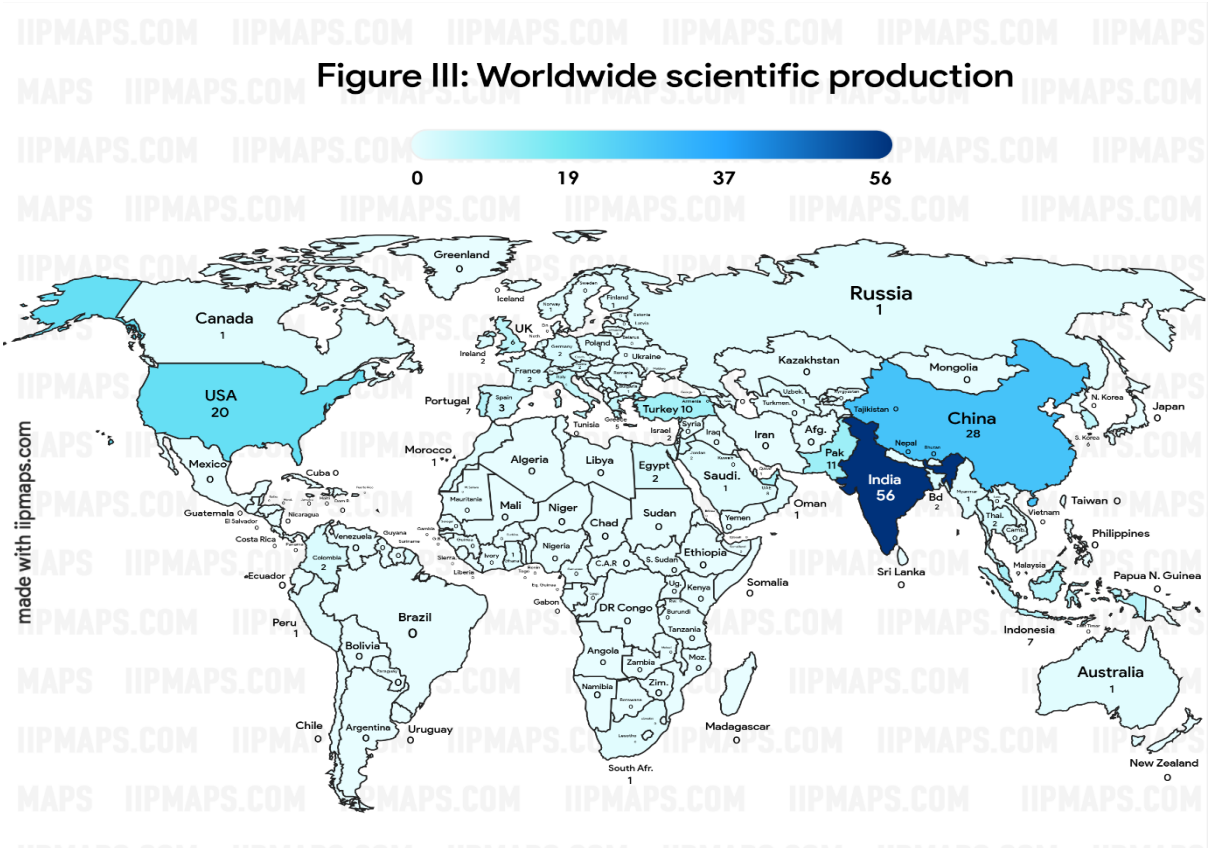

Figure III: Worldwide scientific production

Source: Generated by the author(s) from iipmaps.com

Publications by source titles

Table VIII:Most Productive Source Title

Source Title	TP	NCA	NCP	TC	C/P	C/CP	h	g	m
International Journal of Hospitality Management	7	34	7	307	43.86	43.86	6	7	1.000
Lecture Notes in Networks and Systems	6	25	4	23	3.83	5.75	3	4	0.750
International Journal of Contemporary Hospitality Management	5	16	5	188	37.60	37.60	4	5	0.667
Smart Innovation, Systems and Technologies	5	21	3	5	1.00	1.67	2	2	0.333
Springer Proceedings in Business and Economics	4	9	4	27	6.75	6.75	3	4	0.429
Impact of AI and Tech-Driven Solutions in Hospitality and Tourism	4	11	4	10	2.50	2.50	2	3	1.000

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The Role of Artificial Intelligence in Regenerative Tourism and Green Destinations	3	13	3	7	2.33	2.33	2	2	1.000
Artificial Intelligence for Smart Technology in the Hospitality and Tourism Industry	3	8	0	0	0.00	0.00	0	0	0.000
Integrating AI-Driven Technologies Into Service Marketing	2	6	1	2	1.00	2.00	1	1	0.500
Geojournal of Tourism and Geosites	2	5	1	23	11.50	23.00	1	2	0.333
European Journal of Tourism Research	2	5	1	26	13.00	26.00	1	2	0.143
Technology in Society	2	10	2	233	116.50	116.50	2	2	0.333
Tourism and Hospitality Management	2	9	1	12	6.00	12.00	1	2	0.500
ACM International Conference Proceeding Series	2	4	2	3	1.50	1.50	1	1	0.167
Electronic Markets	2	8	2	265	132.50	132.50	2	2	0.400

Note: TP=total number of publications; NCA=number of contributing authors; NCP=number of cited publications; TC=total citations; C/P=average citations per publication; C/CP=average citations per cited publication; h=h-index; g=g-index; m=m-index.

Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)

Table VIII provides insights into the most productive source titles in smart technology research within the hospitality and tourism domain, revealing important information on the academic impact of the publications. The International Journal of Hospitality Management stands out as the most prominent source, with the highest number of total publications (TP = 7), along with a strong citation record (TC = 307), averaging 43.86 citations per publication (C/P), and also matched by its citations per cited publication (C/CP). It showed robust h-index (6), g-index (7), and m-index (1.000) values, thus revealing a consistent scholarly influence and a sustained research presence. Similarly, the International Journal of Contemporary Hospitality Management (TP = 5) exhibits a high impact, with a C/P of 37.60, thereby affirming the dominance of established hospitality-focused journals in shaping the academic knowledge base. Furthermore, interdisciplinary journals such as Technology in Society and Electronic Markets, although having only two publications each, exhibited remarkably high citation averages, underlining the credible reach and relevance of cross-disciplinary research in technology and society studies applicable to hospitality contexts. It is observed that advanced niche publication sources, such as "The Impact of AI and Tech-Driven Solutions in Hospitality and Tourism" and "The Role of Artificial Intelligence in Regenerative Tourism and Green Destinations," are seen to have an emerging presence with modest citation metrics, revealing a developing but potentially impactful research area. To summarize, the data suggest that the volume of academic publications contributes to the focus on artificial intelligence and digital transformation within research, as well as the journal's reputation and the interdisciplinarity of the publication venue. Thus, underlining the notion that impactful research in hospitality and tourism increasingly benefits from integration with comprehensive and more exhaustive technological and societal discussions.

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Highly cited documents

Table IX. Top 15 highly cited articles

No.	Author(s)	Title	Source Title	TC	C/Y
1	Bowen J.; Morosan C. (2018)	Beware hospitality industry: the robots are coming	Worldwide Hospitality and Tourism Themes	214	26.75
2	Yu C.-E. (2020)	Humanlike robots as employees in the hotel industry: Thematic content analysis of online reviews	Journal of Hospitality Marketing and Management	208	34.67
3	Nam K.; Dutt C.S.; Chathoth P.; Daghfous A.; Khan M.S. (2021)	The adoption of artificial intelligence and robotics in the hotel industry: prospects and challenges	Electronic Markets	200	40.00
4	Nayyar A.; Mahapatra B.; Le D.; Suseendran G. (2018)	Virtual Reality (VR) & Augmented Reality (AR) technologies for tourism and hospitality industry	International Journal of Engineering and Technology(UAE)	160	20.00
5	Reis J.; Melão N.; Salvadorinho J.; Soares B.; Rosete A. (2020)	Service robots in the hospitality industry: The case of Henn-na hotel, Japan	Technology in Society	146	24.33
6	Xu S.; Stienmetz J.; Ashton M. (2020)	How will service robots redefine leadership in hotel management? A Delphi approach	International Journal of Contemporary Hospitality Management	116	19.33
7	Leung X.Y.; Lyu J.; Bai B. (2020)	A fad or the future? Examining the effectiveness of virtual reality advertising in the hotel industry	International Journal of Hospitality Management	111	18.50
8	Cain L.N.; Thomas J.H.; Alonso M., Jr. (2019)	From sci-fi to sci-fact: the state of robotics and AI in the hospitality industry	Journal of Hospitality and Tourism Technology	100	14.29
9	Martinez-Torres M.R.; Toral S.L. (2019)	A machine learning approach for the identification of the deceptive reviews in the hospitality sector using	Tourism Management	91	13.00

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		unique attributes and sentiment orientation			
10	Khaliq A.; Waqas A.; Nisar Q.A.; Haider S.; Asghar Z. (2022)	Application of AI and robotics in hospitality sector: A resource gain and resource loss perspective	Technology in Society	87	21.75
11	Ruel H.; Njoku E. (2020)	AI redefining the hospitality industry	Journal of Tourism Futures	79	13.17
12	Zhong L.; Zhang X.; Rong J.; Chan H.K.; Xiao J.; Kong H. (2020)	Construction and empirical research on acceptance model of service robots applied in hotel industry	Industrial Management and Data Systems	72	12.00
13	Yang L.; Henthorne T.L.; George B. (2019)	Artificial intelligence and robotics technology in the hospitality industry: Current applications and future trends	Digital Transformation in Business and Society: Theory and Cases	70	10.00
14	Saydam M.B.; Arici H.E.; Koseoglu M.A. (2022)	How does the tourism and hospitality industry use artificial intelligence? A review of empirical studies and future research agenda	Journal of Hospitality Marketing and Management	68	17.00
15	Mingotto E.; Montaguti F.; Tamma M. (2021)	Challenges in re-designing operations and jobs to embody AI and robotics in services. Findings from a case in the hospitality industry	Electronic Markets	65	13.00
Source: Generated by the author(s) using biblioMagika® (Ahmi, 2024)					

The growing integration of artificial intelligence (AI), robotics, and immersive technologies in the hospitality industry is reflected in the most highly cited scholarly articles of recent years. As shown in **Table X**, there has been a concentrated and significant scholarly effort to examine the technological transformation phase of service delivery, customer interaction, and standard operational processes in the hospitality and service sectors. Thematically, these articles explore the use of humanoid robots as hotel staff, the application of AI for enhancing managerial and operational efficiency, and the utilization of technologies such as virtual and augmented reality to improve guest experiences. Notably, Nam et al. (2021) is seen as the most influential work in terms of citations per year, a testament to the industry's heightened interest in the prospects and challenges of AI and robotics. Journals such as the Journal of Hospitality Marketing and Management, Technology in Society, and Electronic Markets frequently appear, highlighting their significant role in disseminating research at the intersection of hospitality and emerging technologies. Moreover, newer studies, such as those by Saydam et al. (2022) and Khaliq et al. (2022), provide empirical insights and theoretical perspectives on AI acceptance and resource

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dynamics, indicating a shift toward more sophisticated yet practical frameworks. In brief, the literature suggests a transition phase from conceptual speculation to applied research, particularly in the domains of customer service automation, workforce redesign, and strategic technology adoption within the hospitality sector.

Keywords Co-occurrence analysis

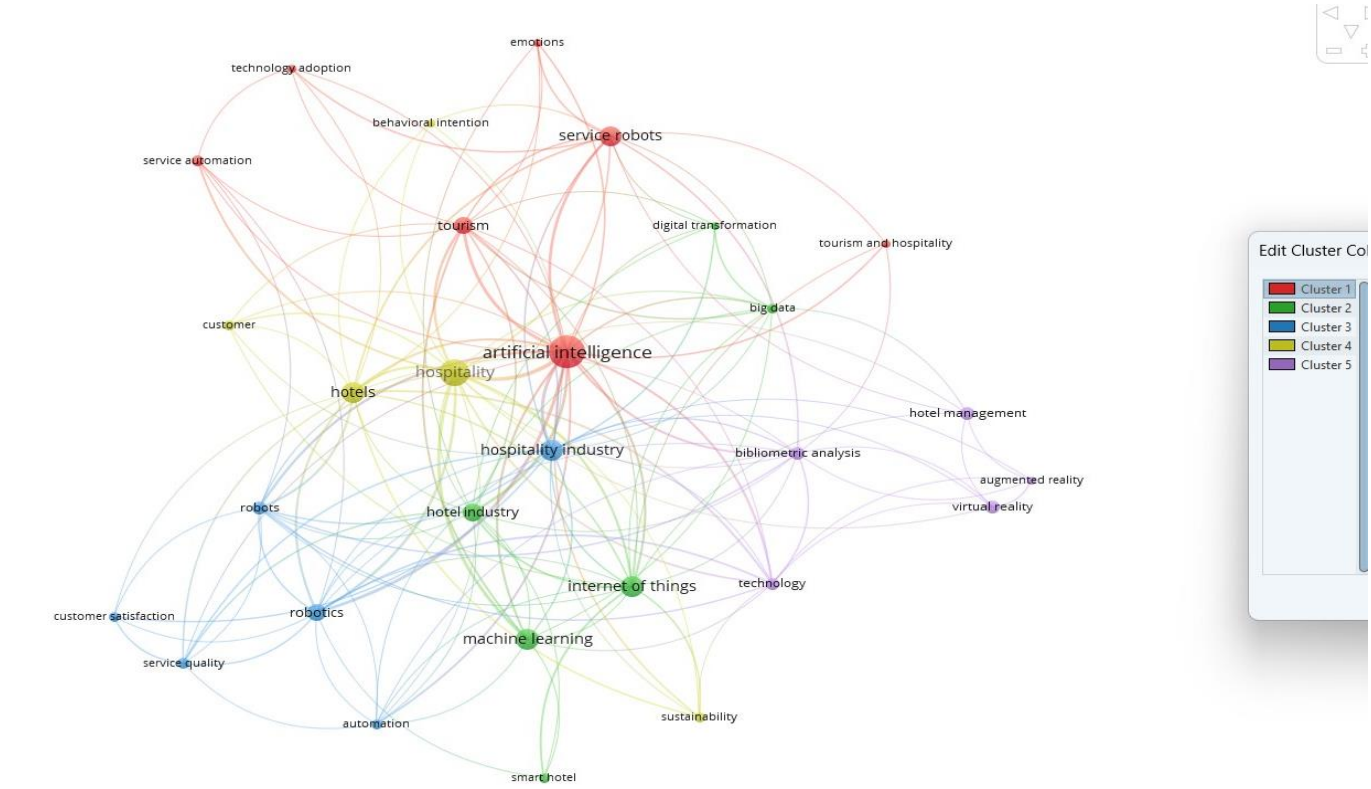

Figure IV: Keyword co-occurrence network visualization using VOSviewer.

Source: Authors' work

Figure IV displays the keyword network visualization of the keywords used by 61 authors, with different clusters color-coded. The size of each node (keyword) represents its importance, or the occurrence of the connections (edges) between nodes represents the dependence or total link strength (TLS) between keywords. The network clusters of the keyword occurrences with a cluster focus are shown in **Table X**

Table X. Keywords clusters

Cluster No.	Keywords	Keywords	Cluster Theme / Focus
1	artificial intelligence, emotions, service automation, service robots, technology adoption, tourism, tourism and hospitality	7	AI, Emotions & Automation in Tourism
2	big data, digital transformation, hotel industry, internet of things, machine learning, smart hotel	6	Smart Hotels, IoT & Data Transformation
3	automation, customer satisfaction, robotics, robots, service quality	5	Service Robotics & Automation

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4	behavioral intention, customer, hospitality, hotels, sustainability	5	Hospitality Experience & Sustainable Practices
5	augmented reality, bibliometric analysis, hotel management, technology, virtual reality	5	Immersive Tech & Research Trends
Source(s): Authors' own work			

For a comprehensive understanding of the thematic structure of scholarly research in brilliant technology-linked hospitality, the researchers performed a keyword co-occurrence analysis, which yielded six unique clusters, each reflecting a core area of academic focus within the intersection of hospitality, tourism, and emerging technologies. The derived clusters are found to represent both mature domains and emerging research areas. Here, Table 11 tabulates the keyword groups, the number of terms per cluster, and their thematic focus.

Cluster 1 draws attention to Artificial Intelligence and Automation in Tourism, including keywords such as artificial intelligence, emotions, service robots, and technology adoption. It highlights the integration of AI to improve service delivery, personalization, and guest experience in the tourism and hospitality sectors.

Cluster 2: centres around Smart Hospitality and IoT, and is represented by terms like big data, digital transformation, machine learning, and smart hotels. The key emphasis here is on technological infrastructure and data-enabled decision-making, which ultimately improve operational efficiency and customer satisfaction.

Cluster 3: deals with Service Robotics as well as Automation, including main keywords like robotics, automation, service quality, and robots, suggesting a growing interest towards replacing or augmenting human labour with robotic solutions to streamline service processes and reduce costs.

Cluster 4: gives signifacat importance to Customer Experience and Sustainability, with keywords like behavioral intention, hospitality, customer, and sustainability. It reflects research on sustainable practices and customer-centric strategies within hospitality environments.

Cluster 5 explores Immersive Technologies and Analytical Tools, including augmented reality, virtual reality, bibliometric analysis, and technology. This cluster demonstrates the use of immersive tools to enhance guest experiences and data analysis methods for mapping research trends.

Here, the clusters reflect a dynamic and interdisciplinary research horizon, wherein technological innovations seem to merge with service management, user psychology, and sustainability. As the hospitality industry enters its digital evolution era, future research must address integration challenges, ethical considerations, and the long-term impact of emerging technologies on both customer experience and business performance.

Thematic map

To gain insights into the conceptual structure of the research area, a thematic map, Figure V, was generated based on two metrics: centrality, which represents the importance of the theme, and density, which reflects the development of the theme. The map generated classifies themes primarily into four quadrants, where each quadrant represents a different role in the academic landscape.

Motor Themes represent the core focus areas of the field. Themes such as hospitality, sales, machine learning, artificial intelligence, and predictive analytics show potentially strong integration of innovative technologies into the hospitality sector. Such areas are most likely to remain influential and might continue to progress towards advanced service automation and customer personalization.

Niche Themes, such as employment and technology adoption, are often specialized and more likely to be region- or context-specific. Though it has progressed to a great extent, the limited global relevance suggests potential for integration into broader theoretical frameworks or comparative studies.

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Basic Themes, such as hotels, the hotel industry, and the Internet of Things, are serving as a foundation for the research area. Despite their key role, these areas lack maturity, often exhibiting a need for formal empirical exploration and theoretical expansion, particularly through the interdisciplinary perspectives linked to hospitality infrastructure and digital transformation.

Emerging or Declining Themes, which encompass the internet, customer interactions, and resource valuation, often represent legacy topics that are losing academic traction or new areas that are awaiting further scholarly attention. Monitoring their trajectory in future analyses will help clarify their status.

It is worth noting that the themes situated at the centre of the thematic map—such as the tourism and hospitality industries, sustainable development, and case studies—are in development and are transitional. They often hold and exhibit potential to grow and might transform themselves into motor or basic themes with continued research.

The thematic map thus suggests several pathways for future research. Researchers should attempt to deepen their research into foundational but underdeveloped topics (e.g., IoT in hotels), expand the main themes through cross-disciplinary interactions (e.g., AI and customer behavior), and reinvigorate research on declining themes by adopting a modern approach (e.g., redefining customer interaction in digital environments). Additionally, exploring transitional themes like sustainability within tourism can lead to impactful, forward-looking contributions.

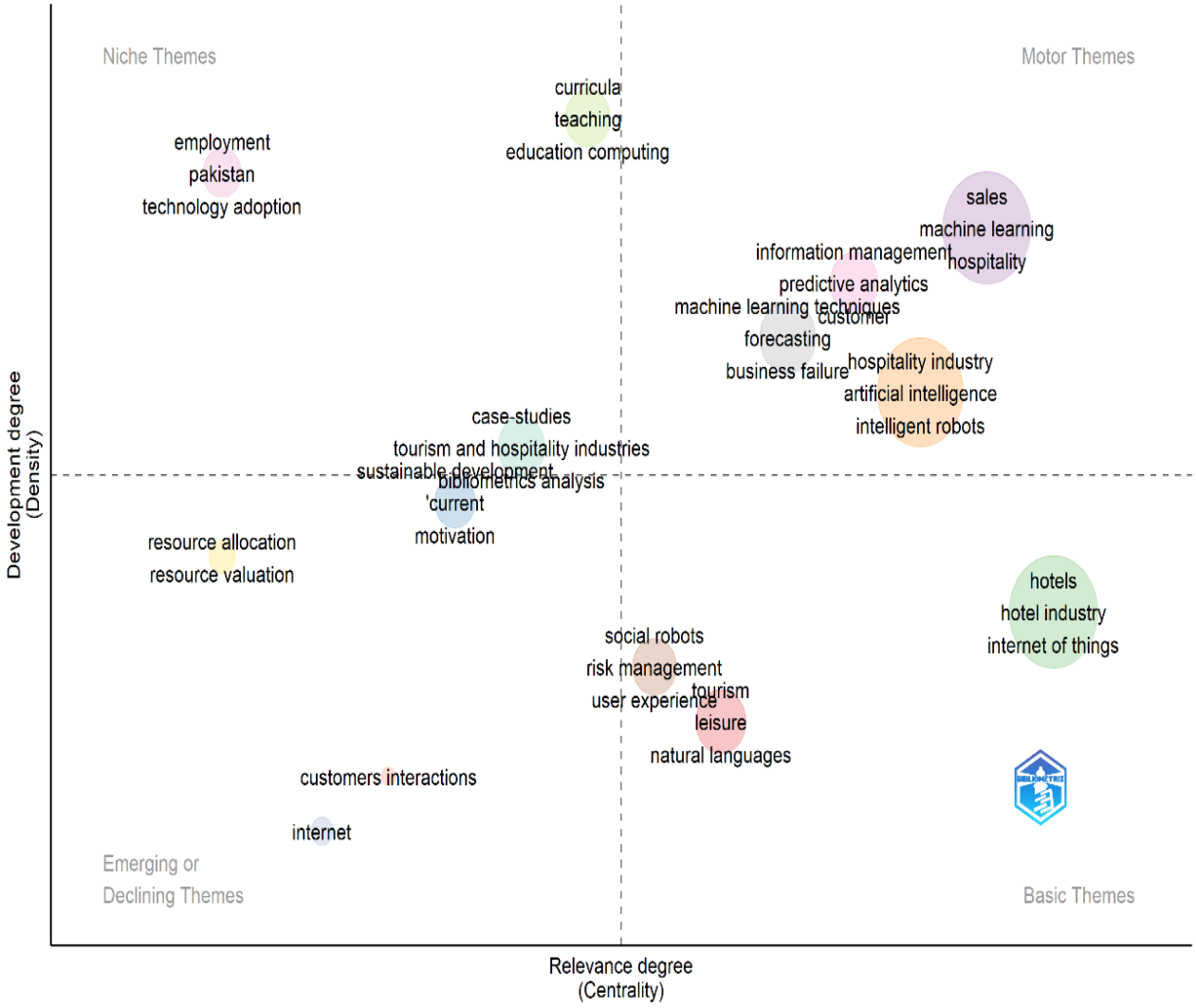

Figure V: Thematic map of the author's keywords using Biblioshiny.

Source: Authors' work

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FINDINGS, DISCUSSION, AND CONCLUSION

Bibliometric findings

This comprehensive bibliometric review encompassed 176 scholarly works published between 1988 and 2024, reflecting a steady increase in research output, particularly from 2018 onward, with a peak in 2024 accounting for 70 publications. These works have garnered nearly 3,218 total citations, averaging 18.28 citations per publication, indicating a growing academic influence. Journal articles comprised the largest share (41.48%), followed by conference papers (31.82%) and book chapters (22.73%). Research in the subject area was found to be interdisciplinary, with subjects such as Computer Science (55.11%) and Business, Management, and Accounting (53.41%) leading, but also extending into Engineering, Social Sciences, and Decision Sciences.

The analysis highlighted 582 contributing authors, with a positive and collaborative authorship trend (3.31 authors per paper). The major contributors in the area included John Bowen, Cristian Morosan, and Chung-En Yu, whose individual papers had received more than 200 citations. A study revealed that the most productive institutions include Amity University, Graphic Era Deemed to Be University, and the University of South Florida; at the same time, journals such as the International Journal of Hospitality Management and Electronic Markets featured prominently. A Keyword co-occurrence analysis conducted had resulted in six distinct thematic clusters: (1) technology adoption and behavioural intention, (2) customer experience and emotional AI, (3) innovative technologies aligned with sustainability goals, (4) immersive technologies like AR/VR, (5) digital transformation of traditional service models, and (6) AI and strategic innovation in hospitality.

To conclude, a thematic map was developed, classifying themes by centrality and density, thus providing insights into their maturity and need. Motor Themes, which include machine learning, artificial intelligence, and predictive analytics, were well-developed and are central to the field. Niche Themes identified, such as employment and technology adoption, are mature enough but are specific to the context. Basic Themes, inclusive of terms such as hotels, the hotel industry, and IoT, form the foundation of research but are in dire need of theoretical expansion. Emerging or Declining Themes, such as internet use, customer interaction, and resource valuation, remain transitional, requiring close monitoring for future relevance.

The findings from this study highlight a dynamic evolution in scholarly discourse surrounding AI and smart technologies in the hospitality industry. The rise in volume and citation of publications since 2018 shows the shift driven by the practical integration of service robots, smart hotels, and digital platforms. The prominence of fields like computer science and business management confirms a convergence of technical innovation with strategic and experiential concerns. The clustering of keywords suggests that while certain areas (e.g., technology adoption and automation) are well-established, others (e.g., immersive technologies and sustainability) are still emerging and thus require refinement. The keyword co-occurrence analysis provides five thematic clusters interpreting AI's transformational role in hospitality.

The thematic map developed provides a useful conceptual lens in interpreting the current state of research in the particular study area. The maturity of Motor Themes is a testament to the robust research activity and the subject's practical relevance. However, the existence of underdeveloped Basic Themes and transitional Emerging Themes shows the areas where future research is needed. Topics such as IoT, customer interaction, and sustainability lend themselves to deeper exploration. They would have significant impacts on the field with the right and focused academic attention in these areas.

Thus, this comprehensive analytical study has demonstrated that AI, innovative technologies, and digital innovations are reshaping the landscape of hospitality and tourism both theoretically and practically. The literature has been rapidly growing in volume, interdisciplinary scope, and academic influence, with foundational themes such as technology adoption and customer satisfaction being extended into new frontiers, including captivating environments, emotional intelligence, and sustainability. Although progress has been made in some areas, many themes remain underdeveloped or in a transitional phase, underscoring the need for more comprehensive theoretical integration and empirical validation.

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Major studies and prominent institutions are now shaping the current research area, and the field continues to diversify both geographically and thematically. The rise in cross-disciplinary collaboration, which spans computer science and engineering, as well as social sciences and management, brings the field to the meeting junction of technological advancement and human-centric service innovation.

Implications

For the researchers in the field, these keyword clusters and thematic maps offer a future direction for scientific research. The underexplored and promising areas include the ethical and psychological aspects of AI adoption, the environmental impact of smart hospitality infrastructures, and the growth and evolution of customer interactions in digital environments. The gaps, particularly those found in evolving clusters and declining areas, provide opportunities for future academic contributions.

For key industry players, this study will identify strategically viable areas for investment and development. Intelligent automation, personalization engines, and sustainable tech solutions are emerging as key players, ensuring a competitive advantage. Emotional AI and immersive interfaces will redefine customer engagement and loyalty.

For stakeholders in the education sector, the study's results serve as a guide, suggesting the need to revise hospitality curricula to include topics such as AI ethics, digital transformation, and interdisciplinary problem-solving. These competencies will play a crucial role in preparing professionals who will navigate and lead a tech-driven hospitality ecosystem.

For stakeholders involved in the policymaking process, this work provides valuable guidance on policy formulation regulating AI integration in service industries. The issues concerning data security, algorithmic fairness, job losses faced by existing workers, and sustainability should be addressed through proactive governance informed by ongoing academic research

REFERENCES

1. Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. Journal of Informetrics, 11(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007
2. Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Medicine, 6(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097
3. Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics, 84(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3
4. Zakaria, R., Ahmi, A., Ahmad, A. H., Othman, Z., Azman, K. F., Ab Aziz, C. B., Ismail, C. A. N., & Shafin, N. (2021). Visualising and mapping a decade of literature on honey research: A bibliometric analysis from 2011 to 2020. Journal of Apicultural Research, 60(3), 359–368. https://doi.org/10.1080/00218839.2021.1898789
5. Bowen, J., & Morosan, C. (2018). Beware hospitality industry: The robots are coming. Worldwide Hospitality and Tourism Themes, 10(6), 726–733. https://doi.org/10.1108/WHATT-07-2018-0045
6. Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S., & Hofacker, C. (2019). Technological disruptions in services: Lessons from tourism and hospitality. Journal of Service Management, 30(4), 484–506. https://doi.org/10.1108/JOSM-12-2018-0398
7. Buhalis, D., & Moldavska, I. (2022). Voice assistants in hospitality: Using artificial intelligence for customer service. Journal of Hospitality and Tourism Technology, 13(3), 386–403. https://doi.org/10.1108/JHTT-03-2021-0104
8. Car, T., Pilepić Stifanich, L., & Šimunić, M. (2019). INTERNET OF THINGS (IOT) IN TOURISM AND HOSPITALITY: OPPORTUNITIES AND CHALLENGES. 163–173. https://doi.org/10.20867/tosee.05.42
9. Chi, O. H., Denton, G., & Gursoy, D. (2020). Artificially intelligent device use in service delivery: A systematic review, synthesis, and research agenda. Journal of Hospitality Marketing & Management, 29(7), 757–786. https://doi.org/10.1080/19368623.2020.1721394

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue X October 2025

10. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. Journal of Business Research, 133, 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070
11. Gaur, L., Afaq, A., Singh, G., & Dwivedi, Y. K. (2021). Role of artificial intelligence and robotics to foster the touchless travel during a pandemic: A review and research agenda. International Journal of Contemporary Hospitality Management, 33(11), 4079–4098. https://doi.org/10.1108/IJCHM-11-2020-1246
12. Goel, P., Kaushik, N., Sivathanu, B., Pillai, R., & Vikas, J. (2022). Consumers' adoption of artificial intelligence and robotics in hospitality and tourism sector: Literature review and future research agenda. Tourism Review, 77(4), 1081–1096. https://doi.org/10.1108/TR-03-2021-0138
13. Ivanov, S., Gretzel, U., Berezina, K., Sigala, M., & Webster, C. (2019). Progress on robotics in hospitality and tourism: A review of the literature. Journal of Hospitality and Tourism Technology, JHTT-08-2018-0087. https://doi.org/10.1108/JHTT-08-2018-0087
14. Kabadayi, S., Ali, F., Choi, H., Joosten, H., & Lu, C. (2019). Smart service experience in hospitality and tourism services: A conceptualization and future research agenda. Journal of Service Management, 30(3), 326–348. https://doi.org/10.1108/JOSM-11-2018-0377
15. Kaur, A., Goyal, S., & Batra, N. (2024). Smart Hospitality Review: Using IoT and Machine Learning to Its Most Value in the Hotel Industry. 2024 International Conference on Automation and Computation (AUTOCOM), 320–324. https://doi.org/10.1109/AUTOCOM60220.2024.10486158
16. Kumar, S., Kumar, V., & Attri, K. (2021). IMPACT OF ARTIFICIAL INTELLIGENCE AND SERVICE ROBOTS IN TOURISM AND HOSPITALITY SECTOR: CURRENT USE & FUTURE TRENDS. Administrative Development "A Journal of HIPA, Shimla," 8(SI-1), 59–83. https://doi.org/10.53338/ADHIPA2021.V08.Si01.04
17. Liu, C., & Hung, K. (2020). A comparative study of self-service technology with service employees: A qualitative analysis of hotels in China. Information Technology & Tourism, 22(1), 33–52. https://doi.org/10.1007/s40558-020-00167-1
18. McCartney, G., & McCartney, A. (2020). Rise of the machines: Towards a conceptual service-robot research framework for the hospitality and tourism industry. International Journal of Contemporary Hospitality Management, 32(12), 3835–3851. https://doi.org/10.1108/IJCHM-05-2020-0450
19. Mercan, S., Cain, L., Akkaya, K., Cebe, M., Uluagac, S., Alonso, M., & Cobanoglu, C. (2021). Improving the service industry with hyper-connectivity: IoT in hospitality. International Journal of Contemporary Hospitality Management, 33(1), 243–262. https://doi.org/10.1108/IJCHM-06-2020-0621
20. Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Medicine, 6(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097
21. Nayyar, A., Mahapatra, B., Nhuong Le, D., & Suseendran, G. (2018). Virtual Reality (VR) & Augmented Reality (AR) technologies for tourism and hospitality industry. International Journal of Engineering & Technology, 7(2.21), 156. https://doi.org/10.14419/ijet.v7i2.21.11858
22. Osadare, O. O., Akande, O. N., Soladoye, A. A., & Sobowale, P. O. (2024). Smart Hospitality: Leveraging Technological Advances to enhance Customer Satisfaction. FUOYE Journal of Engineering and Technology, 9(3), 553–557. https://doi.org/10.4314/fuoyejet.v9i3.28
23. Singh, A. K., Tyagi, P. K., Singh, A. K., Tyagi, P., Kapure, S., & Singh, E. R. (2022). Robotics and Artificial Intelligence in the Hotel Industry: A Systematic Literature Review. 2022 8th International Conference on Advanced Computing and Communication Systems (ICACCS), 1788–1792. https://doi.org/10.1109/ICACCS54159.2022.9785257
24. Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. Scientometrics, 84(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3
25. Yang, H., Song, H., Cheung, C., & Guan, J. (2021). How to enhance hotel guests' acceptance and experience of smart hotel technology: An examination of visiting intentions. International Journal of Hospitality Management, 97, 103000. https://doi.org/10.1016/j.ijhm.2021.103000
26. Zakaria, R., Ahmi, A., Ahmad, A. H., Othman, Z., Azman, K. F., Ab Aziz, C. B., Ismail, C. A. N., & Shafin, N. (2021). Visualising and mapping a decade of literature on honey research: A bibliometric analysis from 2011 to 2020. Journal of Apicultural Research, 60(3), 359–368. https://doi.org/10.1080/00218839.2021.1898789

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue X October 2025

27. Zhu, J. J., Liu, Z., Huang, T., & Guo, X. S. (2023). Roboethics of tourism and hospitality industry: A systematic review. PLOS ONE, 18(6), e0287439. https://doi.org/10.1371/journal.pone.0287439

Further Reading

1. Ahmi, A. (2024), "biblioMagika", available at: https://aidi-ahmi.com/index.php/bibliomagika \

2. Ahmi, A. (2023). OpenRefine: An approachable tool for cleaning and harmonizing bibliographical data. AIP Conference Proceedings. 27TH INTERNATIONAL MEETING OF THERMOPHYSICS 2022, Dalešice, Czech Republic. https://doi.org/10.1063/5.0164724

Declaration of AI-Assisted Writing

During the preparation of this research manuscript, the authors utilized ChatGPT (OpenAI GPT-4) to have a deeper analysis of tables. The obtained information was carefully studied and played a key role in shaping the authors' insights. The explanation of tables is the authors' work after studying this information. This has ensured the accuracy of analysis and added academic value to the work.

Additionally, Grammarly, an AI Tool, was used for grammar checks, spelling, and punctuation, with its primary function being language refinement.