THE APPLICATION OF ROBOTS IN THE TOURISM AND HOSPITALITY INDUSTRY: A BIBLIOMETRIC ANALYSIS

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Abstract

In this paper, we used bibliometric analysis to indicate the current state of scientific literature on the use of robots for the improvement of services and work activities in the tourism and hospitality industry in terms of the most significant topics, as well as the contribution of journals, authors, and countries. The research included an analysis of 27 journals in the field of tourism and hospitality indexed on the Journal Citation Report within the Web of Science. Papers in the selected journals were searched according to the criteria of the presence of the words *robot* or *robotics* in the title, keywords and abstract. A total of 208 papers were identified, which were published in the period between 1984 and 2023. A total of 463 authors from 38 countries participated in writing papers, of which 98 have more than one published paper. Broadly speaking, the two most important topics/fields of analysis were 'service robot' and 'artificial intelligence.' The research results represent a significant basis for the further development of this field and a holistic approach to the study of the existing literature dealing with the application of robots in tourism and hospitality.

Key words: tourism, hospitality, robots, work tasks, bibliometric analysis.

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ПРИМЕНА РОБОТА У ТУРИСТИЧКОЈ И УГОСТИТЕЉСКОЈ ИНДУСТРИЈИ: БИБЛИОМЕТРИЈСКА АНАЛИЗА

Апстракт

У раду је применом библиометријске анализе указано на тренутно стање научне литературе која се бави применом робота на унапређење услуга и радних активности у туризму и угоститељству, и то са аспекта најзначајнијих тема, часописа, аутора и земаља. Истраживање је обухватило анализу 27 часописа из области туризма и угоститељства који су индексирани у *Journal Citation Report* у оквиру *Web of Science*. Методом претраживања речи „робот" или „роботика" у наслову, кључним речима и апстракту селектовани су одговарајући радови. Укупан број радова који је задовољио критеријуме био је 208. Радови су објављени у периоду од 1984. до 2023. године. Радове је писало укупно 463 аутора из 38 земаља, од чега 98 аутора има више од једног објављеног рада. Две најзначајније теме које су анализиране у радовима биле су „услужни роботи" и „вештачка интелигенција". Резултати истраживања представљају значајну полазну основу за даљи развој ове области и холистички приступ проучавања постојеће литературе која се бави применом робота у туризму и угоститељству.

Кључне речи: туризам, угоститељство, роботи, радни задаци, библиометријска анализа.

INTRODUCTION

The components of the service processes and work activities in tourism and hospitality differ based on what is important to the customer. To ensure quest satisfaction, and the quality of hospitality services, including food and beverage (Knežević & Živadinović, 2024) and accommodation (Lončar & Čerović, 2023), is essential. This quality is difficult to achieve and maintain because the tourism and hospitality industry is faced with numerous challenges, including a high reliance on human labour, high competition, low margins (Kim, Lee, & Kang, 2023), an increase in international tourists with high expectations, and various external occurrences such as the COVID-2019 outbreak, all of which have an impact on the overall functioning of the industry (Bowen & Morosan, 2018). Many of these issues have been overcome by robots as a special type of information technology in a physical embodiment that provides personalised services by executing both physical and nonphysical activities with high levels of autonomy (Jörling, Böhm, & Paluch, 2019). The development and ongoing advances of robots have a high impact on the tourism and hospitality industry (Gutierriz, Ferreira, & Fernandes, 2023; Huang, Chen, Huang, Kong, & Li, 2021; Luo, Vu, Li, & Law, 2021). From the perspective of this industry, service robots represent "autonomous intelligence that assists service providers and tourists with their professional or personal goals" (Park, 2020, p. 2). There are authors who believe that organisations in tourism and hospitality that use robots will gain

a competitive advantage over those that continue to use traditional business practices and human labour (Bowen & Morosan, 2018; Fu, Zheng, & Wong, 2022; Huang et al., 2021; Ladeira, Perin, & Santini, 2023), whereas other authors believe that new technologies are not only a solution, but also an imperative for survival and adaptation to constant changes in the business environment (Busulwa, Pickering, & Mao, 2022; Camilleri & Kozak, 2022).

Robots in the tourism and hospitality industry can do a variety of tasks, including checking guests in, cleaning rooms, delivering items to guests, providing concierge services, preparing food, making drinks, entertaining guests, guiding guests, and presenting various information to guests (Chen, Wang, Law, & Zhang, 2023; Huang et al., 2021; Ivanov, Gretzel, Berezina, Sigala, & Webster, 2019). In tourism and hospitality objects, there are many different types of robots, such as reception robots, porter robots, guide robots, concierge robots, and room service delivery robots (Song, Zhang, Hu, & Cao, 2022). All of above-mentioned robots can make service easier and of a higher quality, optimising service operations, releasing employees from repetitive and monotonous tasks, and offering contactless services to customers (McCartney & McCartney, 2020; Liu, Yi, & Wan, 2022; Song, Wang, Yang, & Ma, 2022; Tuomi, Tussyadiah, & Stienmetz, 2021). Due to their capabilities of facial recognition and auto check-ins, robots became even more popular during COVID-2019, when all objects put focus on physical distance among humans in order to preserve their health and safety (Chen et al., 2023). According to forecasts, service robots will replace approximately 25% of employees in the hospitality industry by 2030 (Bowen & Morosan, 2018).

The growing interest in robots' application in the tourism and hospitality industry required an extensive and thorough analysis of existing research and the identification of key trends in this field, particularly with expectations regarding future application of service robots in the tourism and hospitality industry (Goel, Kaushik, Sivathanu, Pillai, & Vikas, 2022). That was the main motivation for this paper.

The paper is organised as follows. After the introduction, the research methodology was presented, with descriptions of key research questions and the conducted bibliometric analysis. After that, research results and the discussion of research findings were presented. Finally, concluding remarks, research implications and limitations, and future research proposals were addressed.

RESEARCH METHODOLOGY

The bibliometric analysis approach proposed by Donthu, Kumar, Mukherjee, Pandey, and Lim (2021) is applied in this paper with the aim to answer the following research questions (RQ) related to robot applications in tourism and hospitality:

RQ 1 – How has the subject of research evolved over time?
RQ 2 – Which journals have impacted the subject the most?
RQ 3 – Who are the most prominent and cited authors?
RQ 4 – Which papers have the highest citations?
RQ 5 – Which countries have produced the greatest number of papers?
RQ 6 – What are the most significant topics of research?

The *Web of Science* (*WoS*) academic database contains high-quality social science and humanities journals, and recognises tourism and hospitality as an independent academic category (Chen et al., 2023). Within the framework of *WoS*, 27 journals were selected for analysis. The criteria for selecting the journals were: (1) presence on *Journal Citation Report* (*JCR*) *WoS Clarivate Analytics* for 2022; and (2) the name of the journal suggests their research focus on the fields of tourism and hospitality.

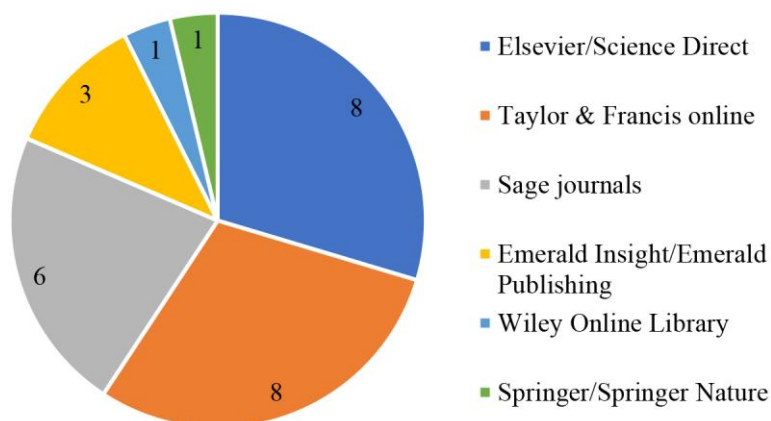Selected journals are published by one of the following six publishers (Figure 1).

Figure 1. Number of journals by publisher
Source: Authors

The collection of data on papers was carried out in the last week of August 2023. The presence of the term *robot* or *robotics* in the titles, keywords and abstracts was determined. The above was realised by using the advanced search option provided by the journal publishers on their websites. The search was not limited to a specific time period. Each of the papers was read by the authors in order to confirm its importance in the

sphere of the application of robotics in tourism and hospitality, and thus obtain a more relevant sample of papers.

The described methodology for selecting a sample of journals and creating a database of papers for conducting a bibliometric analysis is present in the scientific literature on tourism and hospitality (Garabinović, Papić, & Kostić, 2021; Lukić Nikolić & Garabinović, 2023; Papić, Garabinović, Blagojević, Leković, Kostić, & Dimitrovski, 2023). Koseoglu, Rahimi, Okumus, and Liu (2016) and Ülker, Ülker, and Karamustafa (2023) provide data on the popularity of bibliometric analysis in leading journals from tourism and hospitality, which justifies its use in this paper. There are examples of conducting bibliometric analysis on the topic of the application of robots in hospitality (Kumar Singh, Tyagi, Jain, Tyagi, Singh, & Sharma, 2022; Yörük, Akar, & Özmen, 2023), as well as together in tourism and hospitality (Herawan et al., 2023). The analysis of the aforementioned studies concludes that they either focused only on the hospitality sector or had a smaller scope of papers due to the defined time frame of the analysis.

The processing and analysis of the collected data were performed using *Microsoft® Excel® 2019*, and a freely available computer program *VOSviewer 1.6.19.* (van Eck & Waltman, 2010).

RESEARCH RESULTS AND DISCUSSION

The Evolution of Published Papers over Time

Figure 2 shows the temporal distribution of papers on robots/robotics. The total number of published papers is 208.
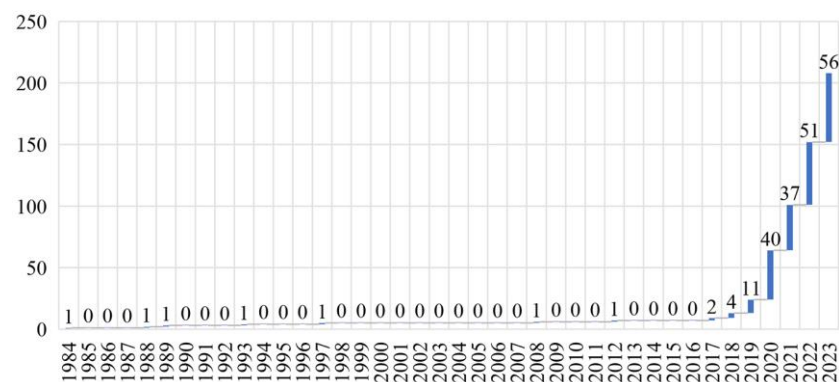

Figure 2. Temporal distribution of papers
Source: Authors

The first paper on the subject of robots/robotics in hospitality was published in 1984. Based on this, it is concluded that the period of studying the application of robots and robotics in general in the field of tourism and hospitality is 40 years (1984-2023). In the established period, the average annual number of papers is 5.20. Papers on the topic of robots/robotics were published sporadically starting in 1984 and ending in 2016. In that period, which spans 33 years, papers were published only during seven years – one per year. Continuity in the publication of papers is characteristic for the period since 2017. In that year, a total of two papers on the analysed topic were published for the first time and, with the exception of a minor drop in the number of papers in 2021, the annual number of published papers has been constantly increasing.

Table 1 shows base and chain changes in the number of published papers by decade. The average change in the number of published papers compared to the 9th decade of the 20th century (base decade) is 1,608.33%. The average chain change in the number of published papers per decade is 1,441.24%.

Table 1. Distribution of papers by decades

Century	Decade	Years	Papers		Change (%)	
			Number	Percentage	Base*	Chain
20th	9th	1981-1990	3	1.44	-	-
	10th	1991-2000	2	0.96	-33.33	-33.33
	1st	2001-2010	1	0.48	-66.67	-50.00
21th	2nd	2011-2020	58	27.88	1,833.33	5,700.00
	3rd	2021-	144	69.23	4,700.00	148.28

Notes: * - The base decade is the 9th decade of the 20th century.
Source: Authors

Observing the distribution of published papers by century, it is concluded that only 5 papers were published during the 20th century, i.e. only 2.40% of all papers. In contrast, 203 papers (i.e. 97.60% of all papers) have been published so far in the 21st century.

Leading Journals in Published Papers

Papers on robots and robotics were published in 22 of the 27 analysed journals, i.e. in 81.48% of the analysed journals (Figure 3). Ten journals have published 10 and more papers on the subject of robots and robotics. Eight journals have published only one or two papers during the observed period.

The journal with the largest number of published papers on the subject of robots and robotics is the "International Journal of Contemporary Hospitality Management." The aforementioned journal had 42 published papers on the analysed topic, which is more than a fifth of the papers.
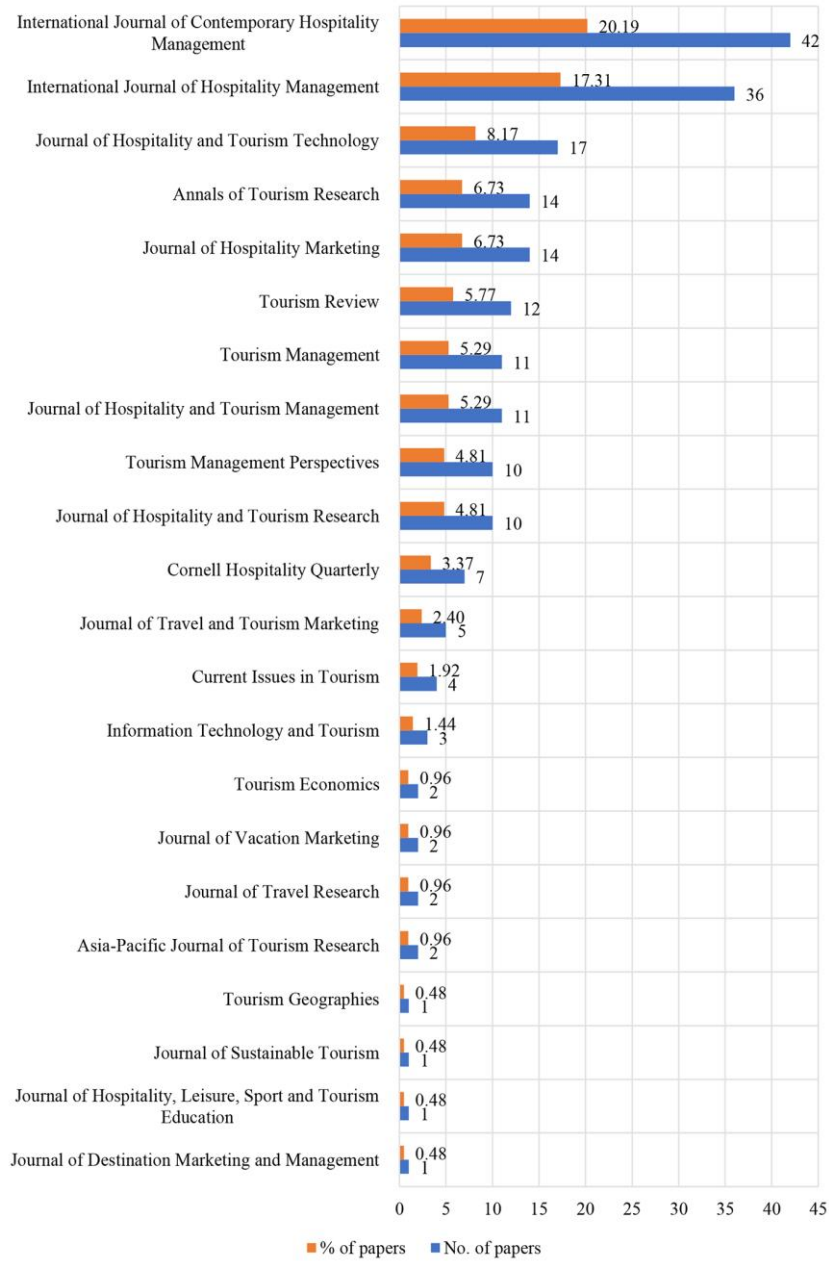
Figure 3. Distribution of papers by journals
Source: Authors

The Most Prominent and Cited Authors

A total of 463 different authors participated in writing the papers (Table 2). Of that number, 98 authors (21.17%) have more than one published paper. Among the authors who have more than one published paper, the majority have two published papers (63.27%), which is 13.39% of all authors. The average number of published papers per author is 1.41.

Table 2. Number of authors according to the number of published papers

Number of papers	Authors	
	Number	Percentage
1	365	78.83
2	62	13.39
3	16	3.46
4	11	2.38
5	4	0.86
8	2	0.43
10	1	0.22
12	1	0.22
14	1	0.22

Source: Authors

The largest number of papers was written in co-authorship by two or more authors (184 papers, 88.46%). The largest number of papers was written by three authors (29.33% of all papers) (Table 3). On average, there are 3.14 authors per paper.

Table 3. Papers according to the criterion of the number of authors

Number of authors	Number of papers	Percentage of papers
1	24	11.54
2	44	21.15
3	61	29.33
4	57	27.40
5	17	8.17
6	3	1.44
13	1	0.48
14	1	0.48

Source: Authors

The most important authors according to the criterion of the number of published papers are Jinsoo Hwang (South Korea) and Heather Markham Kim (South Korea) (Table 4). They individually have a share of more than 5.00% in the total number of published papers. In addition to the mentioned authors, only Stanislav Ivanov (Bulgaria) has a double-digit number of published papers.

Table 4. Authors with five or more published papers

Author	Papers		Country/ies
	Number	Percentage	
Jinsoo Hwang	14	6.73	South Korea
Heather Markham Kim	12	5.77	South Korea
Stanislav Ivanov	10	4.81	Bulgaria
Iis P. Tussyadiah	8	3.85	UK
Jinkyung Jenny Kim	8	3.85	South Korea
Aarni Tuomi	5	2.40	UK/Finland
Craig Webster	5	2.40	USA
Ja Young Jacey Choe	5	2.40	China
Lishan Xie	5	2.40	China

Source: Authors

The most cited author is Stanislav Ivanov with a total of 1,177 citations, which is 7.70% of the total number of citations (Table 5). It is interesting that Jun Wen is in the fifth place in terms of the total number of citations, even though this author published only one paper (such authors are marked in Table 5, Figure 4 and Figure 5 using *).

Table 5. Ten most significant authors according to the criterion of the total number of citations

Author	Total number of citations	Percentage of the total number of citations
Stanislav Ivanov	1,177	7.70
Iis P. Tussyadiah	1,057	6.92
Yangyang Jiang	914	5.98
Vincent Wing Sun Tung	903	5.91
Jun Wen*	880	5.76
Dogan Gursoy	799	5.23
Seongseop Sam Kim	780	5.11
Youngjoon Choi	780	5.11
Craig Webster	671	4.39
Lu Lu	644	4.21

Source: Authors

If the average number of citations per paper is taken as the criterion of author significance, the most important author is Jun Wen (Figure 4). It is interesting that in the top 10 authors according to the mentioned criteria, there is only one author, Yangyang Jiang, who has more than one published paper and this author takes the sixth place.
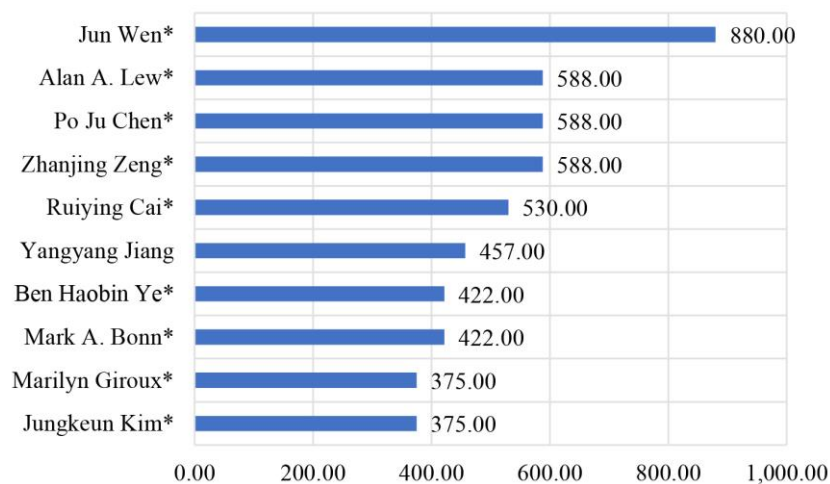
Figure 4. Ten most important authors according to the criterion
of the average number of citations per paper
Source: Authors

The most significant author according to the criterion of the total annual average number of citations is Stanislav Ivanov (Figure 5). It is interesting that Jun Wen is in the sixth place in terms of the total number of citations even though he published only one paper.
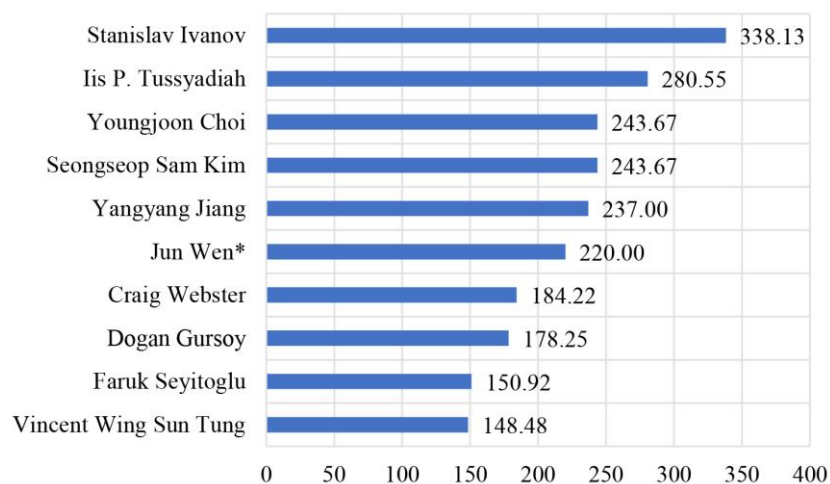

Figure 5. Ten most significant authors according to the criterion
of the total annual average number of citations
Source: Authors

The Most Cited Papers

The citation of papers was determined according to the data available on *Google Scholar* on December 13, 2023 (Table 6). The total citation of papers is 15,279, and the average is 73.46. The majority of the analysed papers were cited (197 papers; 94.71%). The mode of the number of citations is 0 and is present in the case of 11 papers (5.29%). The largest number of papers have 0-100 citations (76.92%).

Table 6. Papers by number of citations

Number of citations	Number of papers	Percentage of papers
0-100	160	76.92
100-200	29	13.94
200-300	7	3.37
300-400	7	3.37
400-500	2	0.96
500-600	2	0.96
600-700	0	0.00
700-800	0	0.00
800-	1	0.48

Source: Authors

The paper by Jiang and Wen (2020) has the largest number of citations (880). The mentioned paper is the only one with a share of more than 5.00% in the total number of citations. The five most cited papers are shown in Table 7.

Table 7. Five most cited papers

Authors (year of publication)	Number of citations	Percentage of citations
Jiang and Wen (2020)	880	5.76
Zeng, Chen, & Lew (2020)	588	3.85
Lu, Cai, & Gursoy (2019)	530	3.47
Tussyadiah (2020)	460	3.01
Li, Bonn, & Ye (2019)	422	2.76

Source: Authors

In order to obtain more relevant results regarding the importance of individual papers, in addition to the total number of citations, the average annual number of citations was taken into consideration. In this way, the influence of the number of years that have passed since the year of publication of the paper on its citation is eliminated. The average annual number of citations was calculated according to the following formula:

Average annual number of citations =
Total number of citations / (2024 – year of publication)

The average of the average annual number of citations per paper is 21.11 (Table 8).

Table 8. Papers according to the average annual number of citations

Number of citations	Number of papers	Percentage of papers
0-25	151	72.60
25-50	36	17.31
50-75	13	6.25
75-100	3	1.44
100-125	3	1.44
125-150	1	0.48
150-175	0	0.00
175-200	0	0.00
200-	1	0.48

Source: Authors

The paper by Jiang and Wen (2020) has the highest average annual number of citations (220.00). The mentioned paper is the only one with an average annual number of citations greater than 200. The five papers with the highest average annual citations are shown in Table 9.

Table 9. Five papers with the highest average annual citations

Authors (year of publication)	Average annual number of citations
Jiang and Wen (2020)	220.00
Zeng et al. (2020)	147.00
Kim, Kim, Badu-Baiden, Giroux, & Choi (2021)	125.00
Tussyadiah (2020)	115.00
Lu et al. (2019)	106.00

Source: Authors

Geographical Distribution of Papers

The authors of the papers on robots and robotics in tourism and hospitality are from 38 countries (Table 10). The largest number of authors is from China (35.42%). In addition to China, the USA has a significant share of authors (22.03%). China made the largest contribution to papers (44.23%). In addition to China, a large contribution (≥10.00%) was made by the USA, the UK and South Korea. Authors from the USA have the largest network of collaboration with authors from other countries – 23 countries, while authors from South Korea wrote half of the papers with authors from their own country, and half in collaboration with authors from another country.

Table 10. Number of authors by country and contribution of countries to the number of papers

Country*	Authors				Papers		
	No. of authors	% of authors (N=463)	No. of papers	% of papers	Papers written without cooperation	No. of papers	No. of countries
China	164	35.42	92	44.23	45	48.91	17
USA	102	22.03	66	31.73	22	33.33	23
UK	36	7.78	35	16.83	11	31.43	19
South Korea	31	6.70	28	13.46	14	50.00	3
Spain	25	5.40	11	5.29	6	54.55	8
Turkey	13	2.81	10	4.81	4	40.00	6
Bulgaria	3	0.65	10	4.81	0	0.00	6
India	15	3.24	9	4.33	3	33.33	10
Australia	13	2.81	7	3.37	1	14.29	4
Malaysia	7	1.51	5	2.40	0	0.00	6
Austria	6	1.30	5	2.40	2	40.00	2
Singapore	3	0.65	4	1.92	0	0.00	7
Cyprus	6	1.30	4	1.92	1	25.00	6
Finland	4	0.86	4	1.92	0	0.00	6
France	6	1.30	4	1.92	1	25.00	5
United Arab Emirates	5	1.08	4	1.92	1	25.00	4
Canada	6	1.30	4	1.92	1	25.00	2
Egypt	4	0.86	3	1.44	0	0.00	4
Italy	9	1.94	3	1.44	1	33.33	2
South Africa	1	0.22	3	1.44	0	0.00	2
Norway	1	0.22	2	0.96	0	0.00	6
Germany	2	0.43	2	0.96	0	0.00	5
Israel	1	0.22	2	0.96	0	0.00	5
Romania	1	0.22	2	0.96	0	0.00	5
Greece	2	0.43	2	0.96	0	0.00	4
New Zealand	3	0.65	2	0.96	0	0.00	4
Portugal	2	0.43	2	0.96	0	0.00	4
Japan	2	0.43	2	0.96	0	0.00	2
Pakistan	1	0.22	1	0.48	0	0.00	3
Thailand	1	0.22	1	0.48	0	0.00	3
Czech Republic	1	0.22	1	0.48	0	0.00	2
Fiji	1	0.22	1	0.48	0	0.00	2
Tunisia	3	0.65	1	0.48	0	0.00	2
Belgium	2	0.43	1	0.48	0	0.00	1
Brazil	3	0.65	1	0.48	0	0.00	1
Colombia	1	0.22	1	0.48	0	0.00	1
Ghana	1	0.22	1	0.48	0	0.00	1
Russia	1	0.22	1	0.48	0	0.00	1
Unspecified country	1	0.22	1	0.48	1	100.00	0

Note: *Member of the UN. If a certain author has listed institutions from several countries in one or more papers, such an author is included in the number of authors from all the countries he listed.

Source: Authors

A visual representation of the collaboration between authors from different countries is presented in Figure 6. Using *VOSviewer*, 10 clusters were formed. Each item (country) belongs to only one cluster. Association strength was used as a normalisation method. A resolution of 1.00 and a minimum cluster size of 1 were used for clustering.
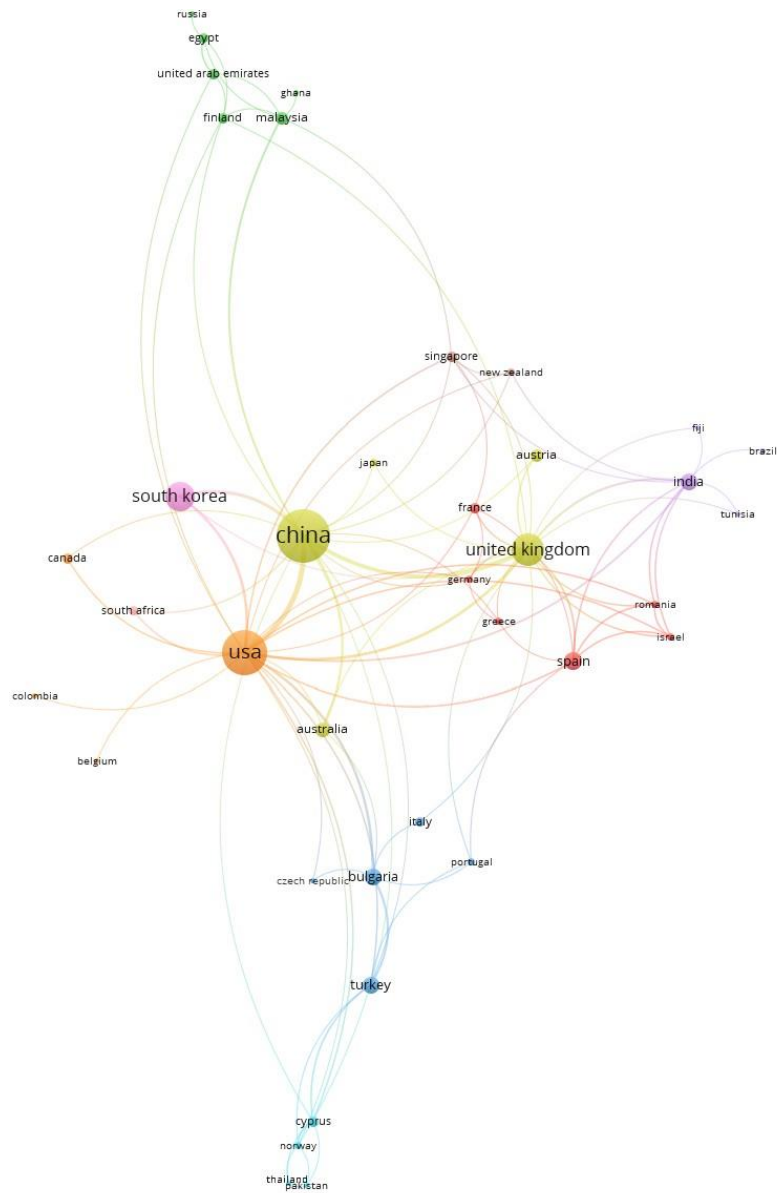

Figure 6. Collaboration between authors from different countries
Source: Authors

Most of the papers (114 papers, 54.81%) were written by authors from the same country (Table 11). The majority of papers with more than one author were written in collaboration between two authors (71 papers, 75.53%). The average number of countries per paper is 1.65.

Table 11. Number of different countries of authors on the same paper

Number of different countries on the same paper	Number of papers	Percentage of papers
1	114	54.81
2	71	34.13
3	15	7.21
4	5	2.40
5	1	0.48
6	2	0.96

Source: Authors

The Most Significant Topics

The most significant topics in the papers on robots/robotics in tourism and hospitality were identified based on the analysis of key words in the analysed papers using the following principles (Lukić Nikolić & Garabinović, 2023):

- Name completeness – using the full name instead of abbreviations;
- Breaking down complex expressions;
- Finding and matching words of similar meaning (synonyms); and
- Avoidance of 'false frequency' – one term is accepted once in one paper.

In order to identify the most important topics of the analysis, a frequency of ≥10 was defined as a selection criterion, which represents the presence in ≈4.8% of the analysed papers. The 40 most significant terms, i.e. fields of analysis, were identified (Figure 7). Only two terms that are present in more than half of the papers are 'robot' and 'service.' The above indicates the importance of the 'service robot' analysis. The next two terms present in slightly less than a quarter of the analysed papers ('intelligence' and 'artificial') indicate the great importance of the analysis of 'artificial intelligence' (*AI*). Based on the analysis of earlier bibliometric studies, the results obtained were expected due to the growing importance of *AI* in the field of tourism and hospitality (Ab Rashid & Aziz, 2022; Kirtil & Aşkun, 2021; Knani, Echchakoui, & Ladhari, 2022), as well as due to the significant role of AI in the field of the application of robots in the hospitality industry, as well as in tourism and hospitality, which was established by earlier bibliometric analyses (Herawan et al., 2023; Kumar Singh et al., 2022).
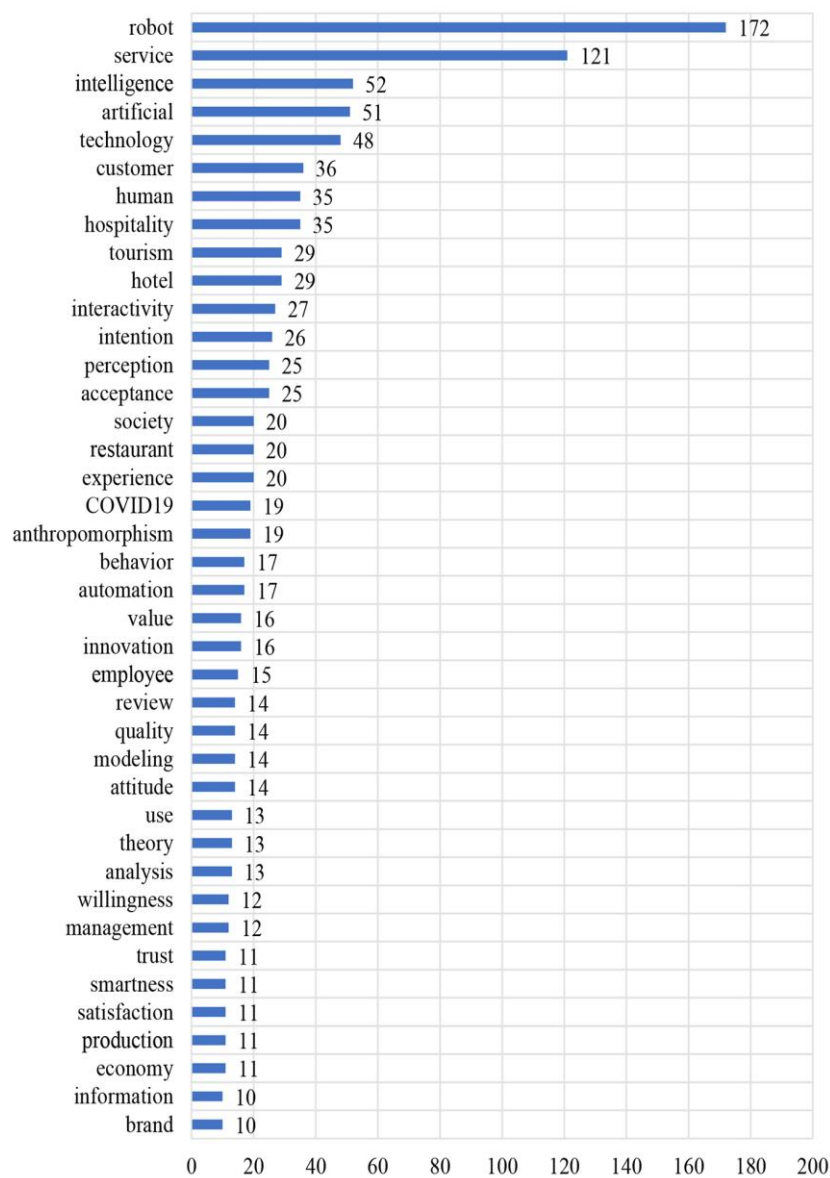
Figure 7. Frequency of the most significant terms/field of analysis
Source: Authors

The mentioned terms, i.e. fields of analysis, were grouped into four clusters by *VOSviewer* (Figure 8). The parameters for cluster formation were identical as in the case of Figure 6.

The first (red) cluster includes 15 items, which are: robot, service, customer, intention, perception, experience, restaurant, behaviour, innovation, value, attitude, quality, production, satisfaction, and brand. The second (green) cluster includes 12 items, which are: intelligence, artificial, technology, hotel, acceptance, *COVID19*, automation, employee, management, economy, smartness, and information. The third (blue) cluster includes 7 items, which are: society, anthropomorphism, modelling, theory, use, willingness, and trust. The fourth (yellow) cluster includes 6 items, which are: hospitality, human, tourism, interactivity, review, and analysis.
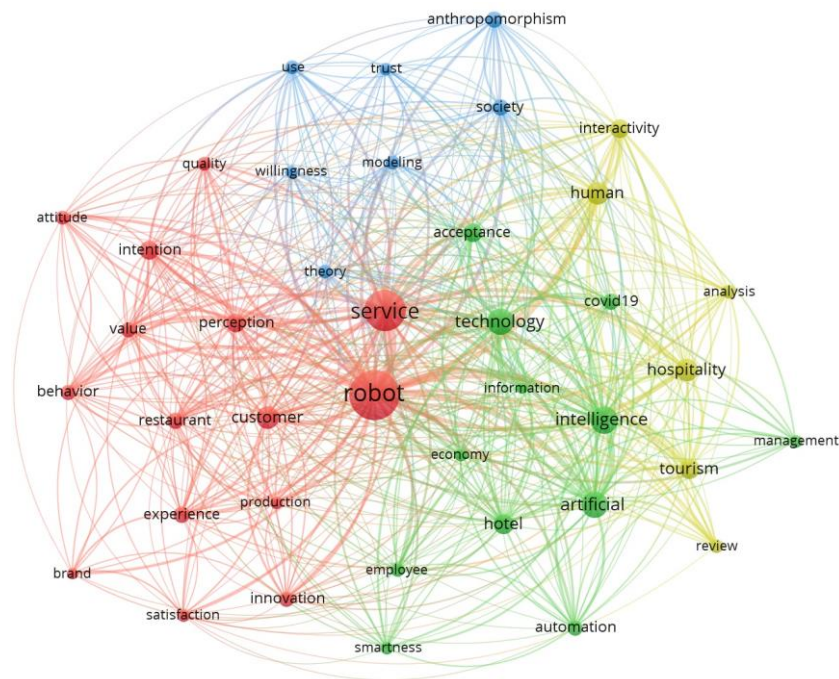

Figure 8. Connection of the most significant terms/field of analysis
Source: Authors

Most of the identified terms (32, i.e. 80.00%) appeared for the first time in the second decade of the 21st century, a quarter of which occurred in 2020. The results showed that the average year of publication of papers on most terms belongs to the third decade of the 21st century (Figure 9).
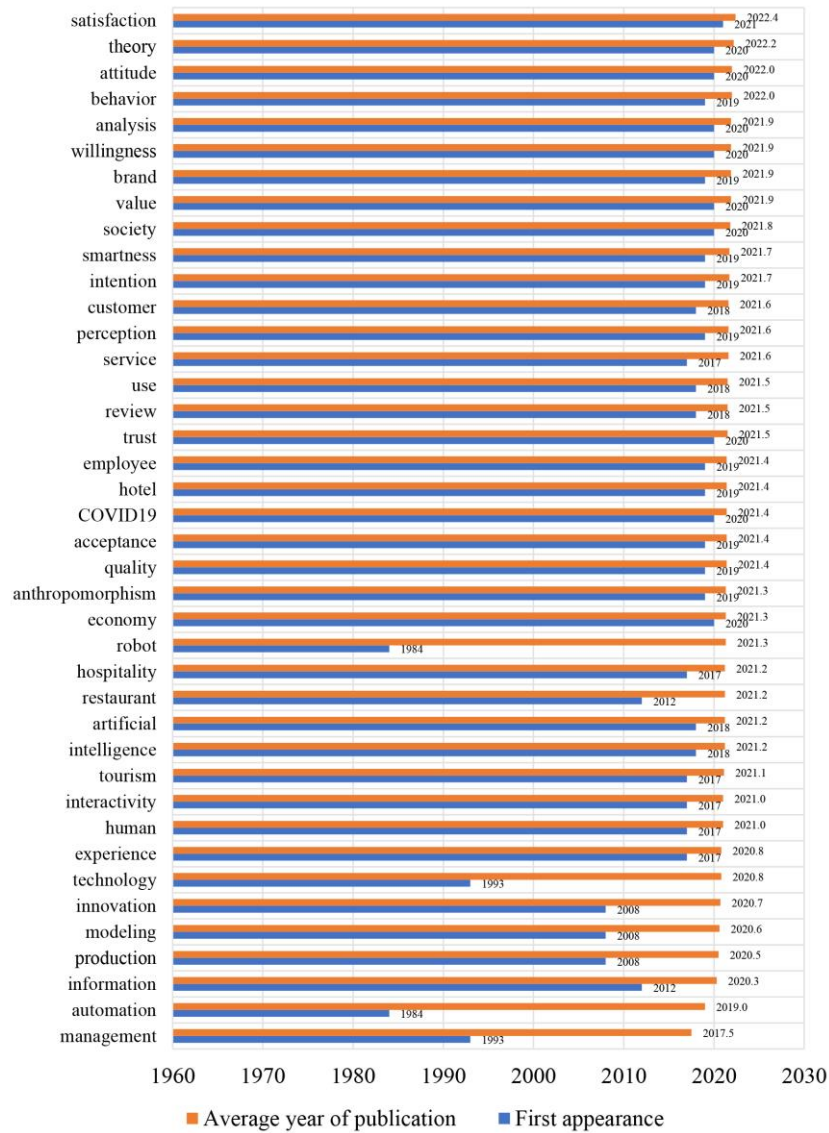
Figure 9. First appearance and average year of publication
of papers on identified topics
Source: Authors

CONCLUSION

Research findings showed that, between 1984 and 2023, 208 pa-
pers on the application of robots in tourism and hospitality were pub-

lished in 22 journals. The papers were written by a total of 463 authors from 38 countries. The most important topics covered in the papers were 'service robot' and 'artificial intelligence.'

This research has valuable implications for both theory and practice. Primarily, this paper provides an excellent basis for a theoretical overview of previous research in the domain of the application of robots in tourism and hospitality, and for the observation of potential trends in this field through the future implementation of a more detailed content analysis. Furthermore, the conducted bibliometric analysis can improve the overall quality of scientific papers providing authors with relevant literature, journals, authors, and countries. This research also has some valuable implications for practitioners, especially leaders and managers of tourism and hospitality objects aiming to implement robotic solutions. They may find the most valuable papers in this field and become better informed before making decisions about robot implementation.

This study also has several limitations, among which are: the moment of analysis (August 2023); the sample of journals (27 journals from *WoS*); and applied method of identifying papers (search for defined terms in the title, abstract and key words). Consequently, suggestions for further research are: conducting bibliometric analysis more often in defined periods of time, which could be every five years due to the specificity of the topic; expansion of the journals sample; improving the method of identifying papers by including other terms in the search and expanding the search to the entire texts of papers; adding other elements of bibliometric analysis; and using other available software tools for bibliometric analysis and text mining.

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ПРИМЕНА РОБОТА У ТУРИСТИЧКОЈ И УГОСТИТЕЉСКОЈ ИНДУСТРИЈИ: БИБЛИОМЕТРИЈСКА АНАЛИЗА

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Резиме

Развој савремених робота и роботских система довео је до њихове све веће примене у туристичкој и угоститељској индустрији. Научна заједница посветила се истраживањима која се односе на примену робота за унапређење услуга и радних активности у туризму и угоститељству. У овом раду је применом библиометријске анализе указано на тренутно стање научне литературе, са аспекта најзначајнијих часописа, аутора, земаља и тема из ове области. Селектовани су радови у часописима из области туризма и угоститељства који су индексирани у Journal Citation Report, Web of Science а у чијим се насловима, кључним речима и апстрактима појављују речи „робот“ или „роботика“. Резултати спроведеног истраживања показали су да је у периоду од 1984. до 2023. године објављено 208 радова у 22 часописа. Радове је писало укупно 463 аутора из 38 земаља. Најзначајније теме које су обрађиване у радовима биле су „услужни роботи“ и „вештачка интелигенција“. Резултати истраживања представљају полазну основу за истраживаче који проучавају примену робота и роботских система у туризму и угоститељству, указујући им на најзначајније теме, радове, ауторе, земље и часописе. Исто тако, добијени резултати могу да буду од користи лидерима и менаџерима у туризму и угоститељству који планирају да имплементирају роботе за унапређење услуга и радних активности. Упознавањем са кључним радовима који су објављени на ову тему, лидери и менаџери могу да прикупе значајне информације и стекну сазнања која ће им помоћи приликом доношења одлука о имплементацији робота и роботских система.