Jomat

Journal of multidisciplinary academic tourism
2025, 10 (1): 379-388
https://doi.org/10.31822/jomat.2025-10-3-379

ISSN: 2645-9078

Content analysis of academic studies on artificial intelligence in tourism journals

Eylem Taşdağıtıcı, Ayşen Akbaş Tuna, Muharrem Tuna*

Keywords:
Artificial Intelligence,
Tourism,
Content Analysis.

Article History:
Submitted: 22.09.2024
Revised:22.10.2024
Revised:03.01.2025
Revised:13.03.2025
Accepted: 17.10.2025
Published Online: 29.10.2025

ABSTRACT

With the increasing use of artificial intelligence (AI) in the tourism sector, it has become important to analyze related studies and identify emerging trends. In this study, content analysis was applied to a total of 79 articles published in top 6 journals of "Hospitality, Leisure, Sports and Tourism" category of the Social Sciences Citation Index (SSCI) such as Annals of Tourism Research, Tourism Management, Journal of Hospitality Marketing & Management, Journal of Sport and Health Science, International Journal of Hospitality Management, and International Journal of Contemporary Hospitality Management, between 2018 and 2024. As a result of the analysis, it was determined that the country that produced the most articles in this field was China, followed by the USA. Quantitative research methods were used the most in the research (67.08%) and the most used variables were performance and security.

1. Introduction

The tourism sector is changing and developing every day. One of the factors causing this change is the use of artificial intelligence applications in the sector (Zsarnoczky, 2017). The artificial intelligence provides significant contributions to the tourism sector in terms of both customers and organizations (Özdemir, 2024). Artificial intelligence is a concept that has been frequently encountered in research topics, especially recently. So, what is artificial intelligence (AI)? There is no commonly accepted definition of artificial intelligence in the literature (Brachman, 2006). However, there are some efforts to define AI. Some of these definitions are as follows. McCarthy (2007) defined AI as the automation of intelligent behavior. Zhang and Sun (2019) defined AI as a modern scientific discipline that studies and develops theories, methods, technologies and applications that aim to imitate, develop and expand human intelligence. According to another definition, artificial intelligence is "the ability to perceive something complex and make appropriate decisions" (Aksoy, 2021).

AI is not a technological development that suddenly entered our lives. The foundations of AI are grounded in the works of philosophers in ancient times to understand the human mind. The modern use of AI is based on the works of Turing (Luger & Chakrabarti, 2017). In the context of research discipline, it was first mentioned by John McCarthy, Marvin Minsky, Nathaniel Rochester and Claude Shannon at the Dartmouth Conference in 1956. The use of AI applications in the tourism sector over the years is also quite remarkable. Artificial intelligence began to be used in reservation and customer service automation in the 1980s (Yadav et al., 2024). In the 1990s, online travel sites, online tour operators, airlines and auction sites took place in the sector (Bağcı & İçöz, 2019). In the 2000s, the use of big data analytics and machine learning began (Ünal & Sezgin, 2021).

Chatbots, robots and intelligent travel assistants are some of the artificial intelligence applications in the tourism sector. Today, chatbots in the tourism sector provide 24/7 service in the planning phase of customers' travels and in subsequent processes (Calvaresi et al., 2021) and make recommendations for suitable holiday opportunities using customers' past online search data and social media interactions. Another important development is the use of robots in the tourism sector. Robots operate in various areas such as guidance, entertainment, security and cleaning in many tourism businesses such as hotel services, airports, restaurants and cafeterias. The Henn-na Hotel in Japan is the first hotel operated by robots (Osawa et al., 2017). The hotel, which started operating in 2015, used robots with features such as facial recognition, check-in, baggage

*Corresponding Author

Eylem Taşdağıtıcı: *Dr., Eskişehir Technical University, Eskişehir, Türkiye, Email: eylemt@eskisehir.edu.tr, Orcid Id: 0000-0002-1622-1831*

Ayşen Akbaş Tuna: *Assoc. Prof. Dr., Ankara Hacı Bayram Veli University, Ankara, Türkiye, Email: akbastuna@hbv.edu.tr, Orcid Id: 0000-0003-4615-4374*

Muharrem Tuna: *Prof. Dr., Ankara Hacı Bayram Veli University, Ankara, Türkiye, Email: muharrem.tuna@hbv.edu.tr, Orcid Id: 0000-0001-5526-7122*

Research Paper

handling and cloakroom management (Nain et al., 2024). In addition, Aloft hotels used the robot Botlr for product deliveries in the hotel (Markoff, 2014) and Yotel hotels operating in Europe and America use robots called yobots with baggage handling features. One of the important contributions of artificial intelligence is related with automation of processes. The use of smart inventory management systems ensures more efficient use of labor and materials used and reduces costs. However, despite all these advantages, it can also lead to uncertainties in issues such as ethics and data security.

This study aims to conduct a content analysis of articles on artificial intelligence. In this context, articles on artificial intelligence published between 2018 and 2024 in the top six journals in the "Hospitality, Leisure, Sports and Tourism" category of the JIF Quartile and Social Sciences Citation Index (SSCI) were analyzed. In line with this main purpose, the articles were analyzed in terms of the methodologies used in the research, the countries where the research was conducted, the keywords and variables used in the research. It is expected that the findings obtained will guide both tourism researchers and tourism businesses.

In relation to this main purpose, the research questions of the study were determined as follows:

- What are the variables used in artificial intelligence and tourism research?
- What are the keywords used in artificial intelligence and tourism research?
- Which research methods were used in artificial intelligence and tourism research?
- In which countries were artificial intelligence and tourism research conducted?

This research is important in terms of determining the impact of AI technologies on the tourism sector. In this context, the analysis of articles published in determined journals between 2018-2024 is expected to light on the relationship between AI and tourism. In addition, the data obtained from the study is expected to help shape the future of AI technologies in tourism for sector experts, researchers and decision makers.

2. Literature review

Changes in consumer needs and technological developments significantly affect the operations, management and marketing of the tourism and hospitality sectors in a market where competition is intense (Buhalis, 1996). Schwab (2017) stated that artificial intelligence is a key component of the fourth industrial revolution. The fourth industrial revolution is an ongoing process today and the aim is to bring together the IT sector and the industrial sector (Yıldız Tonga & Tonga, 2022). Technological developments have caused significant transformations in many areas of the product and service sectors. AI, one of these technological developments, is used quite frequently in sectoral applications and makes it necessary for businesses to adopt innovative strategies in order to gain competitive advantage in changing market conditions and maintain their presence in the sector.

The role of AI is particularly evident in the tourism sector (Hradecky et al., 2022). Since artificial intelligence technologies significantly affect customer experiences and operational processes, analyzing their scope and impact in the context of customers, businesses and the sector has become the subject of studies in tourism literature due to its critical importance. In this context, in addition to researches focusing on the impact of artificial intelligence on tourism (Bulchand-Gidumal, 2022; Kong et al., 2021; Pinheiro et al., 2021; Zsarnoczky, 2017), studies have also been carried out more specific topics such as artificial intelligence technologies such as robots(Belanche et al., 2021; Goh & Law, 2011; Go et al., 2020; Ivanov & Webster, 2020; Ivanov & Webster, 2021; Tsaih & Hsu, 2018), chatbots (Arsenijevic & Jovic, 2019; Calvaresi et al., 2021; Chi & Nam, 2022; Hanji et al., 2023; Pillai & Sivathanu, 2020) and virtual assistants (Loureiro & Bilro, 2022; Rodrigues, 2017).

There are also studies on topics such as customer satisfaction (Ku & Chen, 2024; Zhang et al., 2024), performance (Hanji et al., 2023; Sharma et al., 2022; Stroumpoulis et al., 2022; Tsaih & Hsu, 2018), automation (Jabeen et al.,2022; Tussyadiah, 2020), trust (Pillai & Sivathanu, 2020; Shi et al., 2021; Wong et al., 2024), customer expectations (Huang & Rust, 2018; Liu & Shi, 2018), the role of AI in customer service (García-Madurga & Grilló-Méndez, 2023; Samara et al., 2020), operational efficiency (Coşkun et al., 2015), profitability (Samara et al., 2020), competitiveness (Bulchand-Gidumal et al., 2023; Sharma et al., 2022; Stroumpoulis et al., 2022), anthropomorphism (Pillai & Sivathanu, 2020; Li et al., 2023; Martin et al., 2020), smart tourism (Chenini & Touaiti, 2020; Kontogianni et al., 2022; Stroumpoulis et al., 2022) and sustainable tourism (Khan et al., 2024; Rane et al., 2023).

Zlatanov and Popesku (2019) stated that applications such as chatbots, robots, and travel assistants improve customer service in the tourism and hospitality sectors, and provide personalized experiences; however, some limitations in providing personalized services. In their study based on attribution theory, Belanche et al. (2021) examined the service robot use of customers and their recommendation intention affected by attributions. The researchers determined that the feeling of closeness that customers feel towards robots affects their behavioral intentions. In addition, they concluded that the human similarity of robots has a positive effect on the feeling of closeness to robots. The findings indicate the role that perceptual factors play in customers' interactions with robots. The study conducted by Go et al. (2020) was analyzed within the framework of the Technology Acceptance Model (TAM). In the study examining artificial intelligence robots in the tourism sector, they were examined in terms of basic components and types. Furthermore, Ivanov and Webster (2020) addressed the economic dimensions of service robot use. In their research, authors examined the potential economic impact of robots on sectoral economic dynamics. The research comprehensively examines the potential economic impact of these robots on sectoral economic dynamics. In an era of increasing research on service robots, the paper notes that the economic aspects of this topic have not been adequately addressed. The article evaluates the impacts of service robots on the tourism economy under three main headings: tourism supply, tourism demand and destination management. This analysis is critical for understanding both the direct and indirect impacts of robot technologies on sectoral economic factors. Ivanov and Webster (2021) examined the extent to which robotic services are accepted by consumers in the travel, tourism, and hospitality sectors and the factors that affect the willingness to pay. The results of their research proved that the expected payment for robotic services is less than human services. The study also identified two main groups such as the one willing to pay similar prices for robotic services to human services, and the other expecting significant discounts. These findings provide valuable data to better understand consumers' payment attitudes and price perceptions towards robotic services. It was found that willingness to pay was positively associated with positive attitudes towards robots, expectations of robotic services, being man, and household size, and was negatively associated with travel frequency, age, and level of education.

On the other hand, Tsaih and Hsu (2018) proposed a conceptual framework that aims to organize the key performance measurements on how smart tourism stakeholders can use AI to achieve interdepartmental integration and develop an effective IT strategy at the business level. This framework integrated (1) AI/ML, (2) institutions/organizations, and (3) business processes, providing a detailed examination of how the integration of AI into business processes and performance management affects these elements. Besides this, Goh and Law (2011) divided AI-based tourism demand forecasting models into two main types: AI-based time series methods and AI-based causal methods. Studies investigating the impact of automation and AI technologies on the sector have focused on application processes. In this context, Tussyadiah (2020) conducted research on the main factors of automation and AI applications. According to the research results, they determined that factors such as human knowledge, services and robotic applications stand out. Similarly, Jabeen et al. (2022), in their study aiming to determine the factors of automation and AI applications in the tourism sector, systematically addressed the effects of AI and automation according to the needs of the sector. They emphasized that the most important factors affecting automation and AI applications are human knowledge, services and robotic applications.

Additionally, Chenini and Touaiti (2020) integrated artificial intelligence, big data analytics (BDA), customer relationship management (CRM), and social media marketing (SMM) as key factors affecting tourist satisfaction and destination image in the context of smart tourism destinations in the framework they developed to increase destination loyalty. Kontogianni et al. (2022) examined AI in the context of smart tourism. The researchers examined the approaches from both academic and practical perspectives.

Besides this, chatbots which are software tools developed by combining AI and natural language processing technologies, have become an important research topic in the tourism sector. It helps to serve customers in areas such as 24/7 customer service, support services, language translation, personalized recommendations, and reservations. Calvaresi et al. (2021) emphasized that data protection regulations, lack of information, limit the potential of chatbots in the tourism sector. The researchers found that chatbots are inadequate in predicting social interactions and that more personalization is needed. This situation exposed that technical improvements and user-centered improvements are necessary for effective use of chatbots. Similarly, Hanji et al. (2023) focused on the reasons for use of AI chatbot. According to the findings; performance expectancy, effort expectancy, habit, innovativeness and awareness positively affected chatbot use intention. Besides this, Pillai and Sivathanu (2020) stated that perceived ease of use, as well as perceived usefulness, perceived trust, perceived intelligence, and anthropomorphism, were predictors of chatbot adoption intention. They also determined that managers had insight into their promises to provide travel planning services through chatbots. In addition, Chi and Nam (2022) examined the effects of chatbots on hotel guest communication and long-term relationships. They determined that problem solving had the greatest impact, while anonymity and convenience had indirect effects on communication quality. Huang and Rust (2018), in their research, emphasized the role of artificial intelligence in meeting customer expectations and improving service quality. Besides this, Liu and Shi (2018), drew attention to the application areas of artificial intelligence in the tourism sector and the innovations it brought. García-Madurga and Grilló-Méndez (2023) examined the effects of artificial intelligence technologies on customer service. The researchers determined that service robots and chatbots increased customer satisfaction by responding to questions quickly and accurately. The research also highlighted the transformative potential of artificial intelligence in customer services in the tourism sector, and determined that innovative applications positively affect customer experiences.

Some studies have been conducted to examine the role of artificial intelligence in increasing operational efficiency in the tourism sector. In this context, Coşkun et al. (2015) examined the advantages of artificial intelligence in hotel management in reservation processes, development of pricing strategies and demand forecasting. Sharma et al. (2022) determined ten main factors to examine the effects of AI on the competitiveness of companies and explained their hierarchical relationships. According to the model, "Financial Performance" represents the highest level, followed by "Tourist Satisfaction". The model, which addresses the impact of AI on competitiveness, draws attention to the relationship between financial performance and customer satisfaction. Accordingly, the middle levels include "Productivity" and "AI Innovation", while the lower levels consist of "AI Readiness", "AI Enabled Technologies", "Digital Platforms", "AI Skilled Workforce", "Infrastructure" and "Policies and Regulations". Besides this, Stroumpoulis et al. (2022) developed a conceptual framework to evaluate the role of AI and big data analytics in smart tourism during their research. In this context, they explained the potential of these technologies to increase competitive advantage and business performance. Bulchand-Gidumal et al. (2023) used a grounded theory to investigate the effects of AI used in hotels on marketing functions in hotels and divided the results into four themes. First, it reorganized business processes and procedures. Second, it provided the opportunity for mass customization and customization along with the increase in employee skills. Third, AI affected stakeholder relations, allowing for improved return on investment, and finally, it managed legal and ethical issues regarding the use of data. These types of applications are beneficial to businesses by improving hotel occupancy rates, organizing strategies, making demand forecasts and making suggestions based on the data they obtain. Khan et al. (2024) investigated the relationships between AI and innovative tourism trends and green destinations in their study. They concluded that AI could play a vital role in sustainable tourism. Additionally, researchers stated that by using AI's data analysis and computational capabilities, tourism operations can increase efficiency, improve management, and provide environmentally sensitive customer experiences. The study also pointed out the importance of AI applications to promote sustainability in green destinations through energy management, waste reduction, and transportation improvement. Rane et al. (2023) drew attention to the potential contributions of advanced technologies such as AI, blockchain, Internet of Things (IoT), augmented reality (AR) and virtual reality (VR) to the sustainability of tourism in their studies. These technologies are gaining importance due to their potential to increase environmental, social and economic sustainability in tourism by ensuring more efficient use of resources, establishing transparent supply chains, analyzing environmental conditions, improving visitor experiences and reducing carbon footprints. From a more general perspective, Ivanov and Webster (2019) and Rane et al. (2023) examined how AI affects the tourism sector. Similarly, Sharma et al. (2022) emphasized on financial performance, while Coşkun et al. (2015) focused on cost reduction and economic aspects of AI. In addition, Tsaih and Hsu (2018), Hanji et al. (2023) and Stroumpoulis et al. (2022) obtained significant data on performance. In addition, García-Madurga and Grilló-Méndez (2023) and Sharma et al. (2022) focused on customer satisfaction, while Pereira et al. (2022) and Chenini and Touaiti (2020) focused on customer loyalty. Bulchand-Gidumal et al. (2023), Sharma et al. (2022) and Stroumpoulis et al. (2022) conducted research on competitiveness. García-Madurga and Grilló-Méndez (2023) and Chenini and Touaiti (2020) emphasized customer relationship management practices in their studies, while Coşkun et al. (2015), Sharma et al. (2022), and Rané et al. (2023) focused on efficiency, Pillai and Sivathanu (2020) on trust, and Chenini and Touaiti (2020) on marketing strategies. Chi and Nam (2022) and Huang and Rust (2018) examined the effects on quality; Pillai and Sivathanu (2020) investigated anthropomorphism, and Coşkun et al. (2015) presented findings on pricing strategies. Finally, Bulchand-Gidumal et al. (2023), Khan et al. (2024) and Rane et al. (2023) addressed sustainability issues. Studies in literature deeply investigate the effects and applications of AI in the tourism and hospitality sectors. Studies show that artificial intelligence has effects ranging from operational efficiency to customer satisfaction in the tourism sector. In addition to these studies, some theoretical frameworks have been used in literature to understand the role and effects of AI technologies in the tourism sector. In this context, Rogers' (2003) "Theory of Diffusion of Innovations" has found application since AI is considered a new concept. Bulchand-Gidumal et al. (2023) used the "Grounded Theory Approach" to understand the effects of AI on hotel marketing. These theoretical approaches play an important role in analyzing the effects of AI on the tourism sector.

3. Research methodology

In this study, content analysis was applied to articles on artificial intelligence published in journals indexed in the "Hospitality, Leisure, Sport, and Tourism" category by the Social Sciences Citation Index (SSCI) between 2018 and 2024 and ranked in the top six in terms of Journal Impact Factor (JIF). Research notes, perspectives, critical reflections and foresight studies were excluded in the selection process. The study began by listing 79 AI-related articles that met the specified standards. In the evaluation phase of these publications, criteria such as keywords, variables, research country, methodological type and publication year were used. The data obtained from the articles within the scope of the study were analyzed using descriptive statistical methods. In the data analysis process,

Figure 1: Research Design

Sample and Universe

Universe: Articles published between 2018 and 2024 in journals that are in the 'Hospitality, Leisure, Sport, and Tourism' category of the Social Sciences Citation Index (SSCI) and in the top 6 in the Journal Impact Factor (JIF) ranking.

Sample: 79 articles on Artificial Intelligence published between 2018 and 2024 in journals ranked in the 'Hospitality, Leisure, Sport, and Tourism' category of the Social Sciences Citation Index (SSCI) and among the top 6 in the Journal Impact Factor (JIF) ranking.

↓

Data Collection

Articles were collected and organized according to the specified criteria :

Included: Articles on Artificial Intelligence published between 2018 -2024 in journals that are in the 'Hospitality, Entertainment, Sports and Tourism' category of the Social Sciences Citation Index (SSCI) and are in the top 6 in the Journal Impact Factor (JIF) ranking.

Excluded: Research notes, perspectives, critical reflections and foresight studies were excluded in the selection process.

↓

Data Analysis

Content analysis was performed on the data using the NVivo 12 program.

Source: Prepared by the authors

NVivo 12 software was used to conduct content analysis. According to Cohen et al. (2007), content analysis is a technique used to organize, categorize and compare texts to draw theoretical conclusions. With content analysis, distinct themes and subthemes in the texts were determined. In order to increase the clarity of the results and to facilitate the interpretation of the data, frequencies were obtained from the data by creating graphs and tables.

The universe of the study consists of articles published between 2018 and 2024 in journals that are in the 'Hospitality, Leisure, Sports and Tourism' category of the Social Sciences Citation Index (SSCI) and in the top 6 in the Journal Impact Factor (JIF) ranking. The sample selected for the study consists of 79 articles published between 2018 and 2024 among the top 6 journals in the "Hospitality, Leisure, Sports and Tourism" category of the Social Sciences Citation Index (SSCI). In this context, the study is limited to the years 2018-2024. The analysis stages of the articles are given below.

4. Results

Among the journals examined between 2018 and 2024, the International Journal of Contemporary Hospitality Management published the most articles on AI. Additionally, an increasing trend was observed in the number of AI-related articles published in these journals. The distribution of articles in the journals examined by year is presented in Table 1.

The following findings were reached as a result of the analysis. While the Annals of Tourism Research journal did not publish any articles in 2018 and 2024, it reached the highest number of publications with 4 articles published in 2020 and 2023. As the Tourism Management journal published 1 article in 2018, 1 in 2020, 2 in 2021, 1 in 2022 and 2023, it did not have any articles published in 2019 and 2024. The Journal of Hospitality Marketing & Management journal published 4 articles in 2019 and 2022. The number of articles changed between 0-4 in other years. The Journal of

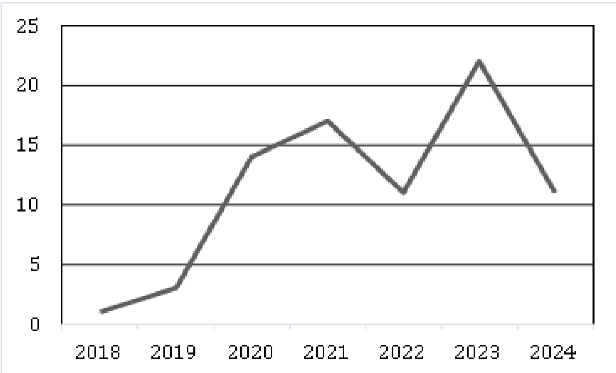
Table 1: Distribution of Articles by Year

	2018	2019	2020	2021	2022	2023	2024
Annals of Tourism Research	0	1	4	1	2	4	0
Tourism Management	1	0	1	2	1	2	1
Journal of Hospitality Marketing & Management	0	1	4	2	4	4	2
Journal of Sport and Health Science	0	0	0	0	0	1	0
International Journal of Hospitality Management	0	1	4	3	1	2	4
International Journal of Contemporary Hospitality Management	0	0	1	9	3	9	4

Source: *Prepared by the authors*

Sports and Health Sciences journal published only 1 article in 2023 and no articles in other years. The International Journal of Hospitality Management published 4 articles in 2020 and 2024, 1 and 3 articles in 2019 and 2021, respectively, and finally, it was determined that the International Journal of Contemporary Hospitality Management published 9 articles in 2021 and 2023, while the number of articles varied between 1 and 4 in other years.

Figure 2: Number of Articles



Source: *Prepared by the authors*

According to the data in Figure 2, a gradual increase in academic articles on AI published in tourism journals has been observed since 2018. Besides this, a notable increase in scientific productivity in this field was observed especially between 2019-2020 and 2022-2023. However, between 2021-2022 and 2023-2024, this increasing trend has stagnated and there has been a significant decrease in the number of articles published.

Table 2: Research Method

Research Method	F	%
Qualitative	20	25.31
Quantitative	53	67.08
Mixed	6	7.59

Source: *Prepared by the authors*

According to the data in Table 2, an increasing trend has been observed in academic articles on AI published in tourism journals since 2018. In addition, a significant increase in scientific productivity in this field has been determined, especially between 2019-2020 and 2022-2023. However, this upward trend stagnated between 2021-2022 and 2023-2024, and there was a significant decrease in the number of articles observed. As shown in Table 4.3, out of the 79 articles reviewed, 20 used qualitative methods, 53 used quantitative methods and 6 used mixed methods.

In addition, as shown in Figure 3, it has been determined that the country that publishes the most on artificial intelligence is China, followed by the USA, and Türkiye is ranked 14th.

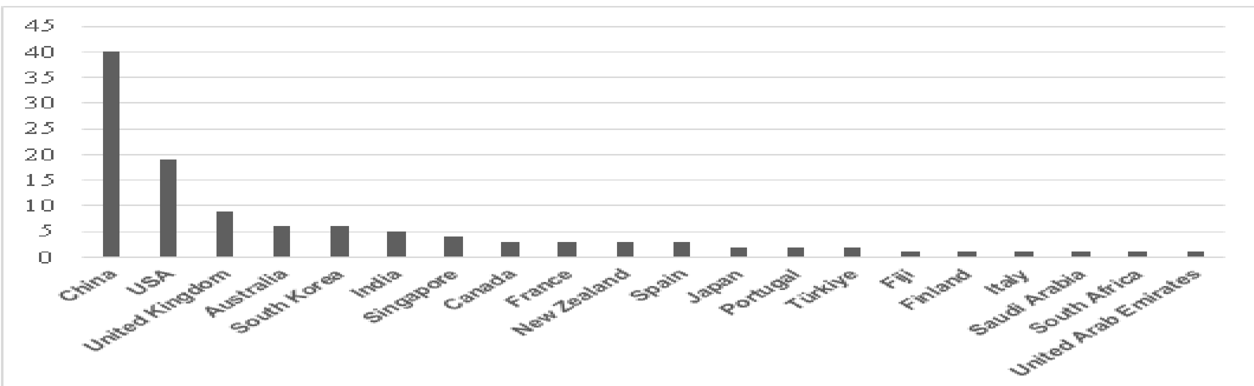
Table 3: Keywords Used

Keywords	F	Keywords	f
Artificial intelligence	65	Artificial neural network	2
Tourism	15	Automation	2
Accommodation	11	Customer service	2
Service robots	11	Customer tolerance	2
Anthropomorphism	7	Equality	2
Performance	6	Hotels	2
Automation	5	Hotel management	2
Big data	5	Hygiene and cleanliness	2
COVID-19	5	Intention to quit	2
Interaction	5	Job security	2
Robotics	5	Literature review	2
Trust	5	Performance expectation	2
Chatbot	4	Service encounter	2
Hospitality	4	Service failure	2
Service quality	4	Technology acceptance model	2
Bibliometric analysis	3	TripAdvisor	2
AI applications	2		

Source: *Prepared by the authors*

A detailed analysis of the keywords in the articles, as shown in Table 3, reveals that certain topics stand out. Terms such as artificial intelligence, tourism, hospitality, service robots, and anthropomorphism are among the most frequently used keywords. In particular, the integration of AI and service robots in the tourism and hospitality sectors

Figure 3: Distribution of Articles by Country



Source: *Prepared by the authors*

and the role of anthropomorphism in this context constitute the main focus of the research.

Table 4: Variables Used

Variable	F
Performance	16
Trust	15
Al applications	14
Anthropomorphism	9
Satisfaction	9
Service quality	9
Technology	7
Value	6
Motivation	5
Al anxiety	4
Al awareness	4
Commitment	4
Attitude	3
Humor	3
Privacy concerns	3
Social impact	3
Experience	2
Intent to leave the job	2
Job security	2
Loyalty	2
Perceived benefit	2
Perceived risk	2

Source: *Prepared by the authors*

As indicated in Table 4, the most frequently encountered variables in the models used in the articles are determined as 'performance', 'trust', 'AI applications' and 'anthropomorphism'. While performance measurements play an important role in evaluating the effectiveness and efficiency of the systems in particular, the concept of trust is used to examine the level of trust users have in AI systems and the impact of this trust on system performance. AI applications are considered as a central variable to analyze various technology-based application scenarios and solutions. On the other hand, the concept of anthropomorphism is frequently investigated to understand the effects of giving human-like characteristics to AI systems and the effects of these characteristics on user interactions. These variables contribute to a better understanding of the interactions between AI systems and users as well as general acceptance processes.

5. Conclusion

In the study, a content analysis of articles on artificial intelligence published in tourism journals indexed by SSCI and ranked in the top 6 of the JIF Quartile between 2018 and 2024 was conducted. As a result of the research, a gradual increase in academic articles on artificial intelligence published in tourism journals has been observed since 2018, and a significant increase in scientific productivity in this field has been detected, especially between 2019-2020 and 2022-2023. In the study conducted by Özdemir (2024), based on the bibliometric analysis of articles on tourism and artificial intelligence published in academic journals within the scope of ULAKBIM in Türkiye, it was determined that the years 2023 and 2022 were the periods in which the most articles on tourism and artificial intelligence were published. Similar to the Üstüner and Dilek (2024)'s content analysis of articles, the findings show that the number of studies about AI is rapidly increasing and AI is becoming an important research area in tourism sector. Another important finding reveals that artificial intelligence research is especially concentrated in countries such as China and the USA. Similar to the finding, according to the analysis of a total of 1035 manuscripts published in Scopus and Web of Science between 1984 and 2021 on artificial intelligence in tourism and hospitality by Knani et al. (2022); China is the most productive country with about 10% of the publications (103 documents), followed by the United States (57) while Türkiye ranks 14th. Additionally, the most frequently used keywords were determined as artificial intelligence, tourism, accommodation, service robots, anthropomorphism and performance. Consistent with the findings of Özdemir (2024), it was found that the most used keywords were "tourism" and "artificial intelligence". In the study conducted by Çuhadar et al. (2022), in which 117 studies were analyzed based on the literature analysis of studies on artificial intelligence and robotic systems in the field of accommodation management, it was determined that the most frequently used keyword in the studies was artificial intelligence. It was also determined that quantitative research methods were predominantly applied in the studies. This finding is similar to the finding in the study conducted by Özdemir (2024). The variables investigated in the studies, in addition to AI applications, were found to be performance, trust, anthropomorphism, satisfaction and service quality, technology, value, motivation, ai anxiety, ai awareness, commitment, attitude, humor, privacy concerns, social impact, experience, intent to leave the job, job security, loyalty, perceived benefit and perceived risk. It also shows that there is a need for studies on the social and ethical aspects of AI, such as data security and customer privacy.

This study contributes to the literature by shedding light on the trends of publications on artificial intelligence and tourism published in selected journals between 2018-2024, while providing an academic perspective on the artificial intelligence ecosystem and sectoral actors in a practical context. The study indicates which artificial intelligence applications and variables are being researched more and which areas sector managers should prioritize in order to gain competitive advantage by taking one step ahead of their competitors. However, the study has some limitations. First, the research focuses on AI-related articles published between 2018-2024. Previous studies could not be included in the study. In addition, only journals indexed by SSCI were has been taken into consideration, which to the neglect of potentially analyses with a larger data. The research methodology is also limited by the use of only content analysis. Future research supporting efforts to deepen and expand AI applications in tourism will contribute to the enrichment of the literature. A more in-depth examination of AI technologies in the tourism sector is important in the context of developing strategies for more effective use of AI in the sector.

References

Aksoy, H. (2021). Yapay Zekalı Varlıklar ve Ceza Hukuku. International Journal of Economics, Politics, Humanities & Social Sciences, 4(1), 10-27.

Arsenijevic, U., & Jovic, M. (2019, September). Artificial intelligence marketing: chatbots. In 2019 international conference on artificial intelligence: applications and innovations (IC-AIAI) (pp. 19-193). IEEE.

Bağcı, E., & İçöz, O. (2019). Z ve Alfa Kuşağı ile Dijitalleşen Turizm. Güncel Turizm Araştırmaları Dergisi, 3(2), 232-256.

Belanche, D., Casaló, L. V., & Flavián, C. (2021). Frontline robots in tourism and hospitality: Service enhancement or cost reduction? Electronic Markets, 31(3), 477–492. https://doi.org/10.1007/s12525-020- 00432-5

Brachman, R. J. (2006). AI more than the sum of its parts. AI Magazine, 27(4), 19-19.

Buhalis, D. (1996). Information technology as a strategic tool for tourism, Tourism Review, 17(2), 34-36. https://doi.org/10.1108/eb058221

Bulchand-Gidumal, J. (2022). Impact of artificial intelligence in travel, tourism, and hospitality. In Z. Xiang, M. Fuchs, U. Gretzel, & W. Höpken (Eds.), Handbook of e-Tourism. Springer, Cham. https://doi.org/10.1007/978-3-030-48652-5_110

Bulchand-Gidumal, J., Secin, E. W., O'Connor, P., & Buhalis, D. (2023). Artificial intelligence's impact on hospitality and tourism marketing: Exploring key themes and addressing challenges. Current Issues in Tourism, 27(14), 2345–2362. https://doi.org/10.1080/13683500.2023.2229480

Calvaresi, D., Ibrahim, A., Calbimonte, J.-P., Fragniere, E., Schegg, R., & Schumacher, M. I. (2021). Leveraging inter- tourist interactions via chatbots to bridge academia, tourism industries, and future societies. Journal of Tourism Futures, 9(3), 311-337. https://doi.org/10.1108/JTF-08-2021-0212

Chenini, A., & Touaiti, M. B. (2020). Building destination loyalty using tourist satisfaction and destination image: A holistic conceptual framework. Journal of Tourism Futures, 6(2), 163-179. https://doi.org/10.1108/JTF-11-2018-0075

Chi, N. T. K. C., & Nam, V. H. N. (2022). The impact of AI chatbot on long-term relationships between customers and hotels. VNU Journal of Economics and Business, 2(6), 1-10.

Cohen, L., Manion, L., & Morrison, K. (2007). Research methods in education. Routledge.

Coşkun, A., Akbaş Tuna, A., & Tuna, M. (2015). The impact of artificial intelligence on hotel management. Tourism Management Perspectives, 16, 65-72.

Çuhadar, M., Demiray, G., Öztürk, M., & Alabacak, C. (2022). Konaklama işletmelerinde yapay zekâ ve robotik teknolojileri: Bibliyometrik bir analiz. Journal of Tourism and Gastronomy Studies, 10(2), 1550–1580. https://doi.org/10.21325/jotags.2022.1056.

García-Madurga, M. A., & Grilló-Méndez, E. (2023). Artificial intelligence in tourism: A systematic review of current trends and future directions. Journal of Hospitality and Tourism Management, 54, 102-115.

Go, H., Kang, M., & Seungbeum, C. S. (2020). Machine learning of robots in tourism and hospitality: Interactive technology acceptance model (iTAM) – Cutting edge. Tourism Review. https://doi.org/10.1108/TR-02-2019-0062

Goh, C., & Law, R. (2011). The methodological progress of tourism demand forecasting: A review of related literature. Journal of Travel & Tourism Marketing, 28(3), 296-317.

Hanji, S. V., Navalgund, N., Ingalagi, S., Desai, S., & Hanji, S. S. (2023). Adoption of AI chatbots in travel and tourism services. In Proceedings of the Eighth International Congress on Information and Communication Technology, Lecture Notes in Networks and Systems, Springer, 696, 713-.727, https://doi.org/10.1007/978-3-030-88253-1_62

Hradecky, D., Kennell, J., Cai, W. J., & Davidson, R. (2022). Organizational readiness to adopt artificial intelligence in the exhibition sector in Western Europe. International Journal of Information Management, 65, Article 102497. https://doi.org/10.1016/j.ijinfomgt.2022.102497

Huang, M.-H., & Rust, R. T. (2018). Artificial intelligence in service. Journal of Service Research, 21(2), 155-172.

Ivanov, S., & Webster, C. (2020). Robots in tourism: A research agenda for tourism economics. Tourism Economics, 26(7), 1065-1085. https://doi.org/10.1177/1354816619879583

Ivanov, S., & Webster, C. (2021). Willingness-to-pay for robot-delivered tourism and hospitality services – an exploratory study. International Journal of Contemporary Hospitality Management, 33(11), 3926-3955. https://doi.org/10.1108/IJCHM-09-2020-1078

Jabeen, F., Al Zaidi, S., & Al Dhaheri, M. H. (2022). Automation and artificial intelligence in hospitality and tourism. Tourism Review, 77(4), 1043-1061. https://doi.org/10.1108/TR-09-2019-0360

Khan, N., Khan, W., Humayun, M., & Naz, A. (2024). Unlocking the potential: Artificial intelligence applications in sustainable tourism. In A. Alnoor, G. E. Bayram, C. XinYing, & S. H. A. Shah (Eds.), The role of artificial intelligence in regenerative tourism and green destinations (pp. 303-316). Emerald Publishing Limited. https://doi.org/10.1108/978-1-83753-746-420241020

Knani, M., Echchakoui, S., & Ladhari, R. (2022). Artificial intelligence in tourism and hospitality: bibliometric analysis and research agenda. Int. J. Hospit. Manag., 107 (2022), 10.1016/j.ijhm.2022.103317

Kong, H., Yuan, Y., Baruch, Y., Bu, N., Jiang, X., & Wang, K. (2021). Influences of artificial intelligence (AI) awareness on career competency and job burnout.

International Journal of Contemporary Hospitality Management, 33(2), 717-734.

Kontogianni, A., Alepis, E., & Patsakis, C. (2022). Smart tourism and artificial intelligence: Paving the way to the post-COVID-19 era. In M. Virvou, G. A. Tsihrintzis, L. H. Tsoukalas, & L. C. Jain (Eds.). Advances in artificial intelligence-based technologies: Learning and analytics in intelligent systems (Vol. 22). Springer. https://doi.org/10.1007/978-3-030-80571-5_7

Ku, E. C. S., & Chen, C. D. (2024). Artificial intelligence innovation of tourism businesses: From satisfied tourists to continued service usage intention. International Journal of Information Management, 76, 102757.

Li, B., Liu, L. N., Mao, W. C., Qu, Y. C. M., & Chen, Y. H. (2023). Voice artificial intelligence service failure and customer complaint behavior: The mediation effect of customer emotion. Electronic Commerce Research and Applications, 59, 101261. https://doi.org/10.1016/j.elerap.2023.101261

Liu, L., & Shi, Y. (2018). Artificial intelligence and tourism: A systematic review. International Journal of Tourism Research, 20(3), 256-268.

Loureiro, S. M. C., & Bilro, R. G. (2022). The role of commitment amongst tourists and intelligent virtual assistants, Journal of Promotion Management, 28(2),175–188. https://doi.org/10.1080/10496491.2021.1987979

Luger, G. F., & Chakrabarti, C. (2017). From Alan Turing to modern AI: practical solutions and an implicit epistemic stance. AI & Soc, 32, 321–338. https://doi.org/10.1007/s00146-016-0646-7

Markoff, J. (2014). Beep,' Says the Bellhop. The New York Times. from https://www.nytimes.com/2014/08/12/technology/hotel-to-begin-testing-botlr-a-robotic-bellhop.html

Martin, B. A. S., Jin, H. S., Wang, D., Nguyen, H., Zhan, K., & Wang, Y. X. (2020). The influence of consumer anthropomorphism on attitudes towards artificial intelligence trip advisors. Journal of Hospitality and Tourism Management, 44, 108-111.

McCarthy, J. (2007). What isartificialintelligence? Stanford University. http://jmc.stanford.edu/articles/whatisai/whatisai.pdf

Nain, A., Awasthi, A., & Vaid, H. (2024). Robotics and artificial intelligence empowered hospitality industry: A case study of the Japanese hospitality. In V. Singh, K. Seth, and S. Thaku (Eds.), Operational Transformations in Tourism and Hospitality (1-7), Bharti Publications.

Osawa, H., Ema, A., Hattori, H., Akiya, N., Kanzaki, N., Kubo, A., Koyama, T., & Ichise, R. (2017). Analysis of robot hotel: Reconstruction of works with robots, 2017 26th IEEE international symposium on robot and human interactive communication (RO-MAN), 219-223.

Özdemir, S. (2024). Evaluation of articles on 'tourism and artificial intelligence' in academic journals covered by ulakbim". Journal of Travel and Hospitality Business, 21(3), 719-746.

Pillai, R., & Sivathanu, M. (2020). Adoption of AI-based chatbots for hospitality and tourism. International Journal of Contemporary Hospitality Management, 32(10), 3199–3226. https://doi.org/10.1108/IJCHM- 04-2020-0259

Pinheiro, A. B., Pinto, A. S., Abreu, A., Costa, E., & Borges, I. (2021). The impact of artificial intelligence on the tourism industry: a systematic review. In: Advances in Tourism, Technology and Systems: Selected Papers from ICOTTS20, 1, 458–469, https://doi.org/10.1007/978-981-33-4256-9_42

Rane, N., Choudhary, S., & Rane, J. (2023). Sustainable tourism development using leading-edge artificial intelligence (AI), blockchain, internet of things (IoT), augmented reality (AR), and virtual reality(VR) technologies.SSRN.https://ssrn.com/abstract=4642605 or http://dx.doi.org/10.2139/ssrn.4642605

Rodrigues, O. (2017). Artificial intelligence systems in the business of tourism: Virtual personal assistants, changes in the business context. University of East London, School of Business and Law.

Rogers, E. M. (2003). Diffusion of innovations (5th ed.). Free Press.

Samara, D., Magnisalis, I., & Peristeras, V. (2020). Artificial intelligence and big data in tourism: A systematic literature review. Journal of Hospitality and Tourism Technology, 11(2), 343–367. https://doi.org/10.1108/JHTT-12- 2018-0118

Schwab, K. (2017). The fourth industrial revolution. Crown Business.

Sharma, K., Jain, M., & Dhir, S. (2022). Analysing the impact of artificial intelligence on the competitiveness of tourism firms: A modified total interpretive structural modeling (m-TISM) approach. International Journal of Emerging Markets, 17(4), 1067-1084. https://doi.org/10.1108/IJOEM- 05-2021- 0810

Shi, S., Gong, Y., & Gursoy, D. (2021). Antecedents of Trust and Adoption Intention toward Artificially Intelligent Recommendation Systems in Travel Planning: A Heuristic–Systematic Model. Journal of Travel Research, 60(8), 1714-1734. https://doi.org/10.1177/0047287520966395

Stroumpoulis, A., Kopanaki, E., & Varelas, S. (2022). Role of artificial intelligence and big data analytics in smart tourism: A resource-based view approach. WIT Transactions on Ecology and the Environment, 256, 99-108.

Tsaih, R. H., & Hsu, C. C. (2018). Artificial intelligence in smart tourism: A conceptual framework. In ICEB 2018 Proceedings, 89, Guilin, China. https://aisel.aisnet.org/iceb2018/89

Tussyadiah, I. (2020). A review of research into automation in tourism: Launching the Annals of Tourism Research Curated Collection on Artificial Intelligence and Robotics in Tourism. Annals of Tourism Research, 81, 102883. https://doi.org/10.1016/j.annals.2020.102883

Ünal, S., & Sezgin, A. A. (2021). Büyük Veri (Big Data)'nin Yapay Zekâ Uygulamalarında Toplumsal Sınıflandırmaya Yönelik Kaygılar, AJIT-e: Bilişim Teknolojileri Online Dergisi, 12(44), 47-70. DOI: 10.5824/ajite.2021.01. 004. x

Üstüner, M., & Dilek, S. E. (2024). Turizm ve teknoloji ilişkisi: Uluslararası turizm dergilerindeki makalelere yönelik bibliyometrik bir değerlendirme. Journal of Tourism Intelligence and Smartness, 7(1), 36-50. http://doi.org/10.58636/jtis.1469307

Wong, L. W., Tan, G. W. H., Ooi, K. B., & Dwivedi, Y. (2024). The role of institutional and self in the formation of trust in artificial intelligence technologies, Internet Research, 34 (2), 343-370. https://doi.org/10.1108/INTR-07- 2021-0446

Yadav, N., Shukla, A., Khunasathitchai, K., & Kaur, R. (2024). AI Adaptions: Challenges and Strategies for the Hotel and Tourism Industry, In Hotel and Travel Management in the AI Era , IGI Global, 19-38.

Yıldız Tonga, M., & Tonga, M. (2022). Endüstri 4.0'a Genel Bir Bakiş: Sanayinin Geleceği, G. Ü. İslahiye İİBF Uluslararası E-Dergi, 6(6),40-60.

Zhang, J., Chen, Q., Lu, J., Wang, X., Liu, L., & Feng, Y. (2024). Emotional expression by artificial intelligence chatbots to improve customer satisfaction: Underlying mechanism and boundary conditions. Tourism Management, 100, 104835. https://doi.org/10.1016/j.tourman.2023.104835.

Zhang, L., & Sun, Z. (2019). The application of artificial intelligence technology in the tourism industry. Journal of Physics: Conference Series. Jinan: IOP Publishing.

Zlatanov, S., & Popesku, J. (2019). Current applications of artificial intelligence in tourism and hospitality. In International Scientific Conference on Information Technology and Data Related Research, 84-90, Belgrade, Serbia.

Zsarnoczky, M. (2017). How does artificial intelligence affect the tourism industry? Vadyba, 31(2), 85-90. Lietuvos verslo kolegija.

Jomat

Journal of multidisciplinary academic tourism

2025, 10 (3): 379-388

https://doi.org/10.31822/jomat.2025-10-3-379

ISSN: 2645-9078

INFO PAGE

Content analysis of academic studies on artificial intelligence in tourism journals

Abstract

With the increasing use of artificial intelligence (AI) in the tourism sector, it has become important to analyze related studies and identify emerging trends. In this study, content analysis was applied to a total of 79 articles published in top 6 journals of "Hospitality, Leisure, Sports and Tourism" category of the Social Sciences Citation Index (SSCI) such as Annals of Tourism Research, Tourism Management, Journal of Hospitality Marketing & Management, Journal of Sport and Health Science, International Journal of Hospitality Management, and International Journal of Contemporary Hospitality Management, between 2018 and 2024. As a result of the analysis, it was determined that the country that produced the most articles in this field was China, followed by the USA. Quantitative research methods were used the most in the research (67.08%) and the most used variables were performance and security.

Keywords: *Artificial Intelligence, Tourism, Content Analysis, .*

Authors

Full Name	Author contribution roles	Contribution rate
Eylem Taşdağıtıcı:	*Conceptualism, Methodology, Validation, Formal Analysis, Investigation, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision, Project administration*	*34%*
Ayşen Akbaş Tuna:	*Conceptualism, Methodology, Software, Validation, Formal Analysis, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision, Project administration*	*33%*
Muharrem Tuna:	*Conceptualism, Methodology, Software, Validation, Formal Analysis, Investigation, Resources, Data Curation, Writing - Original Draft, Writing - Review & Editing, Visualization, Supervision, Project administration*	*33%*

Author statement: *Author(s) declare(s) that All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.* ***Declaration of Conflicting Interests:*** *The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article*

This paper does not required ethics committee report

Justification: The methodology of this study does not require an ethics committee report.