DOI: https://doi.org/10.18778/0867-5856.2026.03 e-ISSN 2080-6922, ISSN 0867-5856

COPE Member since 2019 JM14487

Turyzm/Tourism
2026, *36*(1)

Robotics, artificial intelligence and service automation (RAISA) A model for smart and sustainable destination management

Sandhya H[a, *], Bindi Varghese[b]

[a] Christ University (Bangalore, Karnataka, India); https://orcid.org/0000-0002-8978-503X; e-mail: sandhya.h@christuniversity.in
[b] Christ University (Bangalore, Karnataka, India); https://orcid.org/0000-0003-2604-1612; e-mail: bindi.varghese@christuniversity.in
[*] Corresponding author.

How to cite (APA style): Sandhya, H., & Varghese, B. (2026). Robotics, artificial intelligence and service automation (RAISA): A model for smart and sustainable destination management. *Turyzm/Tourism, 36*(1), 35–50. https://doi.org/10.18778/0867-5856.2026.03

ABSTRACT

Technological progress in information and communication technologies (ICTs) has facilitated the implementation of automation and the integration of more advanced technologies in all industries. With the advent of robotics, artificial intelligence and service automation (RAISA) technologies, tourism service providers and market players have redirected their attention from traditional and conventional methods of service delivery to more modern and innovative approaches. Emerging technologies such as big data, mobile internet, the internet of things (IoT), and artificial intelligence (AI) have been fueling a rapid growth in innovations that facilitate a sustainable shift towards social robots. While AI is extensively studied in the field of tourism research, robotics and intelligent service automation have received less comprehensive research attention. The present study endeavors to investigate the prospective landscape of the travel and tourism sector using a rigorous qualitative secondary data analysis approach through web page content analysis on the awareness and usage of RAISA technologies in the global marketplace. The publication proposes four primary research objectives: investigating the advantages of RAISA, evaluating its usage and adaptability, examining the effects and difficulties of implementing the systems, and establishing a sustainable future with RAISA-enabled services. Research in these fields will facilitate the systematic and organized generation of knowledge, enabling the academic community to guarantee the advantageous implementations of intelligent automation in the tourism sector. This work presents a taxonomy for RAISA technologies in tourism and presents a persuasive case for how this interdisciplinary field should be included in conventional tourism research.

KEYWORDS

robotics, artificial intelligence, chatbots, virtual reality, service automation, smart tourism, destination management

ARTICLE INFORMATION DETAILS

Received:
13 November 2024
Accepted:
23 January 2026
Published:
28 May 2026

Funding information: Christ University. **Conflicts of interests:** None. **Ethical considerations:** The Authors assure of no violations of publication ethics and take full responsibility for the content of the publication. **The percentage share of the Author in the preparation of the work is:** S.H. 60%, B.V. 40%. **Declaration regarding the use of GAI tools:** Perplexity was used to compile references, Grammarly and Trinka to check grammatical errors, and Mentimeter to generate a word cloud; all AI-assisted outputs were reviewed and edited by the Authors, who take full responsibility for the accuracy and integrity of the manuscript.

1. Introduction

Emerging technologies and advanced applications are supplanting traditional systems and methods, enabling more effective monitoring and surveillance of industrial operations (Sandhya & Varghese, 2024). The closely interconnected tourism sector comprises several participants providing a wide range of services, including transportation, hospitality, entertainment and distinctive memorable experiences to a discerning clientele (Jogarao, 2024). Statistical evidence supports the claim that the travel and tourism sector is experiencing rapid growth worldwide, mostly because of its versatile characteristics and ability to quickly adjust to technological progress (Agrawal et al., 2018). Emerging players such as online travel agencies (OTAs), meta-search engines and virtual travel service platforms are now revolutionizing the whole tourism value chain (Ahn & Seo, 2018). Numerous industrialized and developing nations worldwide heavily depend on essential platforms such as travel information search, reservation and booking, accommodation, transportation and banking services (Ivanov et al., 2019). In the realm of ICTs convergence, the integration of groupware, netware, and humanware seamlessly eradicates the boundaries that exist between hardware and software (Jabeen et al., 2022). Telecommunications, equipment networking and interoperability among organizations and activities heavily rely on wireless and mobile networks (Bulchand-Gidumal, 2022; Sandhya & Varghese, 2023). The digital transformation in the tourism industry started with the integration of the internet in the late 1990s, accelerated by the growing use of mobile devices and social media platforms (Frank et al., 2017). Information and communication technologies have revolutionized the management and promotion of tourism (Gonçalves et al., 2024) and their rapid adoption by tourists has made them an essential element of a destination's competitive advantage (Huang & Rust, 2018). Influential travel service platforms such as Google have enabled internet, hardware, financial, logistical and infrastructure companies to exert control over destination marketing, operation and management (Sandhya & Varghese, 2023). Booking.com and Expedia are strongly favored as OTAs for obtaining travel-related information, TripAdvisor, Uber and Grab for urban transportation, and Airbnb for accommodation (Askarpour et al., 2019). Globally, the use of technology has a pronounced influence on several industries, but it is especially evident in the context of products that possess a high degree of intangibility (Azarmi et al., 2017; Sapir, 2024).

Contemporary destinations worldwide are actively advocating the development of smart tourism, highlighting its numerous benefits ranging from efficiency to sustainability (Alexis, 2017). Integration of state-of-the-art technology to stimulate business innovation and ultimately enhance the experiences of both tourists and locals is a fundamental aspect of it (Buhalis, Leung & Lin, 2023). The advent of internet accessibility has given rise to a multitude of opportunities, such as the intelligent, smart, digital, wired, cybercity or knowledge city; among these, "smart" has become the prevailing designation (Wu et al., 2023). The shared characteristic of these concepts is the portrayal of cities with knowledge centers that oversee information, technology and innovation (Bhatt et al., 2024). These elements promote more efficient management, sustainable development and an improved quality of life for residents (Ben-Ari & Mondada, 2018). Smart tourism is characterized by its main efforts to convert extensive data into valuable insights and offerings, which sets it apart as "smart" (Sandhya & Varghese, 2024). While the development of technological infrastructure is a crucial element in the advancement of smart tourism, and most industry and government efforts are now focused on this aspect, smart tourism is widely understood and acknowledged as a comprehensive approach to destination management (Gretzel et al., 2015). Research by Lestari et al. (2021) indicate that online destination management organizations (DMOs) are highly efficient tools for developing and advertising a destination image.

In the realm of destination operational and strategic management, the transformation of destination management organizations into destination integrated computerized information reservation management systems has been of paramount importance (Clough & Wu, 2024). These circumstances gave rise to the term "e-tourism", which served as the foundation for the e-destination concept and the digitization of the tourism value chain (Buhalis, 2000; Buhalis, Leung & Lin, 2023). Through the lens of digital ecosystems, the role of ICTs in tourism management can be elucidated (Bilgihan & Ricci, 2024). Alexis (2017) defines a digital tourism ecosystem as the dynamic interplay between living entities such as tourists or vendors and the computational environment, comprising inanimate objects like devices and connections. This concept can be used to characterize a particular geographical location, a distinct sector within the travel industry, or the phenomenon of international travel (Jin, 2024).

The transition of the service sector into a digital platform progressively expanded the range of opportunities and facilitated extraordinary growth prospects for the sector (Noor & Sim, 2024). Such applications empower tourists by giving them personalized recommendations based on their previous travel patterns on attractions, dining and leisure (Huang et al., 2022). They also enhance the on-site experiences by providing detailed information, location-based, and

custom-made interactive services (Ivanov, 2019), and enable the sharing of experiences with other travelers (Goel et al., 2022).

Digital transformation is essential for a thriving community, as the tourism industry often experiences a surge in entrepreneurial activity during times of economic expansion (Huang & Rust, 2018). The paramount objective of digitalization is to facilitate the advancement of more integrated online services that can stimulate economic growth (Buhalis & Law, 2008) involving cultivating a self-sufficient mentality by nurturing creativity, which in turn stimulates the establishment of more tourist entrepreneurial ventures (Frank et al., 2017). The effectiveness of entrepreneurship in leveraging the collective creativity of individuals varies among different tourism companies (Ben-Ari & Mondada, 2018) allowing for the application of creativity to investigate how a collective might produce novel tourism-related concepts and devise innovative solutions (Buhalis, Leung, Fan et al., 2023).

The primary objectives of this research are twofold. Above all, this article aims to establish a thorough foundation for the research conducted on robotics, artificial intelligence and service automation (RAISA) from 2015 to the present. Furthermore, the paper assesses the level of awareness and adaptability, the utilization of technology-enabled applications, identifies the practical obstacles and hurdles associated with these applications, and thus examines the research gap in this field to offer direction for future study.

2. Tourism 4.0: Digital transformation and intelligent automation in the service industry

The first major technological advancement in the service industry occurred with the widespread availability of the internet in the late 20th century (Cohen & Hopkins, 2019). Companies started to establish an online presence so that clients could get information and make purchases without having to interact in person (Buhalis, 1998). This signaled the start of a change toward more practical and effective service delivery (Sandhya & Varghese, 2023). The service sector underwent yet another change with the advent of smartphones and mobile applications (Buhalis & O'Connor, 2005). Customers could book accommodation, travel and food delivery services with just a few phone taps owing to apps like Uber, Airbnb and food delivery services (Jose et al., 2023; Shanmugam et al., 2024). In the modern era, the service industry continues to thrive with the advent of new and innovative technologies being introduced and implemented to perform various functions (Alexis, 2017).

Chatbots and AI are now standard applications in customer support as they are capable of answering common questions and offer round-the-clock assistance, freeing up human agents to work on more difficult and analytical problems (Leung, 2024; Nica et al., 2018). Transactions are now more convenient and secure thanks to digital payment solutions like online payment platforms and mobile wallets (Azarmi, 2017). Businesses no longer need actual cash or credit cards because they can make and accept payments online (Štilić et al., 2023). Data storage facilities are being transformed by cloud computing, which enables businesses to access and manage their data more easily from any remote location (Kozinets et al., 2023). This has made remote work possible and strengthened stakeholder collaboration in the service sector (Berezina et al., 2019). Businesses can now provide smart services like connected automobiles and intelligent home automation owing to the internet of things (IoT). These developments improve client convenience and give service providers useful data (Zarezadeh et al., 2023).

Tourism 4.0 related technologies, including cloud computing, the mobile internet, robots, artificial intelligence, autonomous cars and even 3D printing, are anticipated to have a significant impact on the global tourism industry during the next five years (World Economic Forum, 2020). Information and communication technologies are used to support the visitor experience throughout their tourist activity process, encompassing the pre, on-site, and post-consumption phases, through virtual communities, social media networks and mobile technology (Gretzel, 2023). The potential for direct contacts between online service providers and customers is advanced by Web 4.0 technologies' capabilities including interactivity, online customer recommendations, online word of mouth and user-generated content (Solakis et al., 2022). As a result, the prospects for online communication have greatly risen due to the ICTs' quick advancement and growing importance in the tourism sector (Webster & Ivanov, 2023).

Emerging technologies such as robotics, nanotechnology, quantum computing, biotechnology, the IoT, and 5G are fundamental to Industry 4.0 and will undoubtedly influence customer service interactions (Kemer & Tyagi, 2023). An essential element of Industry 4.0 is the utilization of vast amounts of big data for the purpose of training artificial intelligence systems (Touni, 2020). These data can be categorized as either structured or unstructured information that records particular observations and can assist individuals in comprehending service-related issues, such as customer preferences (Ogle & Lamb, 2019). Data analytics enables artificial intelligence to detect historical behavioral patterns, make more accurate forecasts of future behavior, and offer suitable recommendations (Jörling

et al., 2019). Google Ads, for example, evaluates and provides advertising that it deems most appealing to consumers by tracking their browsing and buying patterns (Bhaumik, 2018; Kim et al., 2022; Sandhya & Varghese, 2023).

3. Usage and adaptability of technology in the tourism industry

Digital technologies fall into two categories: disruptive technologies and enabling technologies (Davenport, 2018). Basic technologies like the internet and web pages that make it easier for people to embrace other technologies are known as enabling technologies (Mendez Alva et al., 2021). The advanced technologies that give rise to a new market or a new avenue of business or research are referred to as disruptive digital technologies (Munawar et al., 2022). Social media, mobile apps, big data and artificial intelligence, self-service technologies and robots, virtual reality, e-commerce and social commerce, information systems and smart systems are considered disruptive technologies (Daugherty & Wilson, 2018). These technologies form an integral part of today's community and influence the behavior and decision-making capabilities of the population (Knani et al., 2022; Limna, 2022).

These 'new' visitors are better informed thanks to the internet, which also motivates them to look for great deals on both time and money (Solakis et al., 2022). Travelers who are demanding, sophisticated and experienced need to communicate with suppliers in order to have their unique wants and desires met (Wang & Uysal, 2024). The transition from traditional travel agencies to online booking platforms is one of the most obvious developments brought about by technological advancements (Ogle & Lamb, 2019). These days, travelers may use websites and mobile apps that offer a wide range of alternatives for flights, lodging and activities to plan and book their entire trip from their home (Webster & Ivanov, 2023). Travelers will find this change convenient, and businesses will be able to reach a wider audience and run their operations more effectively (Solakis et al., 2022) while due to their lifestyles, customers are less able to relax and take part in their own interests (Snäll, 2023). While rigorously packaged mass tours are on the decline, leisure time is increasingly being used for individually planned tourism and "edutainment", which is the investigation of particular interests for both professional and personal growth (Sandhya & Varghese, 2024). The widespread use of smartphones has ushered in a new era of travel applications that aim to improve travelers' experiences in general (Frank et al., 2017). Real-time navigation, language translation and immediate access to reviews and suggestions are just a few of the capabilities that mobile applications provide (Ben-Ari & Mondada, 2018; Tan, 2023). Travelers can use chatbots to look up travel options and make travel reservations (Lukanova & Ilieva, 2019) through the customized content and destination commercials they encounter when browsing different websites (Wirtz et al., 2021). The price they pay would be decided by AI algorithms (Daugherty & Wilson, 2018). Automated passport control, self-service baggage drop-off and self-check-in machines at the airport make their travel easier and hassle-free by utilizing facial recognition (Lu et al., 2019; Saydam et al., 2022). Big data facilitates gathering information pre, during and post visits to draw behavioral patterns that can be used for personalization with the help of advanced customer relationship management systems ultimately increasing customer satisfaction and loyalty (Benckendorff et al., 2019; Ogle & Lamb, 2019; Sandhya & Varghese, 2024; Webster & Ivanov, 2023) Technological developments in virtual and augmented reality (AR) have created new opportunities for the travel and tourism sectors (Nica et al., 2018). Virtual reality (VR) gives prospective tourists a more realistic look at a place before they decide to make a reservation. Augmented reality, on the other hand, offers interactive experiences at historical monuments, museums and tourist attractions by superimposing digital information over the real environment (Naumov, 2019).

Social media platforms have developed into effective resources for tourists and travel-related businesses (Daugherty & Wilson, 2018). Travel trends are greatly influenced by user-generated content on Instagram, Facebook and Twitter, where users share images, recommendations and experiences (Wirtz et al., 2021). In response, companies use social media for customer feedback, marketing and engagement, building a vibrant and connected travel community (Saydam et al., 2022). Blockchain technology is gaining traction in the travel and tourism sectors by resolving issues with trust and security (Vashishth et al., 2024) while it can expedite procedures like reservation and payment transactions through transparent and decentralized systems, lowering the possibility of fraud and guaranteeing a safer atmosphere for travelers and service providers alike (Dhoundiyal & Mohanty, 2022). Businesses in the tourism industry must be flexible to remain competitive and satisfy the ever-evolving needs of travelers as technology advances (Frank et al., 2017). Accepting these technical developments helps to sustainably build the tourism sector in the digital era while also improving the overall travel experience (Benckendorff et al., 2019).

4. Navigating challenges: Implementing sophisticated technologies in the tourism industry

The tourism industry's adoption of cutting-edge technologies has completely transformed how trips are booked, vacations are organized, and new places discovered. But there are difficulties with this digital transition (Yu et al., 2019). To fully realize the potential benefits of implementing advanced technologies in the tourism sector, businesses, policymakers and technology developers must overcome a number of obstacles (Nie, 2023). The differing infrastructure levels among destinations present a major obstacle to the tourism industry's adoption of advanced technologies (Ivanov & Webster, 2019a). Major tourist destinations might have the required technology infrastructure, but more isolated or smaller places might find it difficult to offer the connectivity and support needed for more sophisticated systems (Dunis et al., 2017). This digital divide may make it more difficult for technology to be adopted uniformly throughout the travel industry (Ivanov & Webster, 2019a).

Sophisticated technology implementation frequently requires a large financial outlay. It could be difficult for small and medium-sized tourism businesses to set aside funds for the creation and integration of cutting-edge systems (Ivanov & Webster, 2019a). Further stresses on budgets are updates and continuing maintenance. For some industry players, the cost implications could be a barrier that keeps technological advancements from being widely adopted and restricts their access. Cyberthreats and high-profile data breaches put businesses at risk as well as travelers' faith in technology-driven services (Ivanov & Webster, 2019b). Finding the ideal balance between using data to personalize experiences and making sure security protocols are strong is still a big problem (Mishra et al., 2024). While younger generations are more likely to accept new technologies, older populations or those from areas where access to digital innovations is limited may show resistance (Frank et al., 2017). Businesses face a challenge in ensuring accessibility for all demographics while still providing cutting-edge services, which makes user adoption difficult (Dasgupta & Jamader, 2024; Ertel, 2017). Disparate data formats, incompatible systems and a lack of defined protocols can all impede the effectiveness and efficiency of technology adoption throughout the travel industry (Fagnant & Kockelman, 2015). Frequently, the swift advancement of technology surpasses the establishment of legislative structures (Stanojevic, 2020). When implementing advanced technologies in the tourism sector, it is necessary to establish explicit policies that address matters like data ownership, liability and international standard compliance. Managing a complicated legal environment can make it more difficult for companies looking to adopt innovative solutions and slow down the adoption process (Benckendorff et al., 2019).

5. Robots, artificial intelligence and service automation (RAISA) in the travel, tourism and hospitality sector

As robots have long fascinated humans, the economy has increasingly integrated RAISA at a rapid pace in recent years (Yassin et al., 2022). While the application of robots in manufacturing has been prevalent for a considerable period, the integration of new technologies into service sectors has only recently occurred, resulting in a significant transformation of our business practices and interactions with organizations (Weber et al., 2024) to the extent that they can now either augment or supplant human labor in service industries, including the travel, tourism and hospitality sectors (Saydam et al., 2022).

Upon its official inauguration in 2015, the Henn-na Hotel in Japan achieved the distinction of being the first hotel to employ a predominantly robotic workforce (Reis, 2024). Consequently, while the initial hotel of its kind was promoted to attract robot enthusiasts, it was practically feasible to develop the technology that would enable hotels to mainly operate using RAISA (Ivanov & Webster, 2019a). The emergence of chatbots, robotics, websites, social media, mobile applications, virtual, augmented and mixed reality, as well as self-service kiosks, during the late 20th and early 21st centuries, has greatly enhanced the technological integration between travel, tourism and hospitality enterprises and their customers (Leung, 2024). This technological layer restructured the "human-human" interactions in travel, tourism and hospitality into "human-machine", "human-computer", and, more recently, "human-robot" interactions (Yassin et al., 2022). Moreover, the business models of travel, tourism and hospitality companies underwent a transformation due to the integration of machine learning, artificial intelligence and service automation (RAISA) technologies. These were employed to develop and deliver services to their human clientele (Ivanov et al., 2019). Technological progress has enabled tourism enterprises to integrate a technology-enabled tailored package component, often referred to as a "high tech" element, into their services (Saydam et al., 2022).

A shared attribute among all service automation technologies is their ability to transform customers into prosumers of the service process by transferring

the responsibility of service delivery from company personnel to them (Granström et al., 2023). The service interaction usually takes place in a predetermined manner with limited flexibility; for instance, the requisite procedures a customer must adhere to in order to check into a hotel using a self-check-in kiosk are predetermined. Self-service technologies are extensively employed globally to offer prompt and cost-effective services to substantial volumes of tourists, such as at airports, railway stations, theme parks, restaurants and hotels (Said et al., 2024). This is because self-service technologies are far more cost-effective and advanced compared to robots. Nonetheless, some individuals may still prefer assistance from human staff, as they are accustomed to this form of service.

6. Methodology

The present research follows a qualitative secondary data analysis method, utilizing a series of web page content analysis to investigate the four major aspects related to integration of RAISA in the tourism, travel and hospitality sector. The major aspects covered included (a) awareness about RAISA; (b) usage, benefits and adaptability; (c) challenges of implementations; and (d) future implications. Data was systematically collected from websites in the public domain, social media pages like Instagram, Facebook, Twitter and LinkedIn, blogs and other online relevant sources. With the structured and systematic literature reviews, which formed the base for the present research, a digital secondary data analysis ensures identification of patterns, customer behavior and adaptability challenges in real world destinations and companies (Mariani et al., 2018; Sigala, 2018). This approach leverages the use of rich pre-existing qualitative data which is publicly available through platforms like social media posts, web-based open discussion forums and blog comments to identify unique themes and insights which may not have been perceptible in the initial data collection (Cheong et al., 2023). The qualitative secondary data analysis commenced with the identification of data sources followed by the extraction of relevant data from the pertaining sources using web scraping tools available online. A content analysis was performed with the data where it was analyzed to develop codes and themes pertaining to the four aspects of the research. The next step involved interpreting the data and identifying the patterns and themes that were recurring and grouping them together to draw meaningful conclusions. The final stage involved reporting the findings in the form of graphs, charts or tables representing the data in the most effective manner (Kelly et al., 2024).

7. Integration of robotics, artificial intelligence and service automation (RAISA): A smart and sustainable model for destination management

From the literature, a conceptual model for the integration of RAISA into destination management for long term sustainability has been developed (Figure 1). It is evident that once the potential benefits are fully realized and implemented in the tourism and hospitality sectors, the massive technological shift will result in greater prospects and lead the destination towards sustainability (Saini & Bhalla, 2022). The tourism industry has numerous prospects for technology integration in terms of automation of services like self-service check-in and baggage handling at airports (Amiri & Kuşakcı, 2024; Booranakittipinyo et al., 2024; Mäkelä, 2024; Martins et al., 2024), virtual assistance or chatbots to provide information and services (Tan, 2023; Vashishth et al., 2024), multilingual assistance to tourists from any part of the world (Al-Hyari et al., 2023; Dev, 2023), training and simulation with the help of VR and AR, giving the tourists a feel of the destination from their homes (Ivanov & Webster, 2017a; Sandhya & Varghese, 2024). A major challenge during the transition phase is the adaptation of tech-nology by stakeholders, creating awareness and educating the public to get basic technical knowledge and skills (Wirtz et al., 2021). With the right mix of technology, effective monitoring and surveillance are possible

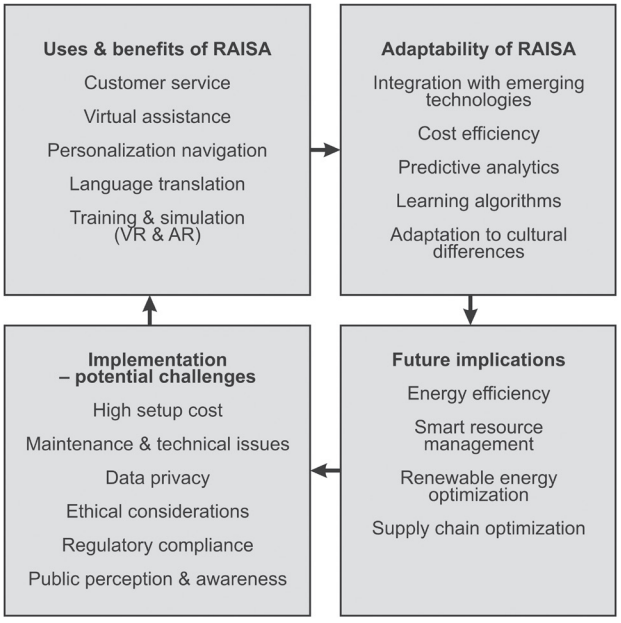

Figure 1. Integration of robotics artificial intelligence and service automation (RAISA): A smart and sustainable model for destination management
Source: authors

(Askarpour et al., 2019). Learning algorithms can be developed, while predictive analysis of tourist behavior and patterns can result in better planning and decision-making (Christou et al., 2023; Ivanov & Webster, 2019b). The initial set-up and periodic maintenance costs may be high, but the benefits reaped from efficient technology integration can easily cover them, ensuring both operational and financial viability for destinations (Azarmi et al., 2017; Touni, 2020). If implemented in a systematic manner, these technologies can ensure energy optimization, result in better customer satisfaction, reduce wastage of resources, and ensure the sustainable development of destinations (Berezina et al., 2019; Yassin et al., 2022). The extensive qualitative secondary data analysis performed with the help of a detailed content analysis is interpreted and reported in a tabular format below (Table 1). The digital content analysis results have been substantiated with the literature reviews to provide more concreteness and accuracy to the data.

Table 1. Meta analysis of firms enabling robotics, artificial intelligence and service automation (RAISA) in the tourism and hospitality sector

Sector name	No.	Firm name	RAISA implications	References
Hospitality sector	1	Hilton Hotels & Resorts	AI for personalized guest experiences and chatbots for customer service	Jogarao (2024), Gonçalves et al. (2024)
	2	Marriott International	Dynamic pricing and room recommendations	Sapir (2024), Jogarao (2024), Bhatt et al. (2024)
	3	Wynn Las Vegas	Amazon Alexa in rooms for voice-controlled services	Jindal and Kaur (2024), Bilgihan and Ricci (2024)
	4	Yotel	Utilizes robots for luggage delivery and room service	Noor and Sim (2024)
	5	Henn-na Hotel (Japan)	Use of robot staff for check-in and room service	Reis (2024), Leung (2024), Shanmugam et al. (2024), Granström et al. (2023)
	6	The Cosmopolitan of Las Vegas	AI concierge, rose, for guest inquiries and services	Yadav et al. (2024)
	7	Aloft Hotels (Marriott International)	Bot robots for delivering amenities to guest rooms	Štilić et al. (2023), Snäll (2023), Jogarao (2024)
	8	M Social Hotel (Singapore)	robot butlers for room deliveries	Wang and Uysal (2024)
	9	Caesars Palace (Las Vegas)	AI for personalized guest experiences and service recommendations	Clough and Wu (2024)
	10	Crowne Plaza Hotels & Resorts	Robots for guest interactions and room deliveries	Vashishth et al. (2024), Jin (2024), Liu, Chi and Sun (2024)
	11	Radisson Hotel Group	AI for guest preferences and dynamic pricing strategies	Nie (2023), Mishra et al. (2024), Dasgupta and Jamader (2024)
	12	Accor Hotels	AI-driven chatbots for guest interaction and booking services	Dev (2023), Abass et al. (2023), Hinson et al. (2024)
	13	InterContinental Hotels Group (IHG)	AI for customer service chatbots and dynamic pricing	Štilić et al. (2023), Stoimenov (2023), Al-Hyari et al. (2023)
	14	Jumeirah Group	AI for personalized guest experiences and automated room service	Grobbelaar et al. (2024), Stanojevic (2020)
	15	Hyatt Hotels Corporation	AI for guest preferences and service automation	Gomes et al. (2023), Priya et al. (2024)
Aviation sector	1	KLM Royal Dutch Airlines	AI-powered chatbots for customer service and flight information	Chang and Choi Magnusson (2021), Weber et al. (2024)
	2	Delta Air Lines	AI for personalized travel recommendations and customer service automation	Merlo (2024), Huang (2024)
	3	Qatar Airways	AI for customer service automation and personalized in-flight experiences	Tsiakalos (2024), Grosche and Klophaus (2024)

Table 1 (cont.)

Sector name	No.	Firm name	RAISA implications	References
Aviation sector (cont.)	4	British Airways	AI for customer service chatbots and personalized recommendations	Annamalai et al. (2024), Martins et al. (2024)
	5	Changi Airport Group	Robots for cleaning and AI for passenger flow management	Wang and Uysal (2024), Tan (2023)
	6	Heathrow Airport (London)	AI for security checks and passenger experience management	Amiri and Kuşakcı (2024), Annamalai et al. (2024), Martins et al. (2024), Booranakittipinyo et al. (2024)
	7	Dubai International Airport	Robots for security and customer service automation	Mäkelä (2024), Alketbi et al. (2024), Waheeb and Wheib (2024)
	8	Hamad International Airport (Qatar)	Robots for customer service and AI for operational efficiency	Al-Malki et al. (2024)
	9	Munich Airport	Robots for information and service automation for travelers	Mäkelä (2024), Kasarda et al. (2024)
	10	American Airlines	AI for flight scheduling and customer service automation	Metcalfe et al. (2024), Divakaruni and Navarro Sarmiento (2024), Huang (2024)
	11	Japan Airlines	AI for customer service chatbots and personalized travel experiences	Jamshed, Quereshi et al. (2024), Wongyai et al. (2024), Silini (2023)
	12	Air New Zealand	AI-driven chatbots and robotics for passenger service	Koçak (2023), Ngo and Tsui (2023)
	13	Lufthansa	AI for customer service automation and operational efficiency. Fuel emission control	Geske et al. (2024), Krishna et al. (2024)
	14	Qantas Airways	AI for customer service and personalized travel experiences. Metaverse in airline marketing	Tsiakalos (2024), Yilmaz and Atalik (2023)
Travel agency and tour operation (private organizations)	1	Expedia Group	Uses AI for personalized travel recommendations and customer service	Dey and Shukla (2020)
	2	Booking.com	Implements AI for dynamic pricing, customer service automation, and personalized travel recommendations	Mellinas et al. (2015)
	3	TripAdvisor	Uses AI for personalized travel recommendations and user-generated content management	Liu, Lin et al. (2024)
	4	Airbnb	AI for dynamic pricing, customer preferences, and service automation	Prentice and Pawlicz (2024)
	5	Kayak	Personalized travel search and recommendations	Wolfe and Hiniker (2024)
	6	Priceline	AI for dynamic pricing and customer service automation	Vinod (2024)
	7	TUI Group	Travel recommendations and service automation	Ampountolas et al. (2024)
	8	Ctrip (Trip.com Group)	AI for customer service automation and personalized travel experiences	Guan and Jiang (2024)
	9	Expedia	AI for booking optimizations and personalized recommendations	Compiani et al. (2024), Wu et al. (2024)

Travel agency and tour operation (private organizations) (cont.)	10	MakeMyTrip	Dynamic pricing and personalized travel suggestions	Upadhyay et al. (2024), Chahal and Devi (2024)
	11	Orbitz	AI for customer service and dynamic pricing strategies	Florido-Benítez (2024)
	12	Traveloka	AI for personalized travel recommendations and dynamic pricing	Octavia et al. (2024)
Destination management organizations (public sector undertakings)	1	Japan	Robot hotels, robotic room service, service bots, language translation devices, autonomous vehicles; AI-powered travel app	Zhou et al. (2024), Erbay (2024), Said et al. (2024)
	2	Singapore	Robot concierge and butlers; bartenders; airport services; autonomous retail assistants; cleaning and disinfection robots; event security with AI	Tan (2023), Jaipuriar et al. (2024), Leong et al. (2024)
	3	Dubai	Robotic waiters and chefs; robot tour guides; smart hotel rooms: smart airport and automated services: I-powered event and tourism platforms; robot police; smart surveillance systems; AI for crowd management; robotics and AI in cultural attractions; smart waste management	Vij and Rizwan (2022), Khan et al. (2017), Yaghmour (2024)
	4	Las Vegas, USA	Robotic bartenders; concierge robots; in-room voice assistants; facial recognition for security at casinos; autonomous drone shows; self-driving shuttles; smart energy management systems	Clough and Wu (2024)
	5	Seoul, South Korea	Robotic baristas, robot guides in airports, AI-powered biometric systems, smart traffic management, unmanned convenience stores	Yoo et al. (2024), Lee et al. (2024)
	6	New York, USA	Service robots, automated ordering systems, robotic kitchens, AI-optimized traffic and transit systems, AI-powered tour guides	Mejia et al. (2024), Said et al. (2024), Jevinger et al. (2024), Whig et al. (2024)
	7	Shanghai, China	AI concierge and service robots, robot waitstaff and kitchen automation, autonomous vehicles testing, AI-powered smart retail stores, AI-driven passenger services.	Xu et al. (2024), Jamshed, Shah et al. (2024), Ma et al. (2024)
	8	Vienna, Austria	Service robots, AI-driven concierge services, smart hotel management systems, automated ordering systems and AI menus, augmented reality (AR) and AI at museums, AI in smart transportation systems smart grid and energy management	Felt and Sepehr (2024), Deputat et al. (2024), Bolté et al. (2024)

Source: authors.

8. Key findings of the study

The findings of the study revolve around the four aspects of RAISA that were focused on. The qualitative secondary data analysis results have been reported in a tabular form, results substantiated with reviews to provide concreteness and accuracy to the data.

From the data analysis, it is evident that RAISA technologies are used to its maximum potential by the hospitality sector with major global players like Hilton, Marriott and Wynn who have integrated these technologies for improving their operational efficiency. From concierge to the room service and in-room services, RAISA technologies are utilized, which has considerably improved their brand image and reputation among customers (Chiwaridzo & Chiwaridzo, 2024).

While airline companies rely on artificial intelligence technologies like chatbots and dynamic pricing algorithms (Alexis, 2017; Saini & Bhalla, 2022), airports have enabled RAISA technologies in their operations (Wu et al., 2023). Top airports in the world like Singapore Changi and Dubai International Airport have employed the services of robots for cleaning and customer service. Travel agencies and tour operation firms rely on AI and service automation for seamless transactions and convenience to customers while also exploring the options of predictive analysis to develop algorithms based on travel patterns and behaviors (Alexis, 2017). AI-driven personalization, from suggesting personalized travel itineraries to recommending local experiences, is set to transform the way tourists plan and enjoy their trips, resulting in more immersive and satisfying journeys (Saini & Bhalla, 2022). Chatbots offer round-the-clock support, expedite the booking process, and respond to consumer inquiries instantly (García-Madurga & Grilló-Méndez, 2023). The findings also highlight the change in the way travelers' explore destinations as a result of developments in VR and AR technologies (Wu et al., 2023). While AR improves on-site experiences by superimposing digital information on the real world, virtual travel experiences let people visit distant locations from the comfort of their homes (Ivanov & Webster, 2019b). The IoT has made it possible to envision fully connected and intelligent tourist destinations through the concept of "smart destinations" (Buhalis & Law, 2008; Gomes et al., 2023), IoT integration guarantees a smooth and well-managed visitor experience, from smart city infrastructure that optimizes traffic flow to sensors that keep an eye on environmental conditions (Buhalis & Licata, 2002; Pencarelli, 2020). This integrated strategy improves visitor satisfaction overall, safety and resource efficiency (Pencarelli, 2020). Based on the key findings from the qualitative secondary data analysis digitally, a word cloud has been generated using WordClouds.com (Figure 2) to facilitate a better understanding on the key words that have been highlighted in the qualitative data. Word clouds assist researchers to group recurring themes in the data together to identify important key words and further to undertake research analysis such as sentiment analysis, opinion mining etc.

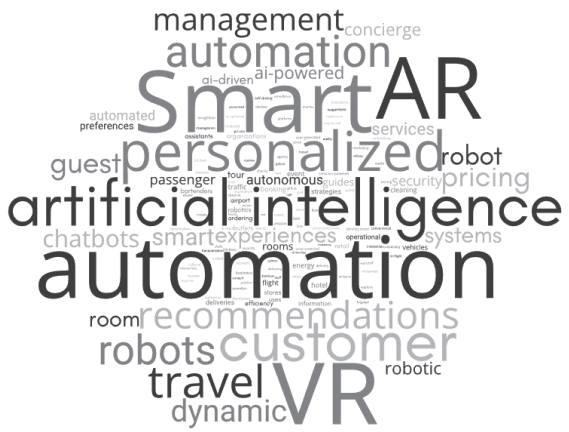

Figure 2. Word cloud generated from the qualitative secondary data analysis results
Source: authors

9. Robotics, artificial intelligence and service automation (RAISA) The future prospects

With its ever-changing and varied demands, the tourism industry is not immune to this revolutionary shift. Hotels and resorts are experimenting with robotic assistants for a range of tasks as part of the industry's ongoing robotics integration (Tussyadiah, 2020) as they are increasing productivity and offering visitors a distinctive, futuristic experience (Ivanov & Webster, 2017a). Examples of these include automated room service delivery and robot concierges that offer information and assistance (Bhaumik, 2018). Even more sophisticated robotic solutions, such as customized in-room services and interactive tour guides that accompany visitors on their adventures, are anticipated in the future (Ivanov & Webster, 2017b).

Future developments could see the development of even more advanced chatbots with contextual awareness and natural language processing skills, enabling travelers to engage with them in a smooth and effective manner throughout their trip (Christou et al., 2023). Drones and self-driving cars are about to change the travel industry's transportation landscape (Touni, 2020). Automated tour buses driving through cities and self-driving shuttles at airports are just two examples of how these technologies could improve transportation

sector sustainability, efficiency and safety (Jose et al., 2023). Travelers can anticipate more eco-friendly, dependable and comfortable transportation, which will enhance their enjoyment of and attention to the environment during their trip (Tussyadiah, 2020).

10. Conclusion and scope for future research

The prospects of RAISA are still in their infancy stage in many developing countries due to reasons like lack of awareness on usage, high initial investment, privacy and security concerns (Chiwaridzo & Chiwaridzo, 2024; Saydam et al., 2022). Destinations and companies who have explored the endless possibilities like superior quality services, higher levels of personalization and ease in transactions have adopted a cautious and cooperative approach in integrating RAISA technologies into their physical infrastructure (Tussyadiah, 2020). A new era in travel is evolving, one in which automation and innovation come together to completely transform travel patterns and behavior. The present study focuses on four key aspects of RAISA applications, namely, the advantages, potential challenges, implications and future prospects of integrating these technologies into the destination ecosystem. Further research can be undertaken on the ethical implications and social impacts of RAISA, human-robot interaction, social and privacy concerns, and the impact of technology on creating a sustainable future. The influence of robotics and artificial intelligence technologies on influencing tourist behavior and the role of RAISA in building destination resilience and effective crisis management strategies are another research paradigm that needs to be widely explored.

References

Abass, M.N., Soliman, S.G.S., & Zohry, A.M. (2023). Artificial intelligence techniques in Egyptian hotels: Current status and prospective. *Egyptian Journal of Tourism and Hospitality*, *30*(1), 1–53.

Agrawal, A., Gans, J., & Goldfarb, A. (2018). *Prediction machines: The simple economics of artificial intelligence*. Harvard Business Review Press.

Ahn, J.A., & Seo, S. (2018). Consumer responses to interactive restaurant self-service technology (IRSST): The role of gadget-loving propensity. *International Journal of Hospitality Management*, *74*, 109–121. https://doi.org/10.1016/j.ijhm.2018.02.020

Alexis, P. (2017). R-tourism: Introducing the potential impact of robotics and service automation in tourism. *"Ovidius" University Annals, Series Economic Sciences*, *17*(1), 211–216. https://stec.univ-ovidius.ro/html/anale/RO/2017/Section-III/16.pdf

Al-Hyari, H.S.A., Al-Smadi, H.M., & Weshah, S.R. (2023). The impact of artificial intelligence (AI) on guest satisfaction in hotel management: An empirical study of luxury hotels. *GeoJournal of Tourism and Geosites*, *48*(2spl), 810–819. https://doi.org/10.30892/gtg.482spl15-1081

Alketbi, M.A., Dalalah, D., & Dweiri, F. (2024). A framework for the characterization of aviation construction projects: The case of UAE. *Buildings*, *14*(8), Article 2384. https://doi.org/10.3390/buildings14082384

Al-Malki, A., Madandola, M., Al Thani, S., Bayram, G., Al-Kandari, A., & Furlan, R. (2024). Advancing urban mobility in the State of Qatar: Establishing a framework for autonomous vehicles in Doha. *Journal of Infrastructure, Policy and Development*, *8*(3), Article 3051. http://doi.org/10.24294/jipd.v8i3.3051

Amiri, M.H., & Kuşakcı, A.O. (2024). A scoping review of artificial intelligence applications in airports. *CRPASE: Computational Research Progress in Applied Science & Engineering*, *10*(2), Article 2900. https://doi.org/10.61186/crpase.10.2.2900

Ampountolas, A., Menconi, G., & Shaw, G. (2024). Metaverse research propositions: Online intermediaries. *Tourism Economics*, *30*(1), 255–261. https://doi.org/10.1177/13548166231159520

Annamalai, R., Rasool, S.A., Deena, S., Venkatraman, K., & Soundaram, Y. (2024). Sentiment analysis using VADER: Unveiling customer sentiment and predicting buying behavior in the airline industry. In *2024 IEEE International Conference for Women in Innovation, Technology & Entrepreneurship (ICWITE)* (pp. 277–282). IEEE. https://doi.org/10.1109/ICWITE59797.2024.10503389

Askarpour, M., Mandrioli, D., Rossi, M., & Vicentini, F. (2019). Formal model of human erroneous behavior for safety analysis in collaborative robotics. *Robotics and Computer-Integrated Manufacturing*, *57*, 465–476. https://doi.org/10.1016/j.rcim.2019.01.001

Azarmi, S.L., Alipour, H., & Oladipo, A.A. (2017). Using artificial neural network and desirability function to predict waste generation rates in small and large hotels during peak and lean seasons. In A. Ozturen, D. Gursoy & H. Kilic (Eds.), *Advances in Hospitality and Tourism Marketing and Management (AHTMM): Conference proceedings, 10–15 July 2017* (pp. 539–547). Eastern Mediterranean University and Washington State University.

Ben-Ari, M., & Mondada, F. (2018). *Elements of robotics*. Springer. https://doi.org/10.1007/978-3-319-62533-1

Benckendorff, P.J., Xiang, Z., & Sheldon, P.J. (2019). *Tourism information technology* (3rd ed.). CABI.

Berezina, K., Ciftci, O., & Cobanoglu, C. (2019). Robots, artificial intelligence, and service automation in restaurants. In S. Ivanov & C. Webster (Eds.), *Robots, artificial intelligence and service automation in travel, tourism and hospitality* (pp. 185–219). Emerald Publishing. https://doi.org/10.1108/978-1-78756-687-320191010

Bhatt, S., Verma, P., & Tyagi, P.K. (2024). The future of work: AI and human collaboration in service marketing delivery. In V. Nadda, P.K. Tyagi, A. Singh & V. Singh (Eds.), *AI innovations in service and tourism marketing* (pp. 311–328). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-7909-7.ch015

Bhaumik, A. (2018). *From AI to robotics: Mobile, social, and sentient robots*. CRC Press; Taylor & Francis Group. https://doi.org/10.1201/9781315372549

Bilgihan, A., & Ricci, P. (2024). The new era of hotel marketing: Integrating cutting-edge technologies with core marketing principles. *Journal of Hospitality and Tourism Technology*, *15*(1), 123–137. https://doi.org/10.1108/JHTT-04-2023-0095

Bolté, N.Y., Pijls, R., & Ten Tije, S. (2024). Get ready for the future of tourism and hospitality with the smart hospitality wheel. In K. Berezina, L. Nixon & A. Tuomi (Eds.), *Information and Communication Technologies in Tourism 2024: ENTER 2024 International eTourism Conference, Izmir, Türkiye, January 17–19* (pp. 272–277). Springer. https://doi.org/10.1007/978-3-031-58839-6_29

Booranakittipinyo, A., Li, R.Y.M., & Phakdeephirot, N. (2024). Travelers' perception of smart airport facilities: An X (Twitter) sentiment analysis. *Journal of Air Transport Management*, *118*, Article 102600. https://doi.org/10.1016/j.jairtraman.2024.102600

Buhalis, D. (1998). Strategic use of information technologies in the tourism industry. *Tourism Management*, *19*(5), 409–421. https://doi.org/10.1016/S0261-5177(98)00038-7

Buhalis, D. (2000). Marketing the competitive destination of the future. *Tourism Management*, *21*(1), 97–116. https://doi.org/10.1016/S0261-5177(99)00095-3

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet: The state of etourism research. *Tourism Management*, *29*(4), 609–623. https://doi.org/10.1016/j.tourman.2008.01.005

Buhalis, D., & Licata, M.C. (2002). The future etourism intermediaries. *Tourism Management*, *23*(3), 207–220. https://doi.org/10.1016/S0261-5177(01)00085-1

Buhalis, D., Leung, X.Y., Fan, D., Darcy, S., Chen, G., Xu, F., Tan, G.W.-H., Nunkoo, R., & Farmaki, A. (2023). Editorial: Tourism 2030 and the contribution to the sustainable development goals: The tourism review viewpoint. *Tourism Review*, *78*(2), 293–313. https://doi.org/10.1108/TR-04-2023-620

Buhalis, D., Leung, D., & Lin, M. (2023). Metaverse as a disruptive technology revolutionising tourism management and marketing. *Tourism Management*, *97*, Article 104724. https://doi.org/10.1016/j.tourman.2023.104724

Buhalis, D., & O'Connor, P. (2005). Information communication technology revolutionizing tourism. *Tourism Recreation Research*, *30*(3), 7–16. https://doi.org/10.1080/02508281.2005.11081482

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* (pp. 1943–1962). Springer. https://doi.org/10.1007/978-3-030-05324-6_110-1

Chahal, H., & Devi, S. (2024). Drivers of service ecosystem: Moderating role of organizational culture in North Indian hotels. *International Journal of Quality and Service Sciences*, *16*(2), 295–323. https://doi.org/10.1108/IJQSS-07-2023-0099

Chang, J.R., & Choi Magnusson, C. (2021). *The dynamic process of brand negotiation in virtual brand communities in the airline industry: A case study of a full-service carrier, KLM Royal Dutch Airlines* [Master's thesis, School of Business, Economics and Law at the University of Gothenburg]. Gothenburg University Library – GUPEA. http://hdl.handle.net/2077/69010

Cheong, H., Lyons, A., Houghton, R., & Majumdar, A. (2023). Secondary qualitative research methodology using online data within the context of social sciences. *International Journal of Qualitative Methods*, *22*. https://doi.org/10.1177/16094069231180160

Chiwaridzo, O.T., & Chiwaridzo, S. (2024). From crisis to prosperity: Leveraging robots, artificial intelligence, and service automation for sustainable tourism in Zimbabwe. *Business Strategy and Development*, *7*(2), Article e380. https://doi.org/10.1002/bsd2.380

Christou, P., Hadjielias, E., Simillidou, A., & Kvasova, O. (2023). The use of intelligent automation as a form of digital transformation in tourism: Towards a hybrid experiential offering. *Journal of Business Research*, *155*(Part B), Article 113415. https://doi.org/10.1016/j.jbusres.2022.113415

Clough, D.R., & Wu, A. (2024). Metaverse management as urban planning: Lessons from Paradise (Nevada). *California Management Review*, *66*(4), 121–139. https://doi.org/10.1177/00081256241247067

Cohen, S.A., & Hopkins, D. (2019). Autonomous vehicles and the future of urban tourism. *Annals of Tourism Research*, *74*, 33–42. https://doi.org/10.1016/j.annals.2018.10.009

Compiani, G., Lewis, G., Peng, S., & Wang, P. (2024). Online search and optimal product rankings: An empirical framework. *Marketing Science*, *43*(3), 615–636. https://doi.org/10.1287/mksc.2022.0071

Dasgupta, S., & Jamader, A.R. (2024, July 16). *Revolutionizing tourism and hospitality: Harnessing AI for sustainable transformation*. Social Science Research Network. http://doi.org/10.2139/ssrn.4896697

Daugherty, P.R., & Wilson, H.J. (2018). *Human + machine: Reimagining work in the age of AI*. Harvard Business Review Press.

Davenport, T.H. (2018). *The AI advantage: How to put artificial intelligence revolution to work*. The MIT Press. https://doi.org/10.7551/mitpress/11781.001.0001

Deputat, M., Podolian, M., Zhupnyk, V., Terletska, K., & Gorishevskyy, P. (2024). Evolution of information systems and technologies in the hospitality and tourism sector: A historical perspective. *Multidisciplinary Science Journal*, *6*, Article e2024ss0729. https://doi.org/10.31893/multiscience.2024ss0729

Dev, C.S. (2023). *The next 100 years: Hospitality guests of tomorrow*. Cornell University Library – eCommons. https://hdl.handle.net/1813/113263

Dey, S., & Shukla, D. (2020). Analytical study on use of AI techniques in tourism sector for smarter customer experience management. In *International Conference on Computer Science, Engineering and Applications (ICCSEA), Gunupur, India, 2020* (pp. 1–5). IEEE. https://doi.org/10.1109/ICCSEA49143.2020.9132925

Dhoundiyal, H., & Mohanty, P. (2022). Artificial intelligence and robotics driving Tourism 4.0: An exploration. In A. Hassan (Ed.), *Handbook of technology application in tourism in Asia* (pp. 1265–1285). Springer. https://doi.org/10.1007/978-981-16-2210-6_57

Divakaruni, A., & Navarro Sarmiento, P. (2024, May 27). *Capacity disruptions and pricing: Evidence from US Airlines*. Social Science Research Network. http://doi.org/10.2139/ssrn.4718902

Dunis, C.L., Middleton, P.W., Karathanasopolous, A., & Theofilatos, K.A. (Eds.). (2017). *Artificial intelligence in financial markets: Cutting-edge applications for risk management, portfolio optimization and economics*. Palgrave Macmillan. https://doi.org/10.1057/978-1-137-48880-0

Erbay, M. (2024). Automation and robotics of the tourism industry. In V.K. Shukla, A. Verma & J.P.G. Lacap (Eds.), *Artificial intelligence for smart technology in the hospitality and tourism industry* (pp. 119–130). Apple Academic Press.

Ertel, W. (2017). *Introduction to artificial intelligence* (2nd ed.). Springer. https://doi.org/10.1007/978-3-319-58487-4

Fagnant, D.J., & Kockelman, K. (2015). Preparing a nation for autonomous vehicles: Opportunities, barriers and policy recommendations. *Transportation Research Part A: Policy and Practice*, *77*, 167–181. https://doi.org/10.1016/j.tra.2015.04.003

Felt, U., & Sepehr, P. (2024). Infrastructuring citizenry in smart city Vienna: Investigating participatory smartification between policy and practice. *Journal of Responsible Innovation*, *11*(1), Article 2313303. https://doi.org/10.1080/23299460.2024.2313303

Florido-Benítez, L. (2024). The cybersecurity applied by online travel agencies and hotels to protect users' private data in smart cities. *Smart Cities*, *7*(1), 475–495. https://doi.org/10.3390/smartcities7010019

Frank, M., Roehring, P., & Pring, B. (2017). *What to do when machines do everything: How to get ahead in a world of AI, algorithms, bots and big data*. Wiley.

García-Madurga, M.Á., & Grilló-Méndez, A.J. (2023). Artificial intelligence in the tourism industry: An overview of reviews. *Administrative Sciences*, *13*(8), Article 172. https://doi.org/10.3390/admsci13080172

Geske, A.M., Herold, D.M., & Kummer, S. (2024). Artificial intelligence as a driver of efficiency in air passenger transport: A systematic literature review and future research avenues. *Journal of the Air Transport Research Society*, *3*, Article 100030. https://doi.org/10.1016/j.jatrs.2024.100030

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

Gomes, S., Lopes, J.M., & Ferreira, L. (2023). Looking at the tourism industry through the lenses of Industry 4.0: A bibliometric review of concerns and challenges. *Journal of Hospitality and Tourism Insights*, *7*(1), 436–457. https://doi.org/10.1108/JHTI-10-2022-0479

Gonçalves, A.R., Costa Pinto, D., Shuqair, S., Mattila, A., & Imanbay, A. (2024). The paradox of immersive artificial intelligence (AI) in luxury hospitality: How immersive AI shapes consumer differentiation and luxury value. *International Journal of Contemporary Hospitality Management*, *36*(1), 3865–3888. https://doi.org/10.1108/IJCHM-11-2023-1689

Granström, D.E.A.S., Pronk, A.M., & Criscione-Naylor, N. (2023). Robotic services in the hotel industry: An examination of Henn Na Hotels. *International Journal of Gaming, Hospitality and Tourism*, *3*(1). https://www.ijght.org/index.php/light/article/view/63/28

Gretzel, U. (2023). The future of blockchain technology for tourism and hospitality. In I. Onder & F. Acikgoz (Eds.), *Blockchain for tourism and hospitality industries* (pp. 139–150). Routledge.

Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and developments. *Electronic Markets*, *25*, 179–188. https://doi.org/10.1007/s12525-015-0196-8

Grobbelaar, W., Verma, A., & Shukla, V.K. (2024). Blockchain integration in the hospitality industry. V.K. Shukla, A. Verma & J.P.G. Lacap (Eds.), *Artificial intelligence for smart technology in the hospitality and tourism industry* (pp. 25–47). Apple Academic Press.

Grosche, T., & Klophaus, R. (2024). Codesharing and airline partnerships within, between and outside global alliances. *Journal of Air Transport Management*, *117*, Article 102591. https://doi.org/10.1016/j.jairtraman.2024.102591

Guan, X., & Jiang, K. (2024). Satisfaction evaluation system of Macau attractions based on online evaluation data. In *Proceedings of the 2024 7th International Conference on Data Storage and Data Engineering* (pp. 34–44). Association for Computing Machinery. https://doi.org/10.1145/3653924.3653930

Hinson, R.E., Mensah, I., Amoako, G.K., Mensah, E.A., Coffie, I., & Khosa, E. (2024). *Hospitality and tourism marketing: Building customer driven hospitality and tourism organizations*. Routledge. https://doi.org/10.4324/9781032688497

Huang, A., Chao, Y., de la Mora Velasco, E., Bilgihan, A., & Wei, W. (2022). When artificial intelligence meets the hospitality and tourism industry: An assessment framework to inform theory and management. *Journal of Hospitality and Tourism Insights*, *5*(5), 1080–1100. https://doi.org/10.1108/JHTI-01-2021-0021

Huang, M.-H., & Rust, R.T. (2018). Artificial intelligence in service. *Journal of Service Research*, *21*(2), 155–172. https://doi.org/10.1177/1094670517752459

Huang, S.(K.). (2024). *The integration of hybrid business model strategies and technologies about LCCs and FSCs* [Bachelor's thesis, Haaga-Helia University of Applied Sciences]. THESEUS – Open Repository of the Universities of Applied Sciences. https://urn.fi/URN:NBN:fi:amk-2024051311054

Ivanov, S. (2019). Ultimate transformation: How will automation technologies disrupt the travel, tourism and hospitality industries? *Zeitschrift für Tourismuswissenschaft*, *11*(1), 25–43. https://doi.org/10.1515/tw-2019-0003

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*, *10*(4), 489–521. https://doi.org/10.1108/JHTT-08-2018-0087

Ivanov, S., & Webster, C. (2017a). Adoption of robots, artificial intelligence and service automation by travel, tourism and hospitality companies: A cost-benefit analysis. In V. Marinov, M. Vodenska, M. Assenova & F. Dogramadjieva (Eds.), *Proceedings International Scientific Conference: "Contemporary tourism – traditions and innovations" 19–20 October 2017, Sofia* (pp. 168–191). St. Kliment Ohridski University Press.

Ivanov, S.H., & Webster, C. (2017b). *Designing robot-friendly hospitality facilities*. Social Science Research Network. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3053206

Ivanov, S.H., & Webster, C. (2017c). *The robot as a consumer: A research agenda* [Paper presented at the "Marketing: Experience and perspectives" Conference, 29–30 June, University of Economics – Varna, Bulgaria]. Social Science Research Network. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2960824

Ivanov, S., & Webster, C. (2019a). Perceived appropriateness and intention to use service robots in tourism. In J. Pesonen & J. Neidhardt (Eds.), *Information and Communication Technologies in Tourism 2019: Proceedings of the International Conference in Nicosia, Cyprus, January 30–February 1, 2019* (pp. 237–248). Springer. https://doi.org/10.1007/978-3-030-05940-8_19

Ivanov, S., & Webster, C. (2019b). What should robots do? A comparative analysis of industry professionals, educators and tourists. In J. Pesonen & J. Neidhardt (Eds.), *Information and Communication Technologies in Tourism 2019: Proceedings of the International Conference, Nicosia, Cyprus, January 30–February 1, 2019* (pp. 249–262). Springer. https://doi.org/10.1007/978-3-030-05940-8_20

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

Jaipuriar, S., Pal, S., & Rawal, Y.S. (2024). Transforming hospitality experiences: An exploratory study of service robots in the hospitality industry. In R. Correia, M. Martins & R. Fontes (Eds.), *AI innovations for travel and tourism* (pp. 121–134). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-2137-9.ch007

Jamshed, K., Qureshi, M.A., Kishwer, R., & Jamshaid, S. (2024). The benefits and challenges of artificial intelligence applications in tourism industry: How the hospitality industry in Japan is transforming. In A. Alnoor, G.E. Bayram, C.X. Ying & S.H.A. Shah (Eds.), *The role of artificial intelligence in regenerative tourism and green destinations* (pp. 129–147). Emerald Publishing. https://doi.org/10.1108/978-1-83753-746-420241009

Jamshed, K., Shah, S.H.A., Jebli, F., & Al-Ghazali, B.M. (2024). Smart destinations and artificial intelligence for rethinking and rebuilding tourism: Case from China and Hong Kong. In A. Alnoor, G.E. Bayram, C.X. Ying & S.H.A. Shah (Eds.), *The role of artificial intelligence in regenerative tourism and green destinations* (pp. 115–128). Emerald Publishing. https://doi.org/10.1108/978-1-83753-746-420241008

Jevinger, Å., Zhao, C., Persson, J.A., & Davidsson, P. (2024). Artificial intelligence for improving public transport: A mapping study. *Public Transport*, *16*(1), 99–158. https://doi.org/10.1007/s12469-023-00334-7

Jin, D. (2024). Navigating the spectrum of human-robot collaboration: Addressing robophobia-robophilia in the hospitality industry. *International Journal of Hospitality Management*, *122*, Article 103840. https://doi.org/10.1016/j.ijhm.2024.103840

Jindal, R., & Kaur, H. (2024). Managing guest expectations and safety with AI and smart solutions. In S. Kumar, M. Talukder, & A. Pego (Eds.), *Utilizing smart technology and AI in hybrid tourism and hospitality* (pp. 118–139). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-1978-9.ch006

Jogarao, M. (2024). AI in the hospitality industry: Revolutionizing guest experience. In P. Thaichon, P.K. Dutta, P.R. Chelliah

& S. Gupta (Eds.), *Technology and luxury hospitality: AI, blockchain and the metaverse* (pp. 199–210). Routledge.

Jörling, M., Böhm, R., & Paluch, S. (2019). Service robots: Drivers of perceived responsibility for service outcomes. *Journal of Service Research*, *22*(4), 404–420. https://doi.org/10.1177/1094670519842334

Jose, S.V., Sandhya, H., & Varghese, B. (2023). Artificial intelligence towards smart green transportation: A path towards sustainability. In P. Sinnappan (Ed.), *Achieving economic growth and welfare through green consumerism* (pp. 102–124). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-6684-8140-0.ch005

Kasarda, J.D., & Chen, M.I. (2024). Harnessing the AI revolution. *Airport World*, (2), 20–23. https://doi.org/10.17615/r3qw-3f53

Kelly, M.M., Martin-Peters, T., & Farber, J.S. (2024). Secondary data analysis: Using existing data to answer new questions. *Journal of Pediatric Health Care*, *38*(4), 615–618. https://doi.org/10.1016/j.pedhc.2024.03.005

Kemer, E., & Tyagi, P.K. (2023). Application of artificial intelligence and robotics in tourism and hospitality marketing. In P. Tyagi, V. Nadda, V. Bharti & E. Kemer (Eds.), *Embracing business sustainability through innovation and creativity in the service sector* (pp. 125–140). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-6684-6732-9.ch008

Khan, M.S., Woo, M., Nam, K., & Chathoth, P.K. (2017). Smart city and smart tourism: A case of Dubai. *Sustainability*, *9*(12), Article 2279. https://doi.org/10.3390/su9122279

Kim, T., Jo, H., Yhee, Y., & Koo, C. (2022). Robots, artificial intelligence, and service automation (RAISA) in hospitality: Sentiment analysis of YouTube streaming data. *Electronic Markets*, *32*(1), 259–275. https://doi.org/10.1007/s12525-021-00514-y

Knani, M., Echchakoui, S., & Ladhari, R. (2022). Artificial intelligence in tourism and hospitality: Bibliometric analysis and research agenda. *International Journal of Hospitality Management*, *107*, Article 103317. https://doi.org/10.1016/j.ijhm.2022.103317

Koçak, B.B. (2023). Deep learning techniques for short-term air passenger demand forecasting with destination insight: A case study in the New Zealand air market. In E. Akcagündüz (Ed.), *International research in social, human and administrative sciences: Vol. 12* (pp. 61–81). Eğitim Yayinevi.

Kozinets, R.V., Gretzel, U., & Gambetti, R. (2023). *Influencers & creators: Business, culture and practice*. SAGE Publications.

Krishna, S.M., Koujalagi, A., Kedareswari, B., Reddy, K.S., Sharif, M.D.M., & Reddy, M.C.R. (2024). Sky Sage: Revolutionizing airfare prediction with advanced machine learning integration. In K.R. Madhavi, P.S. Rao, J. Avanija, I.L. Manikyamba & B. Unhelkar (Eds.), *Proceedings of the International Conference on Computational Innovations and Emerging Trends (ICCIET – 2024)* (pp. 1259–1271). Atlantis Press. https://doi.org/10.2991/978-94-6463-471-6_121

Lee, H., Koo, C., & Chung, N. (2024). Assessing the economic effects of investment in smart tourism platforms. *Tourism Economics*, *31*(2), 263–284 https://doi.org/10.1177/13548166241263643

Leong, W.Y., Leong, Y.Z., & Leong, W.S. (2024). Smart tourism in ASEAN: Leveraging technology for sustainable development and enhanced visitor experiences. *International Journal of Social Sciences and Artistic Innovations*, *4*(3), 19–31. https://doi.org/10.35745/ijssai2024.v04.03.0003

Lestari, N.S., Rosman, D., & Putranto, T.S. (2021). The relationship between robot, artificial intelligence, and service automation (RAISA) awareness, career competency, and perceived career opportunities: Hospitality student perspective. In *2021 International Conference on Information Management and Technology (ICIMTech): Vol. 1* (pp. 690–695). IEEE. https://doi.org/10.1109/ICIMTech53080.2021.9535054

Leung, R. (2024). "Konnichiwa, Mr. Robot": A direct observation of hotel visitors' attitudes and anxiety regarding service robots. *International Hospitality Review*, *38*(1), 11–27. https://doi.org/10.1108/IHR-08-2021-0058

Limna, P. (2022). Artificial intelligence (AI) in the hospitality industry: A review article. *International Journal of Computing Sciences Research*, *7*(SI), 1306–1317. https://doi.org/10.25147/ijcsr.2017.001.1.103

Liu, X., Lin, J., Jiang, X., Chang, T., & Lin, H. (2024a). EWOM information richness and online user review behavior: Evidence from TripAdvisor. *Journal of Theoretical and Applied Electronic Commerce Research*, *19*(2), 880–898. https://doi.org/10.3390/jtaer19020046

Liu, Y., Chi, M., & Sun, Q. (2024). Sarcasm detection in hotel reviews: A multimodal deep learning approach. *Journal of Hospitality and Tourism Technology*, *15*(4), 519–533. https://doi.org/10.1108/JHTT-04-2023-0098

Lu, L., Cai, R., & Gursoy, D. (2019). Developing and validating a service robot integration willingness scale. *International Journal of Hospitality Management*, *80*, 36–51. https://doi.org/10.1016/j.ijhm.2019.01.005

Lukanova, G., & Ilieva, G. (2019). Robots, artificial intelligence, and service automation in hotels. In S. Ivanov & C. Webster (Eds.), *Robots, artificial intelligence and service automation in travel, tourism and hospitality* (pp. 157–183). Emerald Publishing. https://doi.org/10.1108/978-1-78756-687-320191009

Ma, L., Liu, C., & Zhan, Y. (2024). How smart city construction affects destination tourism efficiency. *Tourism Economics*, *30*(6), 1600–1623. https://doi.org/10.1177/13548166231221849

Mäkelä, M. (2024). *Artificial intelligence to benefit the passenger experience at the airport* [Master's thesis, Haaga-Helia University of Applied Sciences]. THESEUS – Open Repository of the Universities of Applied Sciences. https://urn.fi/URNNBN:fi:amk-202405079901

Mariani, M., Baggio, R., Fuchs, M., & Höepken, W. (2018). Business intelligence and big data in hospitality and tourism: A systematic literature review. *International Journal of Contemporary Hospitality Management*, *30*(12), 3514–3554. https://doi.org/10.1108/IJCHM-07-2017-0461

Martins, M., Castro e Quadros, R.C., & Barqueiro, A. (2024). Personalization strategies and passenger satisfaction analysis in full-service airlines: A study of Lisbon airport's leading carriers. In S. Kurnaz, A. Rodrigues & A. Padhra (Eds.), *Strategic management and policy in the global aviation industry* (pp. 173–202). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-0908-7.ch010

Mejia, C., Crandell, H.A., Broker, E., & Shoss, M. (2024). Working with service robots in the dining room: Employees' perspectives and realities. *Journal of Hospitality and Tourism Technology*, *15*(5), 878–896. https://doi.org/10.1108/JHTT-12-2023-0420

Mellinas, J.P., María-Dolores, S.M.M., & García, J.J.B. (2015). Booking.com: The unexpected scoring system. *Tourism Management*, *49*, 72–74. https://doi.org/10.1016/j.tourman.2014.08.019

Mendez Alva, F., De Boever, R., & Van Eetvelde, G. (2021). Hubs for circularity: Geo-based industrial clustering towards urban symbiosis in Europe. *Sustainability*, *13*(24), Article 13906. https://doi.org/10.3390/su132413906

Merlo, T.R. (2024). Emerging role of artificial intelligence (AI) in aviation: Using predictive maintenance for operational efficiency. In A. Yilmaz (Ed.), *Harnessing digital innovation for air transportation* (pp. 28–46). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-0732-8.ch002

Metcalfe, M., Flom, N., Colby, H., Robles, D., & Dailey, L. (Deloitte). (2024). *Additional aviation sustainability strategies: Assessment, evaluation, & analysis* [Contractor or grantee report]. NTRS – NASA Technical Reports Server. https://ntrs.nasa.gov/citations/20240007518

Mishra, U., Jayawardena, N.S., & Thaichon, P. (2024). Exploring the role of artificial intelligence for luxury hotel brands: A case

study in Europe. In P. Thaichon, P.K. Dutta, P.R. Chelliah & S. Gupta (Eds.), *Technology and luxury hospitality: AI, blockchain and the metaverse* (pp. 278–294). Routledge.

Munawar, R., Hardani, H.I., & Idajati, H. (2022). Travel for leisure or social media content? In J. Damanik, B. Mohammed, D. Widyastuti, N. Irdana & H. Oktadiana (Eds.), *Proceedings of the International Academic Conference on Tourism (INTACT) "Post pandemic tourism: Trends and future directions" (INTACT 2022)* (pp. 106–119). Atlantis Press. https://doi.org/10.2991/978-2-494069-73-2_9

Naumov, N. (2019). The impact of robots, artificial intelligence, and service automation on service quality and service experience in hospitality. In S. Ivanov & C. Webster (Eds.), *Robots, artificial intelligence and service automation in travel, tourism and hospitality* (pp. 123–133). Emerald Publishing. https://doi.org/10.1108/978-1-78756-687-320191007

Ngo, T., & Tsui, K.W.H. (2023). Price reaction in New Zealand's duopolistic airline market. *International Journal of the Economics of Business*, *30*(2), 159–184. https://doi.org/10.1080/13571516.2023.2173933

Nica, I., Tazl, O.A., & Wotawa, F. (2018). Chatbot-based tourist recommendations using model-based reasoning. *CEUR Workshop Proceedings*, *3643*, 25–30. https://novuscpq.com/wp-content/uploads/2018/10/proceedings-configuration-workshop-2018_YslTwntH.pdf#page=33

Nie, T. (2023). *Machine learning for forecasting future reservations' ratings: Radisson Blu Seaside in Helsinki* [Master's thesis, Åbo Akademi University]. DSpace. https://urn.fi/URN:NBN:fi-fe2023050340807

Noor, N., & Sim, K.S. (2024). Impact of AI on the flower of service model in the hospitality industry. In R. Correia, M. Martins & R. Fontes (Eds.), *AI innovations for travel and tourism* (pp. 58–81). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-2137-9.ch004

Octavia, Y.F., Dewi, L.K.C., Dharmawan, D., Ekasari, S., & Erdi, H. (2024). The influence of customer value, customer trust and electronic service quality on customer satisfaction of Traveloka. *JEMSI (Jurnal Ekonomi, Manajemen, dan Akuntansi)*, *10*(1), 283–288. https://doi.org/10.35870/jemsi.v10i1.1908

Ogle, A., & Lamb, D. (2019). The role of robots, artificial intelligence, and service automation in events. In S. Ivanov & C. Webster (Eds.), *Robots, artificial intelligence and service automation in travel, tourism and hospitality* (pp. 255–269). Emerald Publishing. https://doi.org/10.1108/978-1-78756-687-320191012

Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology & Tourism*, *22*(3), 455–476. https://doi.org/10.1007/s40558-019-00160-3

Prentice, C., & Pawlicz, A. (2024). Addressing data quality in Airbnb research. *International Journal of Contemporary Hospitality Management*, *36*(3), 812–832. https://doi.org/10.1108/IJCHM-10-2022-1207

Priya, N., Satpathy, I., Patnaik, B.C.M., & Thaichon, P. (2024). Transforming workplace wellness in the next-generation hospitality industry by leveraging transformational digital technologies and tools. In P. Thaichon, P.K. Dutta, P.R. Chelliah & S. Gupta (Eds.), *Technology and luxury hospitality: AI, blockchain and the metaverse* (pp. 295–313). Routledge.

Reis, J. (2024). Customer service through AI-powered human-robot relationships: Where are we now? The case of Henn na cafe, Japan. *Technology in Society*, *77,* Article 102570. https://doi.org/10.1016/j.techsoc.2024.102570

Said, N., Ben Mansour, K., Bahri-Ammari, N., Yousaf, A., & Mishra, A. (2024). Customer acceptance of humanoid service robots in hotels: Moderating effects of service voluntariness and culture. *International Journal of Contemporary Hospitality Management*, *36*(6), 1844–1867. https://doi.org/10.1108/IJCHM-12-2022-1523

Saini, A., & Bhalla, R. (2022). Artificial intelligence and automation: Transforming the hospitality industry or threat to human touch. In V. Garg & R. Goel (Eds.), *Handbook of research on innovative management using AI in Industry 5.0* (pp. 88–97). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-7998-8497-2.ch006

Sandhya, H., & Varghese, B. (2023). Big data and artificial intelligence: Creative tools for destination competitiveness. In Z. Fields (Ed.), *Multidisciplinary approaches in AI, creativity, innovation, and green collaboration* (pp. 155–166). IGI Global Scientific Publishing. https://doi.org/10.4018/978-1-6684-6366-6.ch008

Sandhya, H., & Varghese, B. (2024). Smart tourism narratives: Maturity matrix and digital transformation. In T. Merlo (Ed.), *AI and data analytics applications in organizational management* (pp. 203–214). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-1058-8.ch010

Sapir, L. (2024). Integration of artificial intelligence in hotel services: Trends and developments (The Israeli case). *The Annals of the University of Oradea: Economic Sciences*, *33*(1), 177–183. https://anale.steconomiceuoradea.ro/en/wp-content/uploads/2024/11/AUOES.July_.2024.20.pdf

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 & Management*, *31*(8), 908–936. https://doi.org/10.1080/19368623.2022.2118923

Shanmugam, K., Rana, M.E., & Kong, Z.Y. (2024). A comprehensive analysis of technological advancements and smart tourism strategies in Malaysia's post-pandemic tourism industry. In *2024 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETSIS)* (pp. 909–916). IEEE. https://doi.org/10.1109/ICETSIS61505.2024.10459443

Sigala, M. (2018). New technologies in tourism: From multi-disciplinary to anti-disciplinary advances and trajectories. *Tourism Management Perspectives*, *25*, 151–155. https://doi.org/10.1016/j.tmp.2017.12.003

Silini, R. (2023). Taking off again, Japan Airlines. In P. Haghirian (Ed.), *Overcoming crisis: Case studies of Asian multinational corporations* (pp. 323–338). World Scientific. https://doi.org/10.1142/9789811259340_0022

Snäll, A. (2023). *How artificial intelligence (AI) can be utilized for the competitive advantage of an international luxury hotel?* [Bachelor's thesis, Haaga-Helia University of Applied Science]. THESEUS – Open Repository of the Universities of Applied Sciences. https://urn.fi/URN:NBN:fi:amk-2023060220913

Solakis, K., Katsoni, V., Mahmoud, A.B., & Grigoriou, N. (2022). Factors affecting value co-creation through artificial intelligence in tourism: A general literature review. *Journal of Tourism Futures*, *10*(1), 116–130. https://doi.org/10.1108/JTF-06-2021-0157

Stanojevic, S. (2020). Embracing sustainability in the drive from ordinary to outstanding: case examples from Emirates, Jumeirah and Rotana. *Worldwide Hospitality and Tourism Themes*, *12*(5), 575–586. https://doi.org/10.1108/WHATT-06-2020-0050

Štilić, A., Nicić, M., & Puška, A. (2023). Check-in to the future: Exploring the impact of contemporary information technologies and artificial intelligence on the hotel industry. *Turističko poslovanje*, (31), 5–17. https://doi.org/10.5937/turpos0-43739

Stoimenov, V. (2023). Good practices in hotel branding: Sustainability trends of Intercontinental Hotel Group. *Entrepreneurship*, *11*(1), 108–131. https://doi.org/10.37708/ep.swu.v11i1.9

Tan, L.H. (2023). *Consumer reaction to the use of artificial intelligence chatbot on distribution of general insurance in Singapore* [Doctoral dissertation, Singapore Management University]. Singapore

Management University Libraries. https://ink.library.smu.edu.sg/etd_coll/489

Touni, R. (2020). The application of robots, artificial intelligence, and service automation in the Egyptian tourism and hospitality sector (possibilities, obstacles, pros, and cons). *Journal of Association of Arab Universities for Tourism and Hospitality*, *19*(3), 269–290. https://doi.org/10.21608/jaauth.2021.60834.1126

Tsiakalos, S. (2024). *Enhancing organizational resilience in the air transport industry through the adoption of emerging technologies: A case study of the Middle Eastern Airlines* [Master's thesis, Kajaani University of Applied Sciences]. THESEUS – Open Repository of the Universities of Applied Sciences. https://urn.fi/URN:NBN:fi:amk-2024053118972

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*, Article 102883. https://doi.org/10.1016/j.annals.2020.102883

Upadhyay, S., Upadhyay, N., & Gour, A. (2024). Voices in the storm: Analyzing MakeMyTrip's crisis communication during COVID-19 through a multivocality lens. *Journal of Contingencies and Crisis Management*, *32*(1), Article e12521. https://doi.org/10.1111/1468-5973.12521

Vashishth, T.K., Sharma, V., Sharma, K.K., Kumar, B., Kumar, A., & Panwar, R. (2024). Artificial intelligence (AI) – powered chatbots: Providing instant support and personalized recommendations to guests 24/7. In P. Thaichon, P.K. Dutta, P.R. Chelliah & S. Gupta (Eds.), *Technology and luxury hospitality: AI, blockchain and the metaverse* (pp. 211–236). Routledge.

Vij, M., & Rizwan, S.A. (2022). Emerging technologies in tourism for a better experience: The case of Dubai. In A. Hassan (Ed.), *Technology application in tourism in Asia: Innovations, theories and practices* (pp. 97–107). Springer. https://doi.org/10.1007/978-981-16-5461-9_6

Vinod, B. (2024). *Mastering the travel intermediaries: Origins and future of global distribution systems, travel management companies, and online travel agencies*. Springer. https://doi.org/10.1007/978-3-031-51524-8

Waheeb, R., & Wheib, K. (2024, May 30). *Improving disaster management performance by using ethical artificial intelligence EAI to achieve sustainable development and support the global economy and trade*. Preprints.org. https://doi.org/10.20944/preprints202405.1580.v1

Wang, Y.-C., & Uysal, M. (2024). Artificial intelligence-assisted mindfulness in tourism, hospitality, and events. *International Journal of Contemporary Hospitality Management*, *36*(4), 1262–1278. https://doi.org/10.1108/IJCHM-11-2022-1444

Weber, M., Knabl, O.B., Böttcher, T.P., Hein, A., & Krcmar, H. (2024). The AI transformation? Unpacking the impact of AI on incumbent business models. *ECIS 2024 Proceedings*, *11*, Paper 2158. https://aisel.aisnet.org/ecis2024/track12_digtrans/track12_digtrans/11

Webster, C., & Ivanov, S. (2023). Robots, artificial intelligence and service automation in tourism and quality of life. In M. Uysal & M.J. Sirgy (Eds.), *Handbook of tourism and quality-of-life research II: Enhancing the lives of tourists, residents of host communities and service providers* (pp. 533–544). Springer. https://doi.org/10.1007/978-3-031-31513-8_36

Whig, P., Kasula, B.Y., Yathiraju, N., Jain, A., & Sharma, S. (2024). Transforming aviation: The role of artificial intelligence in air traffic management. In S. Khalid & N. Siddiqui (Eds.), *New innovations in AI, aviation, and air traffic technology* (pp. 60–75). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-1954-3.ch004

Wirtz, J., Kunz, W., & Paluch, S. (2021, January 15). The service revolution, intelligent automation and service robots. *The European Business Review (TEBR)*. https://www.europeanbusinessreview.com/the-service-revolution-intelligent-automation-and-service-robots/

Wolfe, R., & Hiniker, A. (2024). Expertise fog on the GPT store: Deceptive design patterns in user-facing generative AI. *CEUR Workshop Proceedings*, *3720*, Paper 15. https://ceur-ws.org/Vol-3720/paper15.pdf

Wongyai, P.H., Ngo, T., Wu, H., Tsui, K., & Nguyen, T.H. (2024). Self-service technology in aviation: A systematic literature review. *Journal of the Air Transport Research Society*, *2*, Article 100016. https://doi.org/10.1016/j.jatrs.2024.100016

World Economic Forum. (2020). *Shaping a multiconceptual world 2020* [Special report]. http://www3.weforum.org/docs/WEF_Shaping_a_Multiconceptual_World_2020.pdf

Wu, F., Sorokina, N., & Putra, E.D. (2023). Customers satisfaction on robots, artificial intelligence and service automation (RAISA) in the hotel industry: A comprehensive review. *Open Journal of Business and Management*, *11*, 1227–1247. https://doi.org/10.4236/ojbm.2023.113069

Wu, X., Liao, H., & Ngai, E.W.T. (2024). Ranking hotel products by integrating online ratings from multiple platforms. *Information & Management*, *61*(4), Article 103959. https://doi.org/10.1016/j.im.2024.103959

Xu, J., Shi, P.H., & Chen, X. (2024). Exploring digital innovation in smart tourism destinations: insights from 31 premier tourist cities in digital China. *Tourism Review*, *80*(3), 681–709. https://doi.org/10.1108/TR-07-2023-0468

Yadav, N., Pratim Seal, P., Shukla, A., & Kaur, R. (2024). AI in the hospitality and tourism industries. In M. Talukder, S. Kumar & P. Tyagi (Eds.), *Impact of AI and tech-driven solutions in hospitality and tourism* (pp. 1–19). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-6755-1.ch001

Yaghmour, S. (2024). Smart tourism technology and destination loyalty. *APJTH Asia-Pacific Journal of Innovation in Hospitality & Tourism*, *13*(1), 1–23. https://fslmjournals.taylors.edu.my/wp-content/uploads/APJIHT/APJIHT-2024-13-1/APJIHT-131_Paper-1.pdf

Yassin, E.S.A.-G., Gharieb, A.E.A, Saad, H.E., & Qura, O.E. (2022). Robots, artificial intelligence, and service automation (RAISA) technologies in the Egyptian hotel sector: A current situation assessment. *International Journal of Heritage, Tourism and Hospitality*, *16*(1), 51–60.

Yilmaz, E.C., & Atalik, Ö. (2023, December). The role of metaverse in airline marketing: investigating airline industry examples. In B. Aşci (Ed.), *The 6th International Aviation Management Conference (Intavic'23) proceedings book* (pp. 74–76). Türk Hava Kurumu Üniversitesi / University of Turkish Aeronautical Association.

Yoo, S.-C., Piscarac, D., & Truong, T.A. (2024). Urban tourism revitalization through smart city Tecoration using digital outdoor advertising: A case study of WAVE advertising in Seoul, South Korea. *International Journal of Tourism Cities*, *11*(2), 197–217. https://doi.org/10.1108/IJTC-10-2023-0209

Yu, C.-E., & Ngan, H.F.B. (2019). The power of head tilts: Gender and cultural differences of perceived human vs human-like robot smile in service. *Tourism Review, 74*(3), 428–442. https://doi.org/10.1108/TR-07-2018-0097

Zarezadeh, Z.Z., Benckendorff, P., & Gretzel, U. (2023). Online tourist information search strategies. *Tourism Management Perspectives*, *48*, Article 101140. https://doi.org/10.1016/j.tmp.2023.101140

Zhou, L., Buhalis, D., Fan, D.X., Ladkin, A., & Lian, X. (2024). Attracting digital nomads: Smart destination strategies, innovation and competitiveness. *Journal of Destination Marketing & Management*, *31*, Article 100850. https://doi.org/10.1016/j.jdmm.2023.100850