THE EUROPEAN JOURNAL OF APPLIED ECONOMICS

EJAE 2026, 23(2): 161 - 171
ISSN 2406-2588
UDK: 338.48:007.52
DOI: 10.5937/EJAE23-63155
Original paper/Originalni naučni rad

ROBOTICS IN TOURISM AND SUSTAINABLE DEVELOPMENT: A VISION FOR THE FUTURE OF HOSPITALITY INDUSTRY

Sava Cipriana*,
[0000-0002-6521-6596]

Dragotă Tiberiu-Gabriel
[0000-0009-1401-9240]

Tibiscus University Timișoara,
Timișoara, Romania

Abstract:
The purpose of this paper is to discuss the integration of robotics in the tourism sector, focusing mainly on its contribution to facilitating sustainable development. It examines the growing application of robotic technology in hotels, restaurants, and tourist attractions - from automated check-in/check-out services to robotic tour guides. The merits and potential of robotics for the tourism sector are analysed, with attention to key advantages such as resource efficiency, energy savings, and operational optimization, as well as major challenges including social acceptance, implementation costs, and workforce impact. Drawing on real-world cases and emerging trends, this paper provides a detailed review of how robotics can help make tourism more innovative, sustainable, and resilient, thereby supporting the shift toward more sustainable development.

Keywords:
robotics in tourism; hospitality industry; sustainable development; service automation; tourism experience; eco-innovation.

JEL Classification:
Z32, O33

INTRODUCTION

As one of the world's most dynamic industries, tourism demonstrated sustained pre-pandemic growth and has since shown a remarkable recovery. Although its economic significance cannot be overstated, its development has always been highly dependent upon environmental quality and has become increasingly confronted by the imperative to balance economic growth and sustainability. The unsustainable patterns of development have led to environmental degradation through increased levels of pollution, overuse of resources, disturbances in nature, and effects of climate change, which have manifested through increased global temperatures, biodiversity loss, and fragile ecosystems (United Nations Secretary-General & World Commission on Environment and Development, 1987; Park & Kim, 2024).

Article info:
Received: December 01, 2025
Correction: January 23, 2026
Accepted: August 26, 2026

*E-mail: cipriana.sava@gmail.com

This transition relies heavily on continuous technological innovation. For example, digitalization, artificial intelligence, and robotic technology have become progressively incorporated in the tourism and hospitality industry for efficiency, robustness, and service excellence (Tussyadiah, 2020; Wang, Xu, & Li, 2025). The use and application of service robotic technology have become widespread since 2020, following labour and customer-centric factors (Mandić *et al*., 2024; Xu *et al*., 2023).

Robotics technologies have been applied in varied forms of tourism settings, ranging from hotels and restaurants to airports and tourist attractions. Service robots are being used for reception and concierge services, delivery services, cleaning and maintenance services, customer services, and entertainment purposes (Ivanov, Bogdanov, & Ivanova, 2019; Pop, 2025).

Powered by artificial intelligence, robotic technologies have the potential for autonomous navigation, decision-making, and interaction, thereby increasing their scope for being used in hospitality settings (Wu, Park, & Chang, 2025; Skubis, 2025).

In addition to enhancing operational efficiency, robotic technologies present significant opportunities for sustainable development within the tourism sector. This is particularly true for optimising energy and water use, waste management, and environmental monitoring, thereby promoting a reduced ecological footprint (Song & Chen, 2025; Siddik, 2025).

At the same time, another social and ethical issue being posed by the increased use of robotics is its implications for social displacement, worker acceptance, data protection, and meaningful human interaction (Xu *et al*., 2023; Park *et al.*, 2025).

Existing literature on robotics in tourism has mainly emphasized technology, customer, and performance. While these studies provide valuable insights, research connecting robotics to sustainable development remains fragmented, frequently treating sustainability as an underlying assumption rather than an empirical construct (Ivanov, Duglio, & Beltramo, 2023; Gössling & Mei, 2025). More particularly, it has been found that very few literature pieces have addressed robotics in association with various aspects of sustainable development, often in a disintegrated manner.

In this context, this paper proposes an analysis of the integration of robotics in tourism and hospitality, adopting a sustainable development approach. Unlike most studies focused on emerging tech trends, this article adopts a conceptual framework to directly analyze the links between robotics and sustainable development. By critically reviewing specific trends in tourism and hospitality within contemporary scientific literature, the article attempts to contribute to a balanced and analytically informed understanding of robotics as an opportunity and a potential "risk" for sustainable tourism.

Specifically, this paper aims to: (1) examine the impacts of tourism on the environment and the necessity for responsible and sustainable tourism practices; (2) identify the different types of robots currently used in the field of tourism and hospitality; (3) evaluate the advantages and challenges that come with the adoption of robots, especially focusing on the issue of sustainability, and (4) examine future perspectives on the potential of robotics to support the development of sustainable tourism.

LITERATURE REVIEW

The Brundtland Report, published in 1987, officially introduced the concept of sustainable development, which "meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition created an integrated concept encompassing environmental protection, economic viability, and social equality. This concept has been further supported and implemented through the United Nations' Agenda for Sustainable Development, including the 17 Sustainable Development Goals (SDGs), which act as an international reference point to ensure the sustainability of future economic activities, including tourism (United Nations Secretary-General & World Commission on Environment and Development, 1987).

Being one of the most booming sectors of the economy globally, tourism remains a highly resource-intensive activity with the potential to cause degradation of the environment. Sustainable tourism remains a critical concept for the tourism industry, given its potential to cause degradation of the environment. Sustainable tourism, according to the World Tourism Organization (UNWTO), aims to meet the needs of tourists and tourism stakeholders while protecting the environment, cultural heritage, and resources for future generations. Sustainable tourism aims to minimize environmental harm, empower local communities, and deliver authentic, high-value guest experiences (UNWTO, 2022).

Although the concept was originally used for industrial and manufacturing purposes, the use and application of robotics have been extended to include agriculture, health, education, and services. With regard to the tourism and hospitality industry, the concept has come to the fore, especially when artificial intelligence is included, which has seen the enhancement and improvement of the efficiency and personalization of services within the industry (Skubis, 2025; Wu, Park, & Chang, 2025). Previous research has shown that artificial intelligence and robotics have been the main theme in modern-day tourism, especially due to the increased need for the use and application of technology within the industry.

Artificial intelligence, for example, is used in the tourism sector to support functions such as demand forecasting, personalization, or service automation, while service robots, as discussed, are mostly used in hotel environments to support functions such as hotel reception, delivery, or cleaning, as discussed in studies by Wang, Xu, & Li, 2025; Ivanov *et al.,* 2019; Pop, 2025. However, robotics can be used to support sustainability through functions that optimize or reduce energy or resource consumption, or through environmental monitoring, as discussed above, which can be transferred to support functions in the tourism sector, encouraging more innovative practices.

However, studies also show that the response of customers to service robots is dependent on certain contextual factors, indicating that technology adoption does not always lead to positive outcomes, especially regarding satisfaction (Kwinda & Wakelin-Theron, 2025).

This rapid development in tourism has created substantial economic benefits, but it has also created significant negative impacts on the environment. The most reported negative impacts include air pollutio, mainly through transportation; water pollution, mainly through inadequate waste management practices and some tourism activities; soil pollution, mainly through uncontrolled development and deforestation practices; and depletion of some of the most significant resources, such as water and energy (Park & Kim, 2024). This further supports the need to develop sustainable models.

Alongside growing environmental awareness, researchers are increasingly examining the social implications of implementing robotic technologies. For instance, the acceptance of service robots by employees is affected by aspects such as trust, job security, and the provision of training and retraining facilities for employees (Park, 2025; Staudt, 2024). In addition, the study on human-robot interaction in hospitality and tourism settings underscores the significance of the social, emotional, and ethical aspects related to the implementation of service robots. Even though there is an increased interest in the social aspects related to the implementation of robotics technology, reviews have identified an existing gap in the study on the social aspects related to the implementation of robotics technology, especially regarding the social outcomes and the well-being of employees (Liu, Benckendorff, & Walters, 2024).

As the sector heavily depends on environmental quality, adopting sustainable practices becomes essential. Innovative technologies such as robotics and digitalization can support this transition by monitoring ecosystems, reducing waste, and enhancing energy efficiency (Siddik, 2025). These effects are summarized in Table 1.

Table 1. Negative effects of tourism

Type of pollution/impact	Main causes
Air pollution	Tourist transport, motorised sports activities
Water pollution	Aquatic activities, inadequate management of liquid and solid waste
Soil pollution	Tourist construction, deforestation, loss of biodiversity
Resource depletion	Excessive consumption of water, energy, and natural resources

Given that tourism simultaneously relies on and impacts the environment, implementing sustainable practices is critical for long-term viability. Mitigating the negative effect implies both explicit public regulations and policies and technologically innovative solutions. Here, robotics and digitalisation can help promote the shift towards responsible tourism through environmental monitoring, waste minimisation, and resource consumption optimisation.

METHODOLOGY

The current research adopts a narrative and conceptual literature review approach for analysing the role of robotics in tourism and hospitality services and its implications for sustainable development. Since the current research is of an exploratory nature, empirical data is not being followed for addressing the research objectives. Accordingly, reproducibility requirements for storing data in Mendeley Data do not apply.

The literature used for this review includes academic journals, institutional publications, and other authoritative sources published in various fields like robotics, tourism, hospitality, sustainable development, and service automation. The literature used for this paper was identified through various prominent sources like Google Scholar, Scopus, and Web of Science. The search was conducted for literature published in the range of 2015-2025, using various keyword searches like “Robotics in Tourism,” “Service Robots,” “Hospitality Automation,” “Sustainable Tourism,” “Technology Adoption,” “Artificial Intelligence in Hospitality,” etc.

Only articles published in peer-reviewed journals, conference papers, and reports related to the theme of the application of robotics in tourism and the sustainability aspects are included in the study. This method ensured the appropriateness and academic nature of the literature reviewed. In addition, the literature reviewed was not related to tourism and sustainability in general.

The selected studies were analysed following a thematic analysis approach. The approach to the thematic analysis follows a structure that incorporates the following three analytical dimensions:

(1) theoretical and conceptual perspectives on robotics and automation in tourism;

(2) current applications of robotics in tourism and hospitality and their operational, environmental, and social impacts;

(3) implications for sustainable development, including benefits, challenges, and future trajectories.

Through this approach, where literature is arranged along these dimensions, this study identifies themes and areas of convergence and divergence within previous works. Though this paper does not seek to generate empirical generalisations, this approach is appropriate for informing a coherent approach to a conceptual synthesis and for exploring areas where robotics can contribute to and challenge sustainable tourism development.

DISCUSSION OF THE LITERATURE

The following sections synthesize and interpret findings reported in the existing literature on robotics in tourism and hospitality; consistent with the conceptual, narrative-review methodology described above, no original empirical data were collected, and all claims below are attributed to the cited studies.

Robotics in Tourism and Hospitality: Applications, Benefits, and Challenges

The use of robotic technology in tourism and hospitality is an emerging trend that is being driven primarily by advances in technology for robots. This is because of the increased use of robots at airports, tourist sites, hotels, and restaurants, mainly for purposes of increased efficiency while at the same time impacting the tourism experience (Skubis, 2025; Wu, Park & Chang, 2025).

There are many types of service robots used in various tourism settings. Some of these service robots include those used for reception and guiding for check-in purposes and for guiding customers, cleaning and maintenance robots for maintaining hygienic conditions, drones for providing interactive and panoramic tours, room service robots, and those used for providing entertainment and service personalisation.

These include the FlyZoo Hotel in China, which is owned by the e-commerce firm Alibaba and uses robots to transport order requests and to offer personalized services to customers (Figure 1). Another example is the Henn-na Hotel in Japan, which is known for the provision of robot-based reception services to customers (Figure 2). In addition, some European airports, like Amsterdam Airport, are using robots to help in the provision of real-time passenger information, thereby improving the efficiency of passenger movements at the airport (Chang, 2025).

Figure 1. Alibaba's FlyZoo Hotel in China



Figure 2. Henn-na Hotel Japan



Some key advantages that have been identified in the literature regarding the adoption of robots in the tourism industry include the enhancement of efficiency through the automation of routine and repetitive tasks, thus enabling human employees to focus on higher value-added services (Wu, Park, & Chang, 2025).

Additionally, robotics enhances operational efficiency, hygiene standards, and cost savings while mitigating environmental impacts through the precise management of water, energy, and materials. The ability for the robot to function for long periods without getting tired also ensures consistency and reliability in service delivery.

However, despite these advantages, incorporating robotics technology in tourism also poses many challenges. High acquisition and maintenance costs remain a barrier for many tourism operators, a pattern that the literature associates with an uneven diffusion of the technology favouring larger, better-capitalised businesses (Milohnić & Kapeš, 2024). In addition, Song and Chen (2025) report that some tourists express discomfort around robots, and that job displacement and the need for employee reskilling remain unresolved concerns for the sector.

Ethical and legal issues also contribute to the intricacy surrounding the adoption of robots, especially as it pertains to the issues surrounding the protection of data, privacy, and cybersecurity. It must also be noted that the current state of robots cannot mimic the human qualities that make us so empathetic, creative, and flexible in our capacity to offer services to our guests. The aforementioned also underscores the importance of human involvement in hospitality services.

In summary, robotics exhibits substantial promise for the creation of a better and more efficient tourism industry. However, the literature also implies that the effective integration of robotics can be achieved by finding the right balance between technological advancements, customers' needs, and the maintenance of effective and meaningful interactions with humans. In this respect, the concept of hybrid services with robots and their potential to deliver effective and empathetic services to customers appears to be highly promising (Skubis, 2025; Wu, Park & Chang, 2025).

Robotics and Sustainable Development in Tourism

However, the application of the field of robotics to the tourism industry must not be seen as an approach that merely aids economic rationalisation, but as an approach that has the potential to contribute to the achievement of broader objectives in the context of sustainable development. The tourism industry, as a resource-intensive industry that also exhibits a strong level of dependency on environmental quality, presents the application of robotic technology as an approach that aids the achievement of a reduced ecological footprint while also making the hospitality industry more robust.

The literature confirms that robotics can contribute to the achievement of several of the Sustainable Development Goals (SDGs), some of which are relevant to tourism. In the context of SDG 8 (Decent work and economic growth), robotics can improve productivity and efficiency, thus contributing to economic competitiveness, while also fuelling the need for reskilling and the development of new skills. In the context of SDG 9 (Industry, Innovation and Infrastructure), the introduction of robotics represents technological innovations that can contribute to the modernization of tourism and hospitality infrastructure.

Moreover, the field of robotics can also aid in the achievement of SDG 12, which entails Responsible Consumption and Production, through the efficient monitoring and reduction of resources and wastes, such as in the accommodation and food service sector. Furthermore, robotic and AI technology can also aid in the achievement of SDG 13, which entails Climate Action, through the monitoring and optimisation of energy use, which Song and Chen (2025) associate with a reduction of the carbon footprint of specific tourism activities examined in their study. Sousa, Cardoso and Dias (2024) and Gössling and Mei (2025) similarly report reductions in energy and water use linked to AI-based optimisation

systems in hotel settings. These contributions should nonetheless be read as conditional rather than universal. Scholars caution that net environmental gains depend on lifecycle impacts, the scale of investment required, and the governance frameworks in place, while potential rebound effects or market concentration among larger operators may offset initial efficiency gains (Gössling & Mei, 2025).

The different strategies for the implementation of sustainable tourism using robotics include the employment of robots to monitor the quality of air, water, and soil at the tourism sites, the automation of the lighting systems, the control systems for the atmosphere, and the water systems at the hotel sites. Additionally, drones can be used to control the number of tourists at the sites to ensure the sustainability of the ecosystems.

Beyond operational benefits, robotics offers further potential for advancing green tourism by delivering sustainability-focused educational and interpretive content to guests. These applications, therefore, highlight the scope for robotic technologies to contribute towards environmental sustainability, as well as towards creating sustainability awareness among tourists (Skubis, 2025; Siddik, 2025).

Taken together, the literature reviewed above suggests that, beyond acting as a facilitator of service modernization, robotics is portrayed as a potential contributor to ecological and social responsibility in tourism. Based on this synthesis, integrating these technologies thoughtfully could support a transition toward a more sustainable tourism model that balances technological innovation, ecological protection, and social welfare, though this remains an analytical inference rather than an empirically verified outcome.

Perspective and Future Trends

New opportunities are also emerging in reshaping tourism and hospitality, especially in relation to rapid technological developments in robotics and artificial intelligence. The future of these technological improvements seems to be going beyond efficiency gains to have significant impacts on tourism, as well as sustainability. The pace of change in these technological improvements, however, seems to be uncertain.

In the short term, the integration of robotics with AI can improve the functional capabilities of service robots. These can include better communication with tourists, improved voice and facial recognition, and decision-making. Such technologies can also make it easier for robots to interact with tourists, thus improving the quality of service and the tourists' satisfaction.

On the other hand, artificial intelligence has already been utilized to minimize the ecological footprint of the operations of the tourism industry, such as optimizing the operations or reducing food wastage within accommodation establishments and developing individualized yet ecologically friendly tours (Gössling & Mei, 2025; Siddik, 2025).

In the medium term, the integration of robotics with complementary technologies like virtual reality and augmented reality has the potential to contribute to the creation of more immersive tourism experiences. For instance, virtual tourism guides, drones for virtual tours, and intelligent environments have the potential to create a more interactive tourism experience, which can contribute to the sustainability of tourism destinations.

In terms of longer-term scenarios, further advanced types of automation are possible, such as automated hospitality systems, autonomous tourist transport systems, and further digitalization of airports. This points to a potential for large changes in tourism structures, with further efficiencies and conveniences becoming normal practice in the future, as indicated by Naranjo (2025).

Nonetheless, the latest studies have indicated that over-robotic or over-attentive robotic services have negative effects on users. The studies have revealed that over-attentive robotic services tend to increase tourists' discontinuous usage intentions, which has negative implications for diminishing returns (Wang *et al.*, 2026).

Finally, for robotics to successfully penetrate the tourism sector, several prerequisites must be met: continuous investment in sustainable technologies, the establishment of ethical and legal frameworks, and comprehensive workforce upskilling and retraining. These prerequisites are essential to ensure that technological progress enhances both commercial competitiveness and social responsibility (Kim & Kim, 2024).

Ultimately, the future of tourism depends on industry stakeholders and policymakers harmonizing innovation with environmental stewardship, creating a sector that is simultaneously competitive and accountable.

CONCLUSIONS

The literature reviewed in this paper indicates that service robots can function as a strategic resource for strengthening the resilience of hotel and tourism businesses, safeguarding service continuity during economic or environmental disruptions (Milohnić & Kapeš, 2024; Xu *et al.*, 2023). Simultaneously, the same body of literature consistently qualifies these benefits: high acquisition and maintenance costs, the risk of reduced social acceptance among both employees and guests, and the recurring need for workforce retraining emerge as persistent, rather than isolated, concerns.

From a managerial perspective, the reviewed studies converge on the view that robots are best suited to repetitive and resource-intensive tasks, whereas direct interpersonal contact with guests continues to require a human presence. From a policy perspective, several authors call for regulatory frameworks that explicitly address the employment and data-protection implications of robotic adoption in hospitality settings (Xu *et al.*, 2023; Park *et al.*, 2025).

Future research directions encompass: (1) comparative studies across regions or types of tourism to evaluate robot acceptance; (2) an investigation of the psychological effects of human-robot interaction in tourism; and (3) the development of hybrid hospitality models wherein technology augments, rather than supplants, human service.

Building on this synthesis, the authors' interpretative position is that robotics in tourism should not be evaluated merely as a technological upgrade, but as a socio-technical development whose contribution to sustainability depends on how it is implemented and governed. The reviewed literature lends some support to hybrid service models, in which robots absorb standardised, resource-intensive tasks while employees retain responsibility for the relational and empathetic dimensions of hospitality (Skubis, 2025; Wu, Park & Chang, 2025); in the authors' reading, this arrangement represents a plausible pathway for reconciling efficiency gains with the experiential and social demands of the sector. This interpretation, however, remains an analytical inference drawn from the sources reviewed rather than an empirically validated finding, and it should be tested through the research directions outlined above. Insofar as robotic waste-sorting and automated recycling systems have been reported to contribute to pollution reduction in specific hotel settings (Acharya & Mahapatra, 2024), and robots in tourism have been explicitly linked in the literature to the UN Sustainable Development Goals and the Tourism Agenda 2030 (Ivanov, Duglio & Beltramo, 2023), this review supports treating robotics as a conditional, rather than universal, enabler of sustainable tourism development – one whose environmental and social value depends on continued investment, appropriate governance, and a deliberate balance between technological innovation and human-centred service (Siddik, 2025).

REFERENCES

Acharya, P., & Mahapatra, S. S. (2024). Exploring the impact of artificial intelligence integration on guest experience in the hotel industry. *GeoJournal of Tourism and Geosites, 54*(2spl), 802–810. https://doi.org/10.30892/gtg.542spl04-1255

Gössling, S., & Mei, X. Y. (2025). AI and sustainable tourism: An assessment of risks and opportunities for the SDGs. *Current Issues in Tourism*. https://doi.org/10.1080/13683500.2025.2477142

Ivanov, S., Duglio, S., & Beltramo, R. (2023). Robots in tourism and Sustainable Development Goals: Tourism Agenda 2030 perspective article. *Tourism Review, 78*(2), 352–360. https://doi.org/10.1108/TR-08-2022-0404

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

Liu, G. G., Benckendorff, P., & Walters, G. (2024). Human–robot interaction research in hospitality and tourism: Trends and future directions. *Tourism Review, 80*(4), 847–870. https://doi.org/10.1108/TR-04-2024-0266

Kim, Y. C., & Kim, D. (2024). Artificial intelligence in The Tourism Industry: Current trends and Future Outlook. *International Journal on Advanced Science, Engineering and Information Technology, 14*(6):1889-1895. https://doi.org/10.18517/ijaseit.14.6.20452

Kwinda, V. Q., & Wakelin-Theron, N. (2025). Customers' satisfaction and adaptations to service robots in a hotel environment. *Tourism and Hospitality Management, 31*(2), 293–306. https://doi.org/10.20867/thm.31.2.10

Mandić, D., Knežević, M., Borovčanin, D., & Vujko, A. (2024). Robotisation and service automation in the tourism and hospitality sector: A meta-study (1993–2024). *GeoJournal of Tourism and Geosites, 55*(3), 1271–1280. https://doi.org/10.30892/gtg.55327-1299

Milohnić, I., & Kapeš, J. (2024). Exploring the barriers and prospects for service robot adoption in the hotel industry: A management perspective. *European Journal of Tourism Research, 38*, 3805. https://doi.org/10.54055/ejtr.v38i.3387

Naranjo, A. L. L. (2025). Artificial intelligence in the tourism business: a systematic review. *Frontiers in Artificial Intelligence, 8:1599391*. https://doi.org/10.3389/frai.2025.1599391

Park, E., & Kim, S.-B. (2024). Service robots in hospitality and tourism before and during COVID-19: Bibliometric analysis and research agenda. *SAGE Open, 14*(2). https://doi.org/10.1177/21582440241258281

Park, M., Andress, D. A., Chang, J. H., Lee, A., & Lee, C. H. (2025). What Drives Hospitality Employees' Trust in Service Robots? *Tourism and Hospitality, 6*(5), 231. https://doi.org/10.3390/tourhosp6050231

Pop, C. M. (2025). Robotics in the travel, tourism, and hospitality sector: A bibliometric review of publications from 2014 to 2023. *Bulletin of the Transilvania University of Brașov, Series V: Economic Sciences, 18*(67)1, 66–86.https://doi.org/10.31926/but.es.2025.18.67.7

Siddik, A. B. (2025). Artificial intelligence as a catalyst for sustainable tourism. *Technological Forecasting and Social Change, 210*, 123875. https://doi.org/10.1016/j.techfore.2024.123875.

Skubis, I. (2025). Exploring the potential and perceptions of social robots in tourism and hospitality: Insights from industry executives and technology evaluation. *International Journal of Social Robotics, 17*(1), 59–72. https://link.springer.com/article/10.1007/s12369-024-01197-z

Song, D., & Chen, H. (2025). Artificial intelligence as a catalyst for sustainable tourism: A case study from China. *Systems, 13*(5), 333. https://www.mdpi.com/2079-8954/13/5/333

Sousa, A. E., Cardoso, P., & Dias, F. (2024). The Use of Artificial Intelligence Systems in Tourism and Hospitality: The Tourists' Perspective. *Administrative Sciences, 14*(8), 165.

Staudt, Y., Mosedale, J., & Ben Dakon, S. (2024). Acceptance of social service robots in the hotel industry. *Marketing Review St. Gallen, 4*1(4), 28–33.

United Nations Secretary-General, & World Commission on Environment and Development. (1987). Report of the World Commission on Environment and Development: Our common future.

United Nations World Tourism Organization (UNWTO). (2022). Sustainable development of tourism: Conceptual definition. UNWTO.

Wang, S., Xu, Q., & Li, J. (2025). Artificial intelligence in tourism: A systematic literature review. *Sustainability, 17*(20), 9080. https://www.mdpi.com/2071-1050/17/20/9080

Wang, J., Tang, Y., Chen, X., & Huang, S. (2026). Overservice backfires: The impact of high robot attentiveness on tourists' discontinuous usage intentions. *Tourism Management, 113*, 105318. https://doi.org/10.1016/j.tourman.2025.105318

Wu, Y., Park, M., & Chang, J. (2025). Navigating employee perceptions of service robots: Insights for sustainable technology adoption in hospitality. *Tourism and Hospitality, 6*(2), 113. https://www.mdpi.com/2673-5768/6/2/113

Xu, J., Hsiao, A., Reid, S., & Ma, E. (2023). Working with service robots? A systematic literature review of hospitality employees' perspectives. *International Journal of Hospitality Management, 113*, 103523. https://doi.org/10.1016/j.ijhm.2023.103523