


# Chapter 11

## Impact of Artificial Intelligence on Employment and Skill Requirements in the Tourism Sector

**Akhilesh**

 <https://orcid.org/0009-0009-4406-7868>

*Assam University, India*

**Pradip Kumar**

 <https://orcid.org/0000-0002-5138-736X>

*Assam University, India*

### **ABSTRACT**

*The rapid advancement and integration of artificial intelligence (AI) technologies are profoundly transforming the tourism sector, presenting both opportunities and challenges for employment and skill requirements. The primary objectives are to analyse the impact of AI on employment, assess changes in skill requirements, and evaluate the benefits and drawbacks of AI adoption. Employing secondary data from scholarly articles, industry reports, and market research, this study provides a nuanced understanding of AI's influence on the tourism sector. The analysis reveals a transformative impact of AI on employment trends, characterised by the displacement of certain job roles and the emergence of new opportunities centred around AI management and technological innovation. Additionally, it emphasizes the evolving skill set required by AI integration and the growing significance of digital literacy, data analysis, and AI proficiency among tourism professionals.*

### **1. INTRODUCTION**

One of the most dynamic and basic sectors in the world economy has been AI-based technologies in the last decade. Chatbots, virtual assistants, enriched data analytics and automated booking systems have been at the core of changing the very concept and delivery of tourism services in modern times. This is a double-edged sword, offering both opportunities and challenges but completely transforming the dynamics of employment and the kind of skills required in the industry. In the tourism sector, AI emerges as a trend rather than a profound evolution that could shape employment patterns. As AI systems evolve to automate routine jobs and business processes, some

DOI: 10.4018/979-8-3693-7447-4.ch011

routine jobs emerge to become obsolete while new demanding technical ones emerge. This would be crucial in understanding these two impacts on the general workforce composition of the tourism sector.

New requirements, particularly in terms of skills and people involved in the tourism business, are driving these changes in employment. AI brings with it some technical skills that had as yet remained on the fringes of the industry. Employees now need to be tech-savvy with AI technologies and constantly upskill and reskill themselves. The challenge is the high skill gap between the current workforce and the demands of the future, which requires specific programs of education and training to be ready for an AI-driven work environment. In addition, advancement in AI applied to tourism brings a combination of benefits and challenges. On the one hand, AI applications bring enormous efficiency and productivity gains into existence, increasing the customer's experience and operational efficiencies. Data privacy, cost of high implementation, and resistance to change are all potential risks and barriers, but at the same time offer numerous benefits with regard to adopting AI. It is therefore very crucial that any stakeholder takes a balanced perspective towards both positive and negative facts in coming up with decisions about investments and strategies for AI. AI implementation has drastically changed the employment trends in the tourism sector. As time goes on, automation of routine, repetitive tasks such as reservation booking and dealing with the customer's enquiries becomes indispensable to maintaining inventory. Most of the time, automation replaces the workers who used to perform these tasks at the workplace. For instance, AI chatbots and virtual agents, which can respond to the customer's enquiries round the clock more quickly and effectively, have replaced most customer representatives who previously relied on phone calls and email correspondences. However, despite their displacement, new job roles are emerging in their place. AI technologies need maintenance, management, and improvement, which has given rise to job roles such as AI specialists, data analysts, and digital transformation managers. These are jobs involved in the development, implementation, and refinement of AI systems to respond to the dynamic needs of the tourism sector. The creation of such new jobs points towards a future in which more specialized technical jobs in the sector will continue to arise.

Some of the job roles in tourism are more susceptible than others to changes in AI-driven technology. That is transformative for any frontline job, such as receptionist, booking agent, or tour guide. For example, AI-enabled concierge service at hotels can provide customer-specific recommendations, simplify checking in with facilities, and provide instant answers to common questions without requiring human intervention. Virtual tour guides use augmented reality to ensure a better visitor experience, thereby reducing the traditional job roles of a physical tour guide. On the other end of the spectrum, jobs requiring high-end problem-solving capabilities with emotional intelligence and human interaction at a personal level remain very unaffected. This category of business also encompasses travel consultants, event planners, and high-end hospitality staff. They always have a high degree of design and require much relevant knowledge of consumer desires and preferences, which AI can never embody. This kind of categorisation throws light on the fact that the impact of AI on employment is selective and mandates a holistic view of workforce planning and development.

Artificial intelligence is increasingly permeating tourism, creating a need for more technical skills. Workers have to familiarise themselves with AI and its application capabilities ranging from data analysis to machine learning and familiarity with AI-based tools, to name just a few. For example, a travel agent would have to engage in customer analysis to enable them to offer recommended customisations via AI systems for better service delivery. Besides, with digital literacy being the core competence, it is imperative to keep track by learning about AI software, digital marketing, and online customer service platforms, among others. Therefore, employees should continuously learn about the latest technological advancements and their practical applications in the tourism industry.

The key challenge that remains with the tourism industry pertains to the skills gap between the current workforce and the needed future requirements. Most of the current employees may not be able to operate with AI technologies in a technically efficient manner. There is a need for the implementation of serious training programs that would give priority to skills development, enhancing, retraining, and reskilling of the workforce. The training programs should cover aspects such as a general introduction to AI, data management, and CRM (customer relationship management) systems coupled with an emphasis on their ethical use. To meet the requirements of the tourism

22 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/impact-of-artificial-intelligence-on-employment-and-skill-requirements-in-the-tourism-sector/378711](http://www.igi-global.com/chapter/impact-of-artificial-intelligence-on-employment-and-skill-requirements-in-the-tourism-sector/378711)

## Related Content

---

### Determinants of the Use of Knowledge Sources in the Adoption of Open Source Server Software

Kris Venand Jan Verelst (2010). *International Journal of Technology Diffusion* (pp. 53-70).

[www.irma-international.org/article/determinants-use-knowledge-sources-adoption/49210](http://www.irma-international.org/article/determinants-use-knowledge-sources-adoption/49210)

### The Effect of Social Support on Post-Adoption of Mobile SNS

Tao Zhou (2017). *International Journal of E-Adoption* (pp. 17-30).

[www.irma-international.org/article/the-effect-of-social-support-on-post-adoption-of-mobile-sns/189192](http://www.irma-international.org/article/the-effect-of-social-support-on-post-adoption-of-mobile-sns/189192)

### The Role of Digital Transformation in the Oil Industry: The Case of Brazilian Subsea Production Systems

Manuel Victor Martins de Matos (2022). *Handbook of Research on Smart Management for Digital Transformation* (pp. 439-461).

[www.irma-international.org/chapter/the-role-of-digital-transformation-in-the-oil-industry/298442](http://www.irma-international.org/chapter/the-role-of-digital-transformation-in-the-oil-industry/298442)

### Scaling of Streaming Data Using Machine Learning Algorithms

Önder Aykurtand Zeynep Orman (2022). *Analyzing Multidisciplinary Uses and Impact of Innovative Technologies* (pp. 172-186).

[www.irma-international.org/chapter/scaling-of-streaming-data-using-machine-learning-algorithms/308974](http://www.irma-international.org/chapter/scaling-of-streaming-data-using-machine-learning-algorithms/308974)

### The Influence of IT-Related Beliefs on Emotional Trust for a Smartphone and Smartphone Continuance Usage: An Empirical Study

Efosa C. Idemudia, Mahesh S. Raisinghaniand Olusola Samuel-Ojo (2013). *International Journal of Technology Diffusion* (pp. 31-48).

[www.irma-international.org/article/the-influence-of-it-related-beliefs-on-emotional-trust-for-a-smartphone-and-smartphone-continuance-usage/94564](http://www.irma-international.org/article/the-influence-of-it-related-beliefs-on-emotional-trust-for-a-smartphone-and-smartphone-continuance-usage/94564)