



The Impact of Artificial Intelligence on the Employment Structure of the Tourism Industry: An Interview with ChatGPT

Yapay Zekân Turizm Sektörünün İstihdam Yapısına Etkisi: ChatGPT ile Bir Söyleşi

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Abstract

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This study aims to investigate the impact of artificial intelligence (AI) on the workforce in the tourism sector, suggest measures that managers and employees can utilize to mitigate the adverse effects of AI, and predict the future of employment in tourism. In the study, the interview technique was used in qualitative research approaches. ChatGPT was used as an interviewer. Eight questions were posed during the interviews using the ChatGPT question screen (<https://chat.openai.com/chat>). The study showed that artificial intelligence (AI) will emerge in fifteen new job positions within tourism. The study revealed that integrating artificial intelligence (AI) in the tourism industry has several advantages for employees, such as enhancing job satisfaction and commitment, making more informed decisions, reducing their workload and burnout, formulating more effective business strategies and service offerings, continuing professional development, discover new career paths, and acquiring practical problem-solving abilities. The study highlighted that AI has potentially adverse effects on employees on subjects, including job displacement, job mismatches, skills gap, reskilling challenges, adopting, creativity, decision-making, workload, burnout, ethical, fairness, job performance, job satisfaction, sense of monotony, career advancement, and identity lost.

Keywords: Tourism, artificial intelligence, ChatGPT, employment.

Öz

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Bu çalışma, yapay zekanın turizm sektöründeki işgücü üzerindeki etkisini araştırmayı, yapay zeka (YZ)'nın olumsuz etkilerini azaltmak için yöneticilerin ve çalışanların yapabilecekleri eylemleri önermeyi ve turizmde istihdamın geleceğini tahmin etmeyi amaçlamaktadır. Çalışmada nitel araştırma yaklaşımlarından görüşme tekniği kullanılmıştır. Görüşmeciler olarak ChatGPT kullanılmıştır. Görüşmeler sırasında ChatGPT soru ekranı kullanılarak sekiz soru yöneltilmiştir (<https://chat.openai.com/chat>). Çalışma, yapay zekanın (YZ) turizmde on beş yeni iş pozisyonunda ortaya çıkacağını göstermiştir. Çalışma, yapay zekanın turizm endüstrisine entegre edilmesinin çalışanlar için iş tatmini ve bağlılığı artırma, daha bilinçli kararlar alma, iş yüklerini ve tükenmişliklerini azaltma, daha etkili iş stratejileri ve hizmet teklifleri formüle etme, mesleki gelişimlerine devam etme, yeni kariyer yolları keşfetme ve pratik problem çözme becerileri kazanma gibi çeşitli avantajları olduğunu ortaya koymuştur. Çalışma, yapay zekanın çalışanlar üzerinde iş değiştirme, iş uyumsuzlukları, beceri açığı, yeniden beceri kazandırma zorlukları, benimsenme, yaratıcılık, karar verme, iş yükü, tükenmişlik, etik, adalet, iş performansı, iş tatmini, monotonluk hissi, kariyer ilerlemesi ve kimlik kaybı gibi konularda potansiyel olarak olumsuz etkileri olduğunu vurgulamıştır.

Anahtar Kelimeler: Turizm, yapay zekâ, ChatGPT, istihdam.

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1. Introduction

The effects of globalization and technological developments in working life create major turning points for the workforce. Digitalizing working life through artificial intelligence and replacing workers with robots is one of these turning points (Misican, 2020: 153). In addition to the ever-increasing global population, futurists predict that the development of artificial intelligence will reduce human employment rates, especially after 2030, because artificial intelligence learns faster than humans and can do things quicker and more accurately (Dengiz et al., 2021: 85). The expansion of robot and AI use is portrayed as disruptive to future jobs for both unskilled and skilled workers/experts. In countries such as the USA, UK, Japan and Australia, employment vulnerability is measured at around generally 35-50%. The extent to which such employment destruction will be accompanied by new positive opportunities and the dimension to which the effects will be purely adverse is open to debate (Boyd and Holton, 2018: 332). Reports published by various institutions and organizations confirm the predictions about replacing labour with artificial intelligence.

A report by the McKinsey Global Institute claims that automation will lead to 400-800 million job losses by 2030. It also states that 75 to 375 million people who lose jobs must change jobs and learn new skills. While the fast-food sector is expected to shrink, there is likely to be more demand for labour in the entertainment and leisure sector as incomes rise (Manyika et al., 2017).

The World Economic Forum's Future of Professions (2020) report claims that by 2025, machines and humans will replace 85 million existing jobs, but 97 million new job roles will emerge. To meet the needs of these emerging new jobs, digital skills must be acquired. Business leaders believe that 40% of workers will need new skills in 6 months or less, and 94% of business leaders want employees to learn new skills on the job. According to the same report, 47% of workers in accommodation and food services are at risk of unemployment (World Economic Forum [WEF], 2020: 5).

According to the Office for National Statistics (ONS) (2019) report in the UK, the risk of automation is higher in low-skilled jobs. High-skilled jobs in tourism occupations have a low risk of automation. Ranking tourism-related professions by risk of automation, waiters/waitresses 72.81%, bar staff 70.66%, kitchen and catering assistants 69.20%, leisure and theme park attendants 66.54%, receptionists 61.83%, housekeepers and related occupations 58.07%, travel agents 51.97%, cleaning and housekeeping managers and supervisors 47.42%, catering and bar managers 47.21%, restaurant and catering establishment managers and proprietors 38.75%, hotel and accommodation managers and proprietors 36.30%, travel agency managers and proprietors 31.65%, leisure and sports managers 31.59% have automation risk.

According to statistical data, artificial intelligence (AI) will impact the tourism workforce. Though recent technological developments and innovations help boost productivity and improve the quality of work, they seem to result in unemployment, which can cause societal inequality. Moreover, education systems must adapt to keep pace with evolving jobs and technologies (Kömürçü et al., 2021: 149). This study aims to investigate the impact of artificial intelligence (AI) on the workforce in the tourism sector, suggest measures that managers and employees can utilize to mitigate the adverse effects of AI, and predict the future of employment in tourism. Discussing the effect and future of artificial intelligence on employment in tourism with ChatGPT answers, which is an intelligence application, constitutes the original site of the study.

2. Literature review

2.1. Artificial Intelligence (AI) and Its Application Areas in Tourism

Artificial Intelligence (AI) is generally described as a machine's capacity to imitate human intelligence behaviour (Aghion et al., 2019: 150). In other words, AI refers to the ability of a system to recognize, interpret, conclude and learn from data to achieve predetermined goals of the

organization and society (Mikalef and Gupta, 2021: 3). AI technologies have started to be implemented in numerous aspects of everyday life, whether consciously perceived by people or not. Artificial intelligence is increasingly becoming integral to human life and the business world. Products integrated with AI are being developed and offered to individuals and enterprises in various fields. So, large corporations are investing considerably in rapidly advancing technical tools such as artificial intelligence, virtual reality, robots, machine learning, autonomous devices, and data processing (Tiftik, 2021: 376). The industrial revolutions that have taken place until today are a result of humanity's desire for progress, development, and expansion, and all industrial processes have enabled the tourism industry to evolve with the technological developments and inventions of that period (Kömürcü et al., 2021: 149).

Tourism businesses have also highlighted technological integration in every field to save their sustainability and increase their preferability. As tourism relies on human labour, companies must apply technology to remain competitive. Otherwise, businesses/sectors unable to respond to changing societal demands will struggle to survive (Atar, 2020: 1642). Within the tourism sector, hotels and airlines initially implemented self-service check-in kiosks followed by smartphone apps, enabling expeditious check-in and booking processes (Kömürcü et al., 2021: 151). Furthermore, tourism can effectively integrate and utilise various technologies, including cloud computing, mobile apps, artificial intelligence, robotics and 3D printing (Topsakal et al., 2018: 1632). Tourism is a sector that requires a high level of labour with substantial labour costs, particularly in accommodation establishments. Moreover, operational processes are intricate, and synthesizing and analysing big data regarding tourists is not simple. Thus, implementing robotics and artificial intelligence is becoming increasingly crucial in tourism (Gursoy, 2018: 187). Furthermore, with the ever-changing consumer requirements and expectations, it is essential to utilise AI and automation solutions to design a more customised and unforgettable experience in tourism (Li et al., 2019: 172). For these reasons, numerous applications supported by AI are utilized within the tourism industry. The applications encompass virtual reality applications (which advertise and provide information by creating a virtual destination and hotel experience), face recognition technology (used in travel-related document handling procedures), artificial intelligence-driven robots (who offer reception and room service), artificial intelligence-driven travel chatbots (which provide simultaneous personal solutions to problems), language translators (which provide simultaneous audio and image-based translations), and audio and video tours (Dumitru, 2023: 3). Huang et al. (2022) identified five main types of AI applications in the tourism industry: search/booking engines, virtual agents/chatbots, robots and autonomous vehicles, kiosks/self-service screens, and AR/VR devices. Allora Hotel Search & Booking Engine, Resy Restaurant Search & Booking Engine, Allset Restaurant Search & Booking Engine, Airbnb Home Research & Booking Engine, and Wayblazer Search & Booking Engine are some actively used search and booking engines. Actively used virtual agency and chatbots can be exemplified as Google Assistant, Amazon Alexa, Chatbot Edward, Macy's on Call, Tacobot, My Starbucks Barista, and Subway Order Bot. Knightscope robots (K Series), Travelmate Autonomous Suitcases, Hilton Concierge Robot "Connie", Domino's Pizza Autonomous Delivery, and Flippy (The Burger-Flipping Robot) are some robots and autonomous vehicles used in tourism. Facial recognition check-in kiosks and Smile to Pay Facial Recognition System are examples of kiosk and self-service screens. Finally, ETIPS AR travel app on smartphones or tablets, In-room AR map on smartphones or tablets, VR travel booking service, VR honeymoon headset and teleporter, AR in-room athlete encounter and AR fine arts Windows are AR/VR technologies actively used in tourism (Huang et al., 2022: 1085-1090).

The utilization of automation and intelligent machines offers various advantages for businesses. Some of these benefits are saving product and labour costs significantly, preventing loss of labour (robots not getting sick, not having children, no annual leave, etc.), increasing productivity with uninterrupted work (7/24, working in dangerous areas, not feeling tired, etc.), making critical decisions with standards without bias, and decreasing of employees' workload (Shaukat et al., 2020: 51). Artificial intelligence-based software offers multiple cost-saving and productivity-optimizing

features, including autonomous cleaning and ventilation, automated inventory tracking and order processing, customer and product profitability analysis through turnover and order analysis, and yield management utilizing machine learning techniques (Bisoi et al., 2020: 4268-4269). Furthermore, improving the accuracy of demand forecasting using artificial intelligence, such as machine learning and neural networks, can substantially boost efficiency in capacity management (Bulchand-Gidumal, 2022:1952). AI is widely applied in tourism improve customer experience (Koo et al., 2021: 8). The most important contribution of artificial intelligence for tourism businesses is to increase the quality of experience by understanding the personal characteristics of guests and providing personalized service (Demir, 2021: 212). AI applications can improve the perceived service quality with new, appealing, and interactive delivery of services and enable hotels to interact engagingly with guests. (Li et al., 2019: 177). Using AI technology, tourists can plan their holidays with the help of intelligent travel assistants and chatbots that cater to their preferences. Moreover, they can communicate and interact with local residents using automatic language translation apps and simultaneous translation systems. Additionally, smart concierges allow guests to enjoy automatic check-ins and check-outs. (Bulchand-Gidumal, 2022: 1951-1955). Furthermore, tourists can view and reserve unoccupied rooms in the vicinity based on the current location and desired price range. Additionally, robots not only offer services to tourists but are also a source of fascination. Ultimately, these advancements are crucial in enhancing the personalized experience, thus fostering high contentment among tourists (Tuo et al. 2021: 90-92).

Bisoi et al. (2020) conducted a SWOT analysis on the effects of artificial intelligence in the hospitality industry. The study identified that the reduction in the need for labour, shortening the waiting time in the service, fast access to service, increased hygiene and cleanliness, and always-on customer support are strengths. Weaknesses include lack of human interaction, AI unfamiliarity of staff and customers, fixing error difficulties, insufficient financial capacity of the business, and misunderstanding between AI and customers/employees. Future human helpers being an element, reducing language/cultural barriers, improving safety and security, creating a better world for introverts, and the anti-social, sustainable development and solution for mass tourism are opportunities. Threats include a lack of job opportunities, the need for high-energy resources, risks related to customer data security, environmental impact, and AI against humanity (Bisoi et al., 2020: 4274).

Regarding the risks of artificial intelligence, Tussyadiah (2020) states that when tourists interact with machines in an unfamiliar tourism destination and in an environment, they have never been to, they may face the risk of losing human contact and social support. Therefore, he emphasizes that this situation may cause psychological problems such as loneliness and anxiety. He also underlines that artificial intelligence may cause privacy issues in terms of security due to the continuous collection of sensitive personal data, including biometric and behavioural data. Demir (2021) also states that the most significant disadvantage and risk of artificial intelligence technologies is to ensure data security. In this context, she emphasizes that creating and maintaining technological infrastructure will financially burden the hospitality industry.

2.2. The Effects of Artificial Intelligence on Employment in Tourism

Technological advancements are making individuals' daily lives more convenient. Simultaneously, technological advancements are compelling businesses to transform across various domains, i.e., work, security, labour, economics, social relations, and psychology (Tiftik, 2021: 376). Technological innovations have a dual effect on employment. The first one is the relocation effect which tends to remove workers from their previous duties. The second one is that it increases the demand for labour (productivity effect) in industries or jobs that have arisen or developed because of technological progress. For instance, following the introduction of automobiles, jobs related to horses have

declined, whereas new jobs have emerged within the motel and fast-food industries (Petropoulos, 2018: 119).

Job losses are expected as numerous professions will become redundant in areas where artificial intelligence takes over. Innovations resulting in decreased production costs will lead to robots taking over an increasing range of manual tasks in manufacturing, packaging, construction, maintenance, and agriculture in new areas. As a result, employees are at risk of facing unemployment during every wave of technological development (Sheikhi, 2022: 102). One of the paradoxes that emerged in the 21st century for tourism employment is that robotization and artificial intelligence will reduce and eliminate many tourism jobs (Baum et al., 2020: 253). Rydzik and Kissoon (2022) found that the extensive adoption of technology-oriented changes in the workplace will widen the gap between the tourism industry's low-paid and low-skilled employees, leading to job losses. Misican's (2020) research findings revealed that human resources experts consider AI a warning signal for the workforce and stress that employees who refuse to embrace change will probably face significant job losses. According to an Organisation for Economic Co-operation and Development (OECD) (2023) report, 60% of finance and manufacturing employees who use AI expressed their concerns over the risk of job losses to AI within the next decade. The rising trend of utilising AI, robots, and other modern technologies in the hospitality sector elevates uncertainty about job security in the work environment (Koo et al., 2021: 8) and leads to increased turnover intention (Khaliq et al., 2022). Furthermore, smart hotels' technological complexity and excessive workload diminish employee energy levels, leading to emotional exhaustion that lowers their performance and commitment to work (Wu et al., 2022).

Research in tourism suggests that AI technologies and robotization decrease performance and increase the perceived sense of job insecurity and intention to leave. According to Koo et al., (2021), AI technologies trigger employees' perceptions of job insecurity, significantly lowering employee engagement and affecting the intention to leave. Aghion et al., (2019) discovered that robotization decreases overall employment at the level of the workforce. According to Vatan and Doğan's (2021) study, employees associate negative emotions with the word "robot" and believe that using service robots will result in a higher unemployment rate in the future. Li et al., (2019) found a significant correlation between employees who possessed a knowledge of AI and robotics and their inclination to leave the company. Moreover, adopting AI could lead to a more competitive work environment and increase employee intention to leave. Malik et al., (2022) and Sayed et al., (2022) concluded that the changes induced by AI and the technostress created by it have a negative impact on job security and the sense of insecurity employees experience in their jobs. According to Prentice et al., (2020), AI negatively affects employee performance and employee-based customer satisfaction.

Using AI applications can harm employees psychologically, such as burnout, lack of belonging, and reduced commitment to the job. As a result, employees may lose motivation, and their intention to leave the organisation may increase. According to Li et al., (2019), using AI robots in the workplace can negatively impact employees' psychological, lead to a lack of attachment, and reduce their dedication to work, potentially prompting them to consider pursuing different career paths. In his conceptual study, İrhan (2021) highlights that artificial intelligence (AI) technology can create job insecurity, affect employees' work expectations, and cause stress, thereby necessitating the introduction of new social policies. According to Fu et al., (2022), service robots cause fatigue in employees due to extra responsibility and excessive workload during use and maintenance and increase anxiety levels due to techno-anxiety/techno-insecurity. Wu et al., (2022) also found that technostress has a negative impact on employee well-being (e.g., commitment and general well-being) and performance. While applying AI technologies in the workplace, a security and privacy action plan needs to be in place. The OECD (2023) report reveals that 57% of employees in finance and manufacturing, who use artificial intelligence tools, worry about privacy.

Improving employees' technological awareness is necessary to avoid psychological damage caused by technology to employees and prevent employees from leaving their jobs. According to

Wang et al., (2022), employees with AI and robotic awareness can regain control over their careers by acquiring task-appropriate skills through active learning, thereby avoiding the psychological problems caused by dismissal or technological incompatibility. Nam et al., (2021) found that hotel industry employees can support the benefits of artificial intelligence and robot technology once they recognize them. Li et al., (2019), Yu et al., (2022), and Khaliq et al., (2022) demonstrate a positive relationship between AI and robotic awareness and the intention of employees to leave their jobs. Kong et al., (2021) also revealed a positive relationship between AI awareness and job burnout. Raising employees' awareness of AI also raises their motivation levels. According to the OECD report (2023), nearly two-thirds (63%) of employees who use AI in finance and manufacturing reported increased enjoyment of their jobs. Nguyen and Malik's (2022) study indicates that high-quality AI services improve employee job satisfaction. AI can also enhance employee well-being and creativity. Liang et al., (2022) discovered that robots boost employee workplace well-being. Qiu et al.'s (2022) research demonstrated that AI significantly lowers the physical and mental fatigue of hotel workers, improves their abilities and favourably affects their positive emotions and well-being. Wang et al. (2022) also found that AI and robotic awareness (AIRA) positively affect employee creativity.

Although there are concerns that AI could lead to unemployment, some believe it may create new employment opportunities (Tschang and Almirall, 2021: 642). Despite causing job losses, digitisation creates new job opportunities (Budak, 2021: 308). According to Sheikhi's (2022) conceptual study, while artificial intelligence may cause unemployment, AI's developmental process will create new professions and fields of expertise, leading to more employment opportunities. It is possible to use artificial intelligence to restructure the manufacturing process is possible, creating new and highly productive labour tasks. This has the potential to result in significant societal benefits by enhancing productivity and increasing demand for labour. Furthermore, this could lead to more inclusive growth and prevent the social issues arising from unemployment and declining wages (Acemoglu and Restrepo, 2020). Moreover, firms that have undergone digital transformation through AI may prefer employment structures that require less unskilled routine work and more high-skilled technical work, albeit with smaller teams (Tschang and Almirall, 2021: 643-644).

The rapid proliferation of technological tools in working life causes the workforce to decrease quantitatively, and their skills are insufficient (Budak, 2021: 287). Adopting automation processes - comprising robots and network systems - in working life has shifted from physical to mental labour (Misican, 2020: 158). Digitization has led to the automation of jobs and tasks that involve low-level, routine skills. This process disadvantages low-skilled workers in ordinary occupations and gives an edge to high-skilled workers (Budak, 2021: 308). According to a study by Aghion et al., (2019), robotization negatively impacts untrained workers more than trained workers. Economic research suggests that automation and IT may displace routine jobs and shift employment towards skilled jobs (Tschang and Almirall, 2021: 643-644). A skilled workforce will be required to manage robotic systems, in particular. Furthermore, human resources engaged in routine tasks in luxury hotels may gain more significance. Luxury hotels can utilize all personnel as a competitive edge since the warmth and personality of human interactions cannot be substituted by technology (Kömürcü et al., 2021: 161).

Digital skills are necessary in the 21st century to integrate individuals into new professions aligned with the fluctuating demand (Budak, 2021: 308). Employees must adapt to new employment patterns to safeguard their jobs in a competitive and unstable market. Developing a skilled workforce is vital to combat AI. New professions require competencies like analytical thinking, continuous self-development, autonomy, flexibility, efficiency, and communication ability (Misican, 2020: 158). Budak (2021) identified the skills necessary to adapt to digital technology changes. These skills encompass analytical thinking and innovation, complex problem-solving, reasoning, leadership, originality and initiative, emotional intelligence, persuasion, use of technology and programming, coordination, and time management. According to Misican (2020), workers must improve their digital skills to keep up with artificial intelligence and job competition. According to the World Economic

Forum (2020), employers will value skills like critical thinking, active learning, flexibility, resilience, and stress tolerance by 2025. In addition, the OECD report (2023) indicates that 40% of companies identify a lack of relevant skills as an obstacle to using AI in the workplace.

New occupations increase the demand for new skills while creating new opportunities for education and training (Budak, 2021: 308). Higher education levels, the principle of lifelong learning, and the necessity of vocational training that aligns with technology trends are redefining the workforce's qualifications. In an era where intelligent factories, the internet of things, cloud computing, and cyber systems are redefining the working environment, workforce qualifications, production organization, work regulations, and educational policies require a transformation (Misican, 2020: 153). Prior studies highlight the need to establish a suitable work environment and develop training programmes to enhance artificial intelligence awareness. Aghion et al., (2019) found that labour market and education policies that are not suitable decrease the positive effect of AI and automation on employment. Kong et al., (2021) recommend designing effective organizational structures or management systems and creating training programs to take advantage of AI. According to Li et al., (2019), training programmes should be established to keep employees up-to-date with technology and improve their skills, along with the organization of social events to make them feel valued. Furthermore, managers should show appreciation to employees, and employees should participate in management decisions. Koo et al., (2021) state that managers should support employees to attain essential skills related to AI technologies. Qiu et al., (2022) emphasize that a supported work environment, which can increase employee well-being and reduce work pressure, can be established by managers to ensure the effectiveness of artificial intelligence applications. Zhao et al., (2022) highlight that AI oversight, as well as supervisor and colleague support positively affect employees' job control, self-efficacy, and self-esteem.

Overall, previous studies reveal that with the spread of artificial intelligence in the tourism sector, many low-paid and low-skilled employees and employees who refuse to embrace change will suffer significant job losses, and many professions will disappear. In addition to unemployment, previous studies have shown that the spread of artificial intelligence has negative effects, such as decreasing performance by increasing uncertainty about job security in the working environment, decreasing work engagement, causing emotional exhaustion, increasing the intention to leave the job, and decreasing job satisfaction. This situation may cause psychological problems by increasing employees' anxiety levels; therefore, people may consider leaving the job and turn to different job options. Previous studies underlined that by improving the technological awareness of employees, the psychological damage caused by technology to employees can be prevented, and employees can be prevented from leaving their jobs. In addition, although there were concerns that artificial intelligence may lead to unemployment, previous studies showed that artificial intelligence can create new areas of employment. So, employees should increase their digital skills by keeping up with technology. Furthermore, studies highlighted that business managers are responsible for ensuring employees have these skills. The previous studies also revealed that managers should organize the work environment to increase employees' well-being and reduce work pressure and organize education programs for employees to improve their technological knowledge and skills. This study aims to investigate the impact of artificial intelligence (AI) on the workforce in the tourism sector, suggest measures that managers and employees can use to mitigate the negative effects of AI, and predict the future of employment in tourism.

3. Method

3.1. Research Model

In this research, the qualitative research method, which is an approach that prioritizes researching and understanding social phenomena in a realistic and holistic framework, was used. In line with the purpose of the research, ChatGPT was used as an interviewer to get information about how artificial

intelligence affects tourism employees and their work, how managers and employees can minimize adverse effects, and ascertain the future of employment in tourism.

3.2. Data Collection Procedures and Ethical Considerations

ChatGPT was used as an interviewer in the study. ChatGPT is an application that uses powerful machine learning software called Generative Pre-trained Transformer (GPT-3), developed by the OpenAI organization. ChatGPT aims to interact via conversation, which includes a series of questions from users and responses from the application (Rospigliosi, 2023). The same method was followed in studies on similar subjects in the field of tourism (Carvalho and Ivanov, 2023; Dwivedi et al., 2023; Erul and Işın, 2023; Fuste-Forne and Orea-Giner, 2023). In this research, where the articles were reviewed through document analysis, no ethics committee approval or legal/special permission was required.

3.3. Instruments

Eight questions were asked on the ChatGPT question screen (<https://chat.openai.com/chat>). In preparing the interview questions, the studies of Misican (2020), Kömürcü et al., (2021) and Malik et al., (2022) were used. The scope and content of the replies to questions posed to ChatGPT in English were repeatedly reviewed until satisfactory. The wording of the questions was carefully considered to ensure reliability across different sessions. The results were compared with previous studies in the discussion and conclusion section. Inferences and suggestions were made in line with the answers given by ChatGPT. Interview questions are:

- Q1. How will artificial intelligence affect employment in tourism?
- Q2. Can artificial intelligence replace humans in serving tourists?
- Q3. Will artificial intelligence create new tourism occupations in the future?
- Q4. What kind of positive effects can the adoption of artificial intelligence in tourism businesses have on employees?
- Q5. What kind of negative effects can the adoption of artificial intelligence in tourism businesses have on employees?
- Q6. What should tourism business managers do for employees to adopt artificial intelligence applications?
- Q7. What should the tourism sector staff do to adapt to artificial intelligence?
- Q8. What studies can tourism academics do to prevent the loss of employment with the effect of artificial intelligence on tourism?

3.2. Data Analysis

Responses from ChatGPT were presented descriptively by tabulating. And inferences and suggestions were made in line with the answers given by ChatGPT.

4. Findings

This heading contains answers to ChatGPT's questions about how AI affects tourism employees and their work and how managers and employees can minimize adverse effects, and ascertain the future of employment in tourism.

Table 1 shows the responses received from ChatGPT regarding the AI effects on tourism employment. According to the ChatGPT response, there are fourteen different AI effects on tourism

employment. These are automation of routine tasks, enhanced customer experience, data analysis and insights, personalization and customization, shift in job roles, demand for new skill sets, creation of new roles, cross-functional collaboration, human-centric skills, training and reskilling, focus on innovation, managing algorithmic bias, tourism analytics experts and growth in tech-enabled tourism startups. Also, ChatGPT underlines that AI has the potential to automate certain tasks and change the nature of some job roles, and create new opportunities, enhance customer experiences, and drive innovation within the tourism industry. And it states that adapting to these changes will require a combination of reskilling, upskilling, and a forward-looking approach to career development.

Table 1. AI Effects on the Tourism Employment

AI Effects	ChatGPT's Responses about AI Effects
Automation of Routine Tasks	- AI can automate repetitive and routine tasks such as booking, reservations, and basic customer inquiries. This could lead to a reduction in certain administrative and clerical roles.
Enhanced Customer Experience	- AI-powered chatbots, virtual assistants, and personalized recommendation systems can improve customer experiences. This might shift the focus of customer service roles toward managing and enhancing AI-driven interactions.
Data Analysis and Insights	- AI can process and analyse large amounts of data to derive insights about customer preferences, behaviours, and market trends. This could lead to increased demand for roles related to data analysis and interpretation.
Personalization and Customization	- AI enables businesses to offer highly personalized services and recommendations, creating opportunities for professionals who can interpret AI-generated data to tailor experiences.
Shift in Job Roles	- Some roles might evolve to require more interaction with AI systems, such as AI trainers or data labellers, while others might transition toward managing and interpreting AI insights.
Demand for New Skill Sets	- The integration of AI could lead to a growing demand for employees with skills in data science, AI management, digital marketing, and other areas related to AI technology.
Creation of New Roles	- As AI adoption increases, new roles such as AI strategy specialists, data scientists, AI ethicists, and AI trainers could emerge.
Cross-Functional Collaboration	- The implementation of AI might encourage collaboration between technical experts and professionals in the tourism industry, leading to hybrid roles that bridge technical and industry knowledge.
Human-Centric Skills	- While AI can handle tasks like data analysis, human skills such as creativity, empathy, complex problem-solving, and cultural understanding will remain crucial.
Training and Reskilling	- To harness the benefits of AI, many employees might need training and reskilling to adapt to new tools, technologies, and responsibilities.
Focus on Innovation	+/- AI-driven innovation might lead to the creation of roles focused on exploring new business models, products, and services.
Managing Algorithmic Bias	- As AI systems become more prevalent, professionals might be needed to ensure they are unbiased and adhere to ethical guidelines, addressing concerns of fairness and discrimination.
Tourism Analytics Experts	- As AI generates large amounts of data, professionals who can analyze, interpret, and translate AI-generated insights into actionable strategies will be valuable.
Growth in Tech-Enabled Tourism Startups	- The integration of AI could foster the growth of startups specializing in AI-powered travel solutions, thereby creating new job opportunities.

Source(s): Table created by author/s.

ChatGPT answered the question of whether AI can replace humans in serving tourists under two headings: areas where it can enhance or change human roles (Table 2) and areas where human interaction will continue to be important (Table 3). ChatGPT states that AI has the potential to enhance and even replace certain aspects of human service in the tourism industry. Table 2 illustrates the responses from ChatGPT regarding the potential of AI to replace or enhance human roles in serving tourists. According to ChatGPT's response, there are six potential areas. These are customer support and queries, language translation, recommendations and personalization, booking and reservation management, data analysis, and virtual tours and experiences.

Table 2. The Potential of AI to Replace or Enhance Human Roles in Serving Tourists

AI Potential Roles	ChatGPT's Responses about AI Potential Roles
Customer Support and Queries	- AI-powered chatbots can provide quick responses to common queries and assist tourists in finding information about bookings, destinations, and services. This helps improve efficiency and provides 7/24 support.
Language Translation	- AI-driven translation tools can help overcome language barriers, facilitating communication between tourists and locals. Real-time translation apps or devices can assist with basic conversations.
Recommendations and Personalization	- AI algorithms can analyse vast amounts of data to offer personalized travel recommendations based on individual preferences, previous behaviours, and current trends.
Booking and Reservation Management	- AI systems can automate the booking process, manage reservations, and even suggest alternative options based on availability and user preferences.
Data Analysis	- AI can process large datasets to identify travel trends, consumer behaviour, and market insights. This information can guide businesses in making informed decisions.
Virtual Tours and Experiences	- AI-powered virtual reality (VR) and augmented reality (AR) technologies can offer immersive virtual tours of destinations, museums, and attractions, providing an alternative when physical visits are not possible.

Source(s): Table created by author/s.

ChatGPT highlights that while AI can handle specific tasks efficiently, there are still areas where human interaction and expertise remain crucial. Table 3 exhibits the responses from ChatGPT regarding where human interaction remains essential to serving tourists. According to the ChatGPT response, six different factors make still human interaction important. These are emotional intelligence, complex problem-solving, cultural understanding, personal connections, unstructured environments and emergency situations.

Table 3. Functions Where Human Interaction Remains Essential in Serving Tourists

Human Roles	ChatGPT's Responses about Human Roles
Emotional Intelligence	- Humans possess emotional intelligence that allows them to understand and respond to the nuanced emotions and needs of tourists. - Empathy, compassion, and adaptability are difficult for AI to replicate.
Complex Problem Solving	- Unforeseen issues and complex problems may arise during travel. - Human staff are better equipped to handle these situations, employing critical thinking and creativity.
Cultural Understanding	- Interactions with locals often require cultural sensitivity and understanding, which humans are better at than AI. - Human interactions can lead to more authentic and meaningful experiences.
Personal Connections	- Tourism often involves building personal connections, sharing stories, and creating memorable experiences. - These aspects of travel are best facilitated by humans.
Unstructured Environments	- AI can struggle in unstructured or dynamic environments where unexpected events occur. Human staff can adapt to changing circumstances more effectively.
Emergency Situations	- In cases of emergencies or urgent situations, human staff are better suited to provide immediate assistance and make judgment calls.

Source(s): Table created by author.

Table 4 demonstrates the potential new tourism occupations in the future. According to ChatGPT's responses, AI will create fifteen new tourism occupations. These are AI tour experience designers, AI travel advisors, AI-enhanced destination managers, AI ethicists and fairness officers, AI-powered sustainability consultants, AI-enabled cultural ambassadors, AI-driven accessibility coordinators, AI tourism innovators, AI-based customer interaction specialists, AI tourism data analysts, AI-powered event planners, AI-integrated travel journalists, AI-enhanced culinary innovators, AI-assisted tourism educators and AI tourism data privacy officers. ChatGPT underlines that, as AI increasingly integrates into various aspects of travel and hospitality, individuals with the right skills and expertise will be well-positioned to take advantage of these exciting opportunities.

Table 4. The Potential New Tourism Occupations in Future

Potential New Tourism Occupations	ChatGPT’s Responses about the Potential New Tourism Occupations in Future
AI Tour Experience Designers	- Professionals who specialize in creating AI-driven, personalized tour experiences that incorporate virtual reality (VR), augmented reality (AR), and interactive storytelling.
AI Travel Advisors	- Experts who leverage AI algorithms to curate and recommend personalized travel itineraries based on travellers’ preferences, budgets, and historical data.
AI-Enhanced Destination Managers	- Individuals responsible for using AI to manage and optimize the flow of tourists in popular destinations, ensuring a smoother and more efficient visitor experience.
AI Ethicists and Fairness Officers	- Specialists who focus on the ethical considerations of AI use in the tourism sector, addressing concerns such as bias, discrimination, and privacy.
AI-Powered Sustainability Consultants	- Professionals who use AI to analyse environmental data and provide insights to enhance sustainable practices within the tourism industry.
AI-Enabled Cultural Ambassadors	- Individuals who bridge cultural gaps by using AI-powered translation and interpretation tools to facilitate communication between tourists and locals.
AI-Driven Accessibility Coordinators	- Experts who employ AI solutions to ensure that travel experiences are inclusive and accessible to individuals with disabilities.
AI Tourism Innovators	- Innovators who constantly explore and test new AI applications to enhance various aspects of the travel and hospitality industry.
AI-Based Customer Interaction Specialists	- Professionals who oversee the integration and management of AI-powered customer service platforms, ensuring seamless interactions and resolving complex issues.
AI Tourism Data Analysts	- Data analysts who specialize in analysing AI-generated data to identify emerging trends, consumer preferences, and market opportunities.
AI-Powered Event Planners	- Experts who use AI to plan and manage large-scale events, conferences, and festivals, optimizing logistics and attendee experiences.
AI-Integrated Travel Journalists	- Journalists who use AI-generated insights to create travel content that provides readers with up-to-date information, recommendations, and insights.
AI-Enhanced Culinary Innovators	- Culinary experts who use AI to develop innovative recipes and food experiences, combining traditional flavours with AI-generated concepts.
AI-Assisted Tourism Educators	- Educators who incorporate AI technologies into tourism and hospitality education, providing students with practical experience in using AI tools.
AI Tourism Data Privacy Officers	- Professionals who ensure compliance with data privacy regulations and policies when using AI technologies to collect and analyse customer data.

Source(s): Table created by author/s.

Table 5 shows findings about AI's positive effects on tourism employees. According to ChatGPT's responses, AI has fifteen positive effects on tourism employees. These are task automation and efficiency, enhanced decision-making, improved customer experiences, reduced workload and burnout, increased personalization, data-driven insights, upskilling opportunities, innovative roles and responsibilities, efficient problem-solving, cross-functional collaboration, enhanced work-life balance, fostering innovation, ethical and social impact roles, competitive edge and growth and personal development. ChatGPT highlights that by emphasizing the positive impacts of AI adoption and providing the necessary support, training, and resources, tourism businesses can create an environment where employees can embrace AI as a tool that enhances their roles and contributes to their overall job satisfaction and professional growth.

Table 5. AI’s Positive Effects on Tourism Employees

AI Positive Effects on Tourism Employees	ChatGPT’s Responses about AI Positive Effects on Tourism Employees
Task Automation and Efficiency	- AI can automate routine and mundane tasks, freeing up employees to focus on more creative, strategic, and meaningful aspects of their roles. This can lead to increased job satisfaction and engagement.
Enhanced Decision-Making	- AI can provide employees with data-driven insights and recommendations, enabling more informed decision-making and reducing the reliance on guesswork.
Improved Customer Experiences	- AI-powered tools like chatbots and personalization algorithms can enhance customer interactions, leading to more positive customer experiences and improved job satisfaction for employees who work in customer-facing roles.
Reduced Workload and Burnout	- By automating repetitive tasks, AI can alleviate the burden of excessive workloads, helping to prevent burnout and allowing employees to focus on higher-value tasks.
Increased Personalization	- AI can help create personalized experiences for customers, allowing employees to tailor services and recommendations to individual preferences, leading to more meaningful interactions.
Data-Driven Insights	- AI can analyse large amounts of data to identify trends, patterns, and customer preferences. This empowers employees with valuable insights that can guide business strategies and improve service offerings.
Upskilling Opportunities	- The adoption of AI often necessitates new skills. Businesses can provide employees with opportunities for upskilling and reskilling, enhancing their professional growth and adaptability.
Innovative Roles and Responsibilities	- AI adoption can lead to the creation of new job roles centred around AI strategy, implementation, and management. This can offer employees the chance to explore new career paths.
Efficient Problem-Solving	- AI can assist employees in quickly identifying and resolving issues, contributing to faster and more efficient problem-solving processes.
Cross-Functional Collaboration	- AI implementation might require collaboration across different departments, fostering a culture of teamwork and knowledge sharing among employees.
Enhanced Work-Life Balance	- As AI handles routine tasks, employees might experience improved work-life balance and have more time to dedicate to personal interests and activities.
Fostering Innovation	- AI adoption encourages employees to think creatively about how AI can be applied to different aspects of the business, fostering a culture of innovation.
Ethical And Social Impact Roles	- Businesses adopting AI often need employees to manage ethical considerations, data privacy, and societal impacts. This creates opportunities for roles focused on responsible AI deployment.
Competitive Edge and Growth	- Companies that effectively integrate AI can gain a competitive edge in the market. Employees working for innovative businesses can feel a sense of pride and contribute to the company's growth.
Personal Development	- Adapting to AI fosters a growth mindset among employees, encouraging continuous learning and personal development.

Source(s): Table created by author/s.

Table 6 illustrates the responses from ChatGPT regarding AI’s negative effects on tourism employees. ChatGPT's response shows AI has twelve negative effects on tourism employees. These are job displacement and insecurity, skills gap and reskilling challenges, resistance to change, reduced human interaction, loss of creativity and decision-making, increased workload and burnout, algorithmic bias and fairness concerns, lack of training and support, loss of job satisfaction, privacy and data security concerns, reduced career advancement opportunities and impact on traditional roles. ChatGPT underlines that to mitigate these negative effects; businesses must take a proactive approach by providing transparent communication, offering training and upskilling opportunities, involving employees in AI adoption decisions, ensuring ethical AI practices, and focusing on the human aspects of work that AI cannot replace, such as creativity, empathy, and critical thinking. It also states that it's important to monitor the effects of AI adoption on employees and make adjustments as needed to maintain a healthy work environment.

Table 6. AI’s Negative Effects on Tourism Employees

AI Negative Effects on Tourism Employees	ChatGPT’s Responses about AI Negative Effects on Tourism Employees
Job Displacement and Insecurity	- One of the primary concerns is the fear of job displacement. As AI automates routine and repetitive tasks, employees in roles that involve those tasks might face job insecurity or even job loss.
Skills Gap and Reskilling Challenges	- The introduction of AI might require employees to learn new skills or adapt to changing job requirements. - Not all employees may be able to upskill quickly, leading to a skills gap and potential job mismatches.
Resistance To Change	- Employees might resist the integration of AI due to the fear of the unknown, concerns about job security, or simply being uncomfortable with new technologies.
Reduced Human Interaction	- AI-powered chatbots and automation could lead to reduced opportunities for personal interaction with customers, which might affect job satisfaction for employees who value customer relationships.
Loss of Creativity and Decision-Making	- AI's ability to analyse data and make decisions might lead to employees feeling that their creative and decision-making autonomy is being diminished.
Increased Workload and Burnout	- In the early stages of AI integration, there might be a need for employees to manage AI systems, leading to an increased workload and potential burnout if not managed properly.
Algorithmic Bias and Fairness Concerns	- If AI systems are not properly designed and monitored, they can exhibit bias in decision-making, which can lead to fairness and ethical concerns for employees and customers.
Lack of Training and Support	- If employees are not provided with adequate training and support for using AI tools, they might feel frustrated and overwhelmed, affecting their job performance and satisfaction.
Loss of Job Satisfaction	- Employees who find fulfilment in tasks that are automated by AI might experience a decrease in job satisfaction or a sense of monotony.
Privacy And Data Security Concerns	- Employees might worry about the collection and use of their personal data by AI systems, leading to concerns about privacy and data security.
Reduced Career Advancement Opportunities	- As AI takes over certain tasks, employees might have fewer opportunities to showcase their skills and stand out, potentially affecting their chances of career advancement.
Impact On Traditional Roles	- Some traditional roles that have been core to the tourism industry might be impacted, leading to a sense of identity loss for employees in those roles.

Source(s): Table created by author/s.

Table 7 exhibits the responses from ChatGPT regarding steps tourism business managers can take to facilitate adopting AI applications among their employees. ChatGPT's response shows twelve different applications to facilitate adopting AI among employees. These are providing clear communication and education, involving employees in the process, offering training and skill development, highlighting AI as a supportive tool, fostering a learning culture, creating champions and mentors, starting small and scaling up, measuring and showcasing success, providing open channels for feedback, addressing job role evolution, emphasizing human-centric roles and offering support and assistance. ChatGPT emphasizes that successful AI adoption is not just about implementing technology but also about creating a supportive environment where employees feel empowered and equipped to leverage AI for the betterment of the business and their own professional growth.

Table 7. Facilitation Activities for Tourism Employees to Adopt AI

AI Facilitation Activities	ChatGPT's Responses about AI Facilitation Activities
Provide Clear Communication and Education	<ul style="list-style-type: none"> - Begin by explaining the benefits of AI adoption, including how it can enhance efficiency, customer experiences, and job roles. - Educate employees about what AI is, how it works, and its potential applications in the tourism industry. - Address any misconceptions or concerns employees may have about AI and its impact on their roles.
Involve Employees in The Process	<ul style="list-style-type: none"> - Involve employees in the decision-making process by seeking their input and feedback on the AI applications that will be implemented. - Collaboratively identify pain points that AI can address and opportunities for improvement.
Offer Training and Skill Development	<ul style="list-style-type: none"> - Provide comprehensive training programs that teach employees how to use and interact with the AI applications. - Offer both basic and advanced training sessions to cater to employees with varying levels of technical proficiency. - Emphasize the benefits of acquiring new skills that align with the evolving technology landscape.
Highlight AI As a Supportive Tool	<ul style="list-style-type: none"> - Emphasize that AI is meant to assist employees, not replace them. Make it clear that AI will handle routine tasks, freeing up employees to focus on more strategic and creative aspects of their roles.
Foster A Learning Culture	<ul style="list-style-type: none"> - Cultivate a culture of continuous learning and improvement to encourage employees to embrace new technologies like AI. - Provide resources and platforms for employees to access learning materials related to AI and its applications.
Create Champions and Mentors	<ul style="list-style-type: none"> - Identify employees who are enthusiastic about AI and its potential benefits. These individuals can serve as AI advocates and mentors to their colleagues. - Encourage knowledge sharing and peer support among employees to facilitate a smoother adoption process.
Start Small and Scale Up	<ul style="list-style-type: none"> - Begin with pilot projects or smaller AI implementations to demonstrate the value of AI in practical scenarios. - Once employees see positive results, they are more likely to embrace larger AI initiatives.
Measure and Showcase Success	<ul style="list-style-type: none"> - Establish key performance indicators (KPIs) to measure the impact of AI on various aspects of the business, such as efficiency, customer satisfaction, and revenue. - Share success stories and case studies highlighting how AI has positively affected the business and its employees.
Provide Open Channels for Feedback	<ul style="list-style-type: none"> - Create an environment where employees feel comfortable providing feedback on their experiences with AI applications. - Use this feedback to make continuous improvements and address any concerns or challenges.
Address Job Role Evolution	<ul style="list-style-type: none"> - Help employees understand how their roles might evolve with the introduction of AI. Highlight new responsibilities and opportunities that AI can create.
Emphasize Human-Centric Roles	<ul style="list-style-type: none"> - Emphasize the importance of human skills like creativity, empathy, critical thinking, and complex problem-solving that complement AI capabilities.
Offer Support and Assistance	<ul style="list-style-type: none"> - Establish a support system that employees can turn to when they encounter difficulties or have questions related to the AI applications

Source(s): Table created by author/s.

Table 8 demonstrates actions tourism employees can take to adjust to AI technologies effectively. ChatGPT's response shows sixteen applications for tourism sector staff to adapt to AI technologies effectively. These are staying informed, understanding AI basics, identifying relevance, embracing lifelong learning, enhancing digital literacy, collaborating with AI tools, upskilling and reskilling, adopting a problem-solving mindset, engaging in cross-functional learning, seeking feedback and supporting, experimenting and testing, staying adaptable, fostering soft skills, staying ethical and responsible, monitoring AI performance and embracing continuous learning. ChatGPT states adapting to AI in the tourism sector requires a proactive approach from staff. And ChatGPT highlights tourism sector staff can position themselves for success in an AI-enabled industry while contributing to their personal and professional growth.

Table 8. Actions that Tourism Employees can Take to Adjust to AI Technologies Effectively

AI Adoption Actions	ChatGPT's Responses about AI Adoption Actions
Stay Informed	- Keep up-to-date with AI trends, advancements, and their implications for the tourism industry by following industry news, attending webinars, and participating in relevant forums.
Understand AI Basics	- Familiarize yourself with the fundamental concepts of AI, machine learning, and data analytics. This will help you better understand how AI can be applied in your role.
Identify Relevance	- Explore how AI can enhance your specific job functions. Identify tasks that can be automated, optimized, or augmented with AI tools.
Embrace Lifelong Learning	- Adopt a growth mindset and be open to learning new skills. Seek out resources, courses, and workshops that teach AI-related skills and technologies.
Enhance Digital Literacy	- Develop your proficiency with digital tools and platforms. Comfort with technology will help you work alongside AI systems effectively.
Collaborate With AI Tools	- Embrace AI as a tool that complements your skills. Learn how to work with AI-driven software and applications relevant to your role.
Upskill and Reskill	- Take advantage of training opportunities provided by your organization to acquire AI-related skills. Upskilling may involve enhancing existing skills, while reskilling might involve learning entirely new ones.
Adopt A Problem-Solving Mindset	- Approach AI as a solution to challenges. Identify how AI can help solve problems in your role or department.
Engage In Cross-Functional Learning	- Collaborate with colleagues from different departments to learn how AI is being applied across the organization. This can spark new ideas and foster a culture of innovation.
Seek Feedback and Support	- Don't hesitate to ask questions and seek guidance from colleagues who are familiar with AI. Building a network of support can make the learning process smoother.
Experiment And Test	- Take the initiative to explore AI tools and platforms relevant to your role. Experiment with their functionalities and assess how they could improve your workflow.
Stay Adaptable	- Be open to changes in your job role as AI is integrated. Embrace opportunities to learn and adapt as AI technologies evolve.
Foster Soft Skills	- While AI can handle tasks, human skills like communication, creativity, empathy, and critical thinking remain essential for effective collaboration and customer interactions.
Stay Ethical and Responsible	- Understand the ethical considerations surrounding AI, including data privacy, security, and algorithmic biases. Ensure your use of AI aligns with ethical standards.
Monitor AI Performance	- Keep track of how AI impacts your work. Assess whether AI solutions are delivering the expected results and identify opportunities for improvement.
Embrace Continuous Learning	- AI technology evolves rapidly. Regularly update your knowledge and skills to stay relevant in a changing landscape.

Source(s): Table created by author/s.

5. Discussion and Conclusion

Artificial Intelligence (AI) is expected to significantly affect the tourism industry's employment, reshaping roles and creating new opportunities (Budak, 2021: 308; Tschang and Almirall, 2021: 642). AI has the potential to automate tasks, alter job roles, create new opportunities, and enhance customer experiences in tourism (Acemoglu and Restrepo, 2020; Sheikhi, 2022). The tourism industry anticipates automation of routine tasks, employment shift towards AI-based chatbots/assistants and personalized suggestion systems for customer service, generating new job opportunities for customer data analysis and amalgamation, and a surge in technology-endorsed individual tourism ventures. Moreover, it is estimated that there will be a need for professionals who can interpret the personalized service proposals offered by artificial intelligence, new roles for managing artificial intelligence data and digital marketing, hybrid roles that will enable collaboration between AI technologists and tourism professionals, and new roles for developing AI innovation and innovative business models. Furthermore, the impartial, safe, and fair application of AI at workplaces necessitates the creation of employment opportunities for fields such as ethics and tourism analytics experts.

Adapting to changes requires reskilling, upskilling and a forward-looking career approach (Budak, 2021: 308; Misican, 2020: 158). Tourism can derive benefits from artificial intelligence, but there are limits to its ability to replace human-based service. While AI can automate and enhance

various aspects of serving tourists, there are fundamental qualities of human interaction that AI cannot entirely replicate. Enterprises can leverage these qualities to gain a competitive advantage (Kömürcü et al., 2021: 161). AI automation and the human touch must be balanced to provide efficient service and authentic tourist experiences. AI has the potential to transform or improve human roles significantly. For example, it can provide faster and 24/7 information flow using AI-powered chatbots, enable real-time interactions between tourists and locals through AI-powered translation tools, and create tailored travel experiences using AI algorithms. Furthermore, AI impacts human roles by automating reservations and providing virtual tour experiences that use AR and VR technologies. Nonetheless, human-tourist interaction will persist because employees possess the skills to comprehend and empathise with tourists' needs, generate innovative solutions for complex and unpredictable problems, and display dynamic adaptability to changes while providing urgent assistance during emergencies. Furthermore, given the significance of human-tourist interactions in the tourism industry and employees' cultural sensitivity and understanding, it is necessary to maintain human contact.

Artificial intelligence (AI) adoption in the tourism industry will likely create novel and innovative jobs in the future. As AI technology advances, prospects arise for seemingly impossible or unnecessary roles. AI will bring into existence fifteen new job positions within tourism. These include AI tour experience designers, AI travel advisors, AI-enhanced destination managers, AI ethicists and fairness officers, AI-powered sustainability consultants, AI-enabled cultural ambassadors, AI-driven accessibility coordinators, AI tourism innovators, AI-based customer interaction specialists, AI tourism data analysts, AI-powered event planners, AI-integrated travel journalists, AI-enhanced culinary innovators, AI-assisted tourism educators, and AI tourism data privacy officers. ChatGPT underlines that as AI is more frequently integrated into various aspects of travel and hospitality, individuals with the right expertise and skills will have a more significant advantage to leverage these exciting prospects. With AI being more commonly integrated into various aspects of travel and hospitality, those individuals with the right skills and expertise will be in a better position.

Integrating artificial intelligence (AI) in the tourism industry has several employee advantages. AI enhances job satisfaction and commitment by enabling employees to focus on their roles' more creative, strategic, and meaningful aspects. Furthermore, artificial intelligence enables employees to make informed decisions, provide better customer service, reduce workload and burnout, formulate more effective business strategies and service offerings, continue professional development, discover new career paths, and acquire practical problem-solving abilities. In addition, AI enhances the culture of information sharing and collaboration between departments, reduces workload, promotes a balanced work-life, fosters innovation in the organization, promotes organizational loyalty, and encourages employees' continuous learning and development. Previous studies showed that increased awareness of AI has significant effects on employees. Studies have shown that increased awareness of AI and robotics enhances creativity (Wang et al., 2022), job satisfaction (Nguyen and Malik, 2022), workplace well-being (Liang et al., 2022), and pleasure from work (OECD, 2023), while reducing physical and mental fatigue (Qiu et al., 2022).

While adopting artificial intelligence (AI) in tourism businesses can provide numerous benefits, it is essential to recognize that it can also negatively impact employees. The potential adverse effects of AI include employees' fear of job displacement, job mismatches, skills gap, reskilling challenges, reservations in adopting the unknown, dissatisfaction from reduced personal interaction with clients, concerns for lost creativity and decision-making, increased workload and burnout, ethical and fairness concerns, decreased job performance due to inadequate training and support, loss of job satisfaction, sense of monotony, and apprehensions regarding data privacy and security, fewer opportunities for career advancement, and sense of identity lost. Previous studies showed that AI reduces the sense of workplace belonging and dedication (Li et al., 2019), triggers job security anxiety and stress (İrhan, 2021), increases workload and causes technostress and techno-anxiety (Fu et al., 2022), affects

employees' well-being and performance negatively (Wu et al., 2022), increases the perception of job insecurity and intention to turnover (Koo et al., 2021), and increases job risk and insecurity (Malik et al., 2022; Sayed et al., 2022). Wang et al., (2022) recommended increasing employees' awareness to prevent employee turnover and the psychological damage of the technology on employees. Prior studies showed that AI awareness positively correlated with resistance to change (Nam et al., 2021), turnover intention (Khaliq et al., 2022; Li et al. 2019; Yu et al. 2022), and job burnout (Kong et al., 2021).

Tourism business managers to facilitate the adoption of artificial intelligence by employees, can explain the benefits of AI adoption, educate employees about what AI is, how it works, and its potential, and involve employees in the decision-making process. They should also address misunderstandings and concerns and provide skill development programs. Tourism managers must also encourage a learning culture and provide employees with resources and platforms. They should identify mentors, commence with pilot projects, establish key performance indicators (KPIs), give open channels for feedback, portray new opportunities and responsibilities that AI can create, highlight the importance of human-centric roles, and establish a support and assistance system. According to the literature, organizing training programs for AI awareness (Misican, 2020: 153), designing an effective organizational structure or management system (Kong et al., 2021), supporting and encouraging employees by managers (Koo et al., 2021), and creating a good working environment for increasing the well-being of employees (Qiu et al., 2022) is recommended.

Taking a proactive approach is pivotal for tourism sector employees to adapt to artificial intelligence (AI) in the industry. Tourism sector staff who want to adapt to AI technologies effectively can keep up-to-date with AI trends and advancements, familiarize themselves with the fundamental concepts of AI, explore how AI can enhance their specific job functions, and embrace lifelong learning. Besides, they should also enhance their proficiency with digital tools and platforms, learn to operate AI-driven software and applications that are pertinent to their roles, acquire AI-related skills, consider AI as a solution to challenges, and participate in cross-functional learning. Moreover, employees can better adapt to AI by seeking feedback and support for AI, exploring AI functionalities, being open to changes in their job role as AI is integrated, keeping track of how AI impacts their work, and embracing continuous learning. The literature emphasizes that employees should strengthen their digital skills to fight artificial intelligence (Misican, 2020). Budak (2021) states that for employees to adapt to digital technological changes, they need to gain analytical thinking and innovation, complex problem-solving, reasoning, leadership, originality and initiative, emotional intelligence, persuasion, technology use and programming, coordination and time management skills. Furthermore, the World Economic Forum Report declares that employers think that skills such as critical thinking and analysis, active learning, flexibility, resilience, and stress tolerance will gain importance (OECD, 2023).

This study is limited to questions and responses directed to ChatGPT on the impact of artificial intelligence on employment in the tourism industry. ChatGPT's responses show that future studies are needed, particularly about ethical, privacy, and human-centric skills. Additionally, ChatGPT was asked about the topics that tourism academics should study to minimise loss of employment resulting from the influence of AI on tourism. Research is needed to identify the most vulnerable roles to automation and those likely to be resilient, skills mapping and training programmes, models for human-AI collaboration, and ethical implications and possible inequalities of AI adoption. Moreover, tourism academicians can explore the development of new value-added services, the application of AI to enhance the overall tourist experience, responsible AI implementation, job transition strategies, and government and industry collaboration in forming policies for AI adoption. In addition, there is a need for case studies and success stories, cross-disciplinary research to gain a holistic understanding, and predictive models for workforce planning.

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