

THE ROLE OF ARTIFICIAL INTELLIGENCE IN SHAPING THE FUTURE OF TRAVEL INDUSTRY: AN EXPERT ANALYSIS OF ARTIFICIAL INTELLIGENCE-GENERATED TRAVEL ITINERARIES

Anđelka ŠTILIĆ^a, Adis PUŠKA^b, Miloš NIDIĆ^c

^a Academy of Applied Studies Belgrade, The College of Tourism, Belgrade, Serbia, andelka.stilic@assb.edu.rs

^b Government of Brčko District, Department of Public Safety, Brčko, Bosnia and Herzegovina, adispuska@yahoo.com

^c Academy of Applied Studies Belgrade, The College of Tourism, Belgrade, Serbia, milos.nidic@assb.edu.rs

Cite this article: Štilić, A., Puška, A., Nidić, M. (2024). The Role of Artificial Intelligence in Shaping The Future of Travel Industry: An Expert Analysis of Artificial Intelligence-Generated Travel Itineraries. *Deturope*. 16(2), 57-79.

Abstract

This research aims to assess the acceptability of AI-generated Travel Itineraries (AITIs) in the tourism sector and investigate the factors that influence their perception and use. The research involved gathering expert knowledge through direct and indirect observation of AITIs. The majority of experts found AITIs to be acceptable, expressing high levels of satisfaction with itinerary organization and suggested activities. However, experts highlighted that AITIs could be improved with more personalized information and cultural experiences. The research contributes to the growing body of academic literature on AI in the tourism industry by emphasizing the importance of high-quality, trustworthy information and the integration of cultural and personal factors to create customized and memorable travel experiences. The findings highlight the relevance of aligning AITIs with the United Nations Sustainable Development Goals (SDGs), particularly those related to innovation, sustainability, and ethical practices. The research offers insights that are valuable for tourism practitioners and policymakers in developing improved products and services that meet the evolving needs of travelers.

Keywords: tourism, SDGs, expert analysis, contemporary ICT, AI, GPT, chatbot

INTRODUCTION

The tourism industry has witnessed a profound transformation in recent years, driven by the increase of new technologies and the emergence of innovative products and services (Štilić et al., 2022). Information technologies are widely recognized as valuable tools for enhancing various aspects of tourism, including online travel intermediaries, virtual tourism experiences, and the integration of robotics (Sujood et al., 2023). In alignment with the United Nations' "The 2030 Agenda for Sustainable Development" (United Nations, 2015) and its promoted Sustainable Development Goals (SDGs) (Marino, 2022), particularly those related to

sustainable economic growth, innovation, and responsible consumption (Arslan & Kekeç, 2023), this dynamic shift within the industry encompasses several research clusters, including the technological aspects of Artificial Intelligence (AI), the acceptance of AI technology, consumer perceptions, and future trends. Over time, the research focus in this field has transitioned from the early stages of AI technology (Mah, 2022) to an exploration of consumer attitudes and the acceptance of AI (Kong et al., 2022). Simultaneously, technological advancements such as AI-powered chatbots (Hicham et al., 2023) and automation are significantly reshaping the landscape of the tourism industry (Pillai & Sivathanu, 2020; Tussyadiah, 2020; Rafiq et al., 2022).

One notable innovation within the tourism sector is the introduction of Artificial Intelligence-generated Travel Itineraries (AITIs), designed to serve as valuable tools for assisting busy tourism agents and providing a foundational starting point for the creation of tailored itineraries (Rozalia Gabor et al., 2023). These AITIs offer to provide personalized, efficient, and cost-effective travel experiences by automating the itinerary planning process for industry professionals. Moreover, AITIs have the potential to contribute to the SDGs by promoting sustainable tourism practices (Abdinematabad et al., 2024) and reducing the environmental impact of travel through more efficient planning and resource utilization.

However, despite the rapidly growing popularity of AITIs and the increasing integration of AI-driven solutions in the tourism domain, there exists a notable research gap regarding the expert evaluation of AITIs and their potential enhancements. Expert evaluation comes before user (tourist) evaluation and real-world implementations in this knowledge-driven process of employing AI in the tourism sector. This establishes the fundamental knowledge that will drive future industry advancements.

To address the research gap more explicitly, it is imperative to examine the expert evaluation of AITIs and explore the complex factors that influence their assessment and potential improvements. This research aims to fill this gap in our understanding of AI applications within the tourism industry, recognizing that knowledge and expertise lay the foundations for successful practical implementations. The insights garnered from this investigation are certain to have far-reaching implications for both tourism practitioners and policymakers, particularly in supporting the SDGs related to innovation, infrastructure, and responsible consumption. By systematically exploring the elements that shape experts' evaluations and potential enhancements of AITIs, the tourism sector can develop improved products and services that are better aligned with industry standards and traveler expectations.

Furthermore, the purpose of this research is to provide insights into the potential of AI to improve the travel experience for travelers. As the tourism industry evolves, it is critical to investigate new technologies and innovative products and services that have the potential to enhance the travel experience. In line with the SDGs, the research seeks to contribute to the development of sustainable and innovative products and services in the tourism industry by better understanding the acceptability of AITIs.

This research is guided by a set of specific research questions tailored to expert evaluation:

To what extent do experts find AITI acceptable?

What factors influence the use and satisfaction of AITI?

How do experts evaluate the design and quality of the AITI compared to traditional itineraries?

What is the future role of travel agents?

These questions guide the research in exploring the acceptability and factors that influence the use and satisfaction of AITI among experts in the field. Additionally, the research aims to align its findings with the broader objectives of the SDGs, contributing to a more sustainable and innovative tourism sector.

The paper's structure consists of an Introduction presenting the background, purpose, and research questions; a Literature Review covering previous research on the use of contemporary information and communication technologies, AI, and related topics; a Methodology section outlining the research design, participants, and data collection and analysis; Results presenting the research's findings; a Discussion interpreting the findings in relation to existing literature and implications; and a Conclusion summarizing the results, outlining implications, limitations, and future research for the field and practitioners.

THEORETICAL BACKGROUND

AI has advanced significantly in recent years and is now used extensively across numerous industries. Healthcare (Ostherr, 2022), education (Ahmad et al., 2022), finance (Musleh Al-Sartawi et al., 2022), and marketing (Kopalle et al., 2022) are just a few of the sectors where AI is making a significant contribution to increased productivity. As AI develops, it is anticipated to have a significant impact on a number of fields, solve complex problems, and offer novel solutions. In response to the rapidly growing interest in AI (Goswami et al., 2024) and service robotics, particularly in tourism and hospitality research, Saydam et al. (2022)

conducted a systematic analysis of more than a hundred published articles to define AI and clarify associated themes

The utilization of technology, with a specific focus on the integration of AI by consumers, has been instrumental in catalyzing growth within the tourism sector, fundamentally transforming the dynamics of online interactions between consumers and the tourism industry (Rafiq et al., 2022). Academic interest in this evolving area of research dates back to as early as 1991 (Kong et al., 2022), marking the beginning of inquiries into AI's potential within the context of tourism. Kong et al. (2022) conducted an extensive analysis of AI research in tourism, tracing its trajectory from 1991 onwards. Their research demonstrates a marked shift from an initial emphasis on AI technology to a growing interest in understanding customer attitudes and the acceptance of AI within the industry. This transition reflects the evolving landscape and priorities within the field. By the end of 2020, there was an explosive growth in attention, signaling the field's promising prospects (Goel et al., 2022). Goel et al. (2022) undertook the task of synthesizing the complex factors influencing consumer adoption of Artificial Intelligence and Robots (AIR) within the hospitality and tourism context. Their work identifies critical barriers, encompassing psychological, social, financial, and technical-functional aspects that impact the uptake of AI-driven technologies. Buhalis & Moldavska (2022) explored the evolving role of voice assistants in the hospitality industry, highlighting their benefits and challenges for both hotels and guests. Voice assistants are portrayed as digital assistants enhancing customer service, operational capabilities, and cost efficiency within hotels. Their study introduces a speech-enabled interactions model as a potential solution. Additionally, voice-activated assistants such as Google Assistant and Alexa were found to be increasingly popular, allowing hotels to automate repetitive tasks and provide personalized recommendations and services (Štilić et al., 2023). Fararni et al. (2021) address the challenges of information overload faced by modern tourists and provide an overview of various recommendation approaches in tourism. Their proposal includes a hybrid recommendation-based architecture and conceptual framework for a comprehensive tourism recommender system promoting tourism in specific regions through the integration of big data, artificial intelligence, and operational research.

Rafiq et al. (2022) highlight the pivotal role of AI, particularly AI chatbots, in reshaping the tourism industry. While AI chatbots represent a recent technological advancement, their potential remains largely unexplored in the tourism and hospitality industries. Their study investigates the factors influencing AI-chatbot adoption, demonstrating their significant impact on customer engagement and experiences. Buhalis & Cheng (2020) contribute to our

understanding of chatbot technology from the perspective of technology providers. Through interviews with industry experts in the hospitality sector, they reveal that chatbots have received positive feedback and that their benefits outweigh the challenges, indicating a growing trend in industry deployment and highlighting the need to enhance their capabilities for realizing their full potential. The study by Pillai & Sivathanu (2020) identifies crucial factors underpinning chatbot adoption in tourism, such as perceived ease of use, usefulness, trust, intelligence, and anthropomorphism. Notably, technological anxiety does not significantly influence adoption. As noted by Praharaj et al. (2023), AI-driven service automation, which fosters service innovation and value creation, does not directly boost customer satisfaction or the overall guest experience, but it does influence the quantity of actual value generated. Their research also underscores the impact of traveler attachment to human agents on chatbot adoption, offering actionable insights for industry practitioners and system designers to improve chatbot accessibility and user-friendliness.

In a recent study, Zhu et al. (2023) highlight that the tourism business is regarded as one of the largest benefactors of chatbot services, notably in terms of suggestions, reservations, and other services, which have become essential for online merchants' engagement with clients. Their findings show that travel agencies should improve AI chatbots by focusing on control-involving navigation and managing the rhythm and content of interactions to enhance perceived usefulness. Ensuring prompt and clear communication, incorporating novel interaction features, and personalizing responses based on product familiarity can significantly improve customer experience and trust. On the other hand, with valuable insights, a study by Carvalho and Ivanov (2023) explores how ChatGPT can impact the tourism industry, emphasizing both its potential benefits and limitations. While ChatGPT can enhance efficiency and customer satisfaction by simplifying operations and augmenting employee skills, it also presents risks such as overreliance, potential job displacement, and cybersecurity concerns. All this affects the occurrence of risks in tourism (Huseyn 2023).

As stated, the effect of AI on employment in the tourism and hospitality industries is also a source of concern. Low-skilled workers run the risk of losing their jobs as AI continues to automate a variety of tasks (Crowley et al., 2021). This highlights the importance of ongoing investment in education and training programs that will provide workers with the skills needed for jobs of the future (Ivanov, 2020). Despite the possibility of job losses, the industry is likely to continue to adopt AI technology as it develops, and it is clear that AI will play a significant role in shaping the industry's future. The tourism and hospitality sectors can remain competitive, improve customer satisfaction, and drive growth in the coming years by

embracing AI and investing in the development of new technologies. Furthermore, AI's potential extends to business optimization within the tourism and hospitality sectors, encompassing supply chain management (Filieri et al., 2021), revenue management (Ivanov et al., 2021), and pricing optimization (Çeltek & İlhan, 2020). These areas offer opportunities to enhance profitability and decision-making processes within travel-related businesses.

DATA AND METHODS

The research methodology comprises three phases: Introduction of the AI Language Model, Expert Selection and Interviews, and Data Analysis and Interpretation, aimed at achieving the research objectives. The proposed methodology combines in-depth interviews with travel industry professionals and expert evaluations of AITIs (Figure 1).



Source: Authors.

Phase 1 involves the introduction of AI language model. Since the purpose of this research is to assess the usefulness and quality of AITIs it is imperative to introduce the foundational tool employed in this effort to establish a contextual framework for the creation of five distinct AITIs (Appendix: A1, A3-7). The particular language model that was used in this study was developed by OpenAI Company and powered by AI (Pavlik, 2023). Trained on a substantial dataset of text information from the internet, the model is capable of generating human-like text responses in response to queries. This globally available language model employs a transformer neural network architecture and is trained using a transformer variant known as the Generative Pre-trained Transformer (GPT) (Floridi & Chiriatti, 2020). As a result, it produces text consistent with the grammatical and tonal variations present in its training data, making it suitable for a range of natural language processing tasks, including question answering. Using probabilistic language generation techniques, this language model generates answers that are based on the patterns and relationships in the text data that served as its

training set (Rudolph et al., 2023). However, it's crucial to keep in mind that the responses provided by ChatGPT are not always correct and may contain false information, a phenomenon known as “AI Hallucinations” (Nah et al., 2023). As a practical matter, verifying information obtained from this tool is necessary before use (Appendix: A2).

Phase 2 involves Expert Selection and Interviews. Ten travel experts from different backgrounds who have had at least five years of experience in the tourism industry were chosen in order to ensure a wide range of viewpoints. These experts were chosen based on their expertise, reputation, and experience in crafting travel itineraries. Both in-person and online video conferencing were used for the in-depth interviews with the travel industry experts. The semi-structured interviews were scheduled for roughly 45 minutes each. During the interviews, experts evaluated a set of AITIs and provided feedback based on several criteria, such as relevance to the destination (Yochum et al., 2020; Asaithambi et al., 2023; Vieira et al., 2024), completeness (Vincent et al., 2024; Dhond et al., 2023), accuracy (Elimadi et al., 2021; Vincent et al., 2024), usability (Brata et al., 2021), and tourist satisfaction (Yochum et al., 2020; Carreira et al., 2021). Experts also discussed potential drawbacks or challenges associated with the use of AITIs. Their feedback provides critical insights into areas where these tools can be improved.

Phase 3 involves Data Analysis and Interpretation. Using NVivo software and qualitative data analysis methods, the information gathered from the in-depth interviews and expert assessments were examined. Based on the experts' assessments of the AITIs, the data was coded and themes were identified. The quality of the AITIs as a whole, as well as any potential drawbacks or difficulties in using them, are then evaluated by conducting a data analysis on the collected information. The process of analyzing the data gathered from in-depth interviews and expert assessments follows five standard steps (Parameswaran et al., 2020; Vindrola-Padros & Johnson, 2020; Deterding & Waters, 2021):

- **Transcription.** Converting the in-depth interviews' audio recordings into written text as the first step in the process. This results in the ability to analyze the data in a more practical and effective way.
- **Coding.** This requires identifying and labeling key phrases or paragraphs from the interviews that are attributed to particular themes or topics. In this case, for instance, "organization" could be used to code quotes about the arrangement and presentation of information of AITIs.
- **Theme identification.** To achieve this, it is necessary to analyze the coded data to find any patterns, viewpoints, or opinions shared by the experts. In this case, for instance, if several

experts raise issues with the quality of the information provided in the itinerary, design, usability, effectiveness, and appeal, the theme of "Itinerary design and quality" could start to take shape.

- Data analysis. Data is further analyzed to determine the overall quality and accuracy of AITIs, as well as any potential limitations or challenges associated with their use.
- Interpretation. In the final step, the analysis' findings are interpreted to determine the value of AITIs as well as any potential drawbacks or difficulties in using them. To accomplish this, a summary of the findings, a discussion of their implications, and suggestions for further study or advancement in this field are made.

To support the qualitative analysis, descriptive statistics were used to summarize expert evaluations. Measures such as mean ratings and frequency counts were applied to quantify aspects of AITI quality, usability, and satisfaction. This quantitative approach complements the qualitative thematic analysis, providing a comprehensive view of expert opinions. By integrating both qualitative and quantitative methods, this research ensures a robust evaluation of AITIs, addressing the complex nature of travel planning and expert assessments. The combination of thematic analysis and statistical summarization offers a detailed understanding of AITIs' acceptability and potential areas for enhancement.

RESULTS

The group of experts interviewed for the purpose of the research presented in this paper was predominantly composed of male individuals, with six out of ten experts being male. The ages among the experts ranged between 27 and 50, with a mean age of roughly 41. The group has been employed in an array of tourism professions, such as professors, managers, consultants, engineers, and assistants. Six of the experts have had degrees from higher education institutions, three with PhDs and one with a Magister of Science, demonstrating the diversity of their educational backgrounds. The years of experience in the tourism industry ranged from 5 to 22 years, with an average of approximately 14 years.

The transcription of the audio-video recordings from the in-depth interviews into text proved to be a crucial first step in the analysis of the data. As a result, it was possible to analyze the data more effectively and practically, which improved the ability to identify important themes and patterns in the analysis of experts' opinions on the use of AI in the tourism industry, specifically on assessing the acceptability of AITIs.

During the coding phase of the analysis, through word frequency query results, key phrases from the interviews were identified (Figure 2). This process simplified the identification of

Table 1, which serves as a summary of word frequency query results derived from experts' interviews, presents key information such as the word, its length, count, weighted percentage, and similar words, providing a concise overview of the most significant terms and themes identified during the analysis.

Table 1 Word frequency query results – Summary

Word	Length	Count	Weighted Percentage	Similar Words
information	11	20	1,99	information, informations
cost	4	12	1,19	cost, costs
good	4	12	1,19	good
offer	5	12	1,19	offer, offered, offers
specific	8	12	1,19	specific, specifics
time	4	12	1,19	time, times
needs	5	11	1,09	need, needed, needs
availability	12	9	0,89	availability, available
applications	12	8	0,80	applicable, application, applications
tourism	7	8	0,80	tourism
organization	12	7	0,70	organization, organized, organizing
precise	7	7	0,70	precise, precisely
better	6	7	0,70	better
development	11	7	0,70	develop, developing, development
increase	8	7	0,70	increase, increasing, increasingly
possible	8	7	0,70	possibilities, possibility, possible
help	4	6	0,60	help
important	9	6	0,60	important, importantly
making	6	6	0,60	making
content	7	6	0,60	content, contents

Source: Authors.

As a result of the coding process used in this study, it was possible to create codes and subcodes that could be used to categorize quotes and paragraphs into different topics. The main codes were identified as Information quality, Itinerary Design and Usability, Itinerary Effectiveness and Appeal, Comparisons, Improvement or Feedback, Targeting, Challenges and Advancement codes. Under the first three aforementioned codes, there were subcodes identified as well. For the Information Quality code, several subcodes were identified, including Completeness, Relevance, Objectivity, Trustworthiness and Cultural Sensitivity. Completeness refers to the extent to which all relevant information is included in the itinerary, while Relevance assesses the accuracy and usefulness of information provided. Objectivity

measures the impartiality and lack of bias in the information, and Trustworthiness evaluates the credibility and reliability of the information. Finally, Cultural Sensitivity assesses the degree to which the information is respectful and appropriate for diverse cultures. For the Itinerary Design and Usability code, several subcodes were also identified, including Clarity, Organization, User-friendly and Timeliness. Clarity refers to the degree to which the information is clear and easily understood, while Organization assesses the arrangement and presentation of information. User-friendly measures the ease of use and accessibility of the information, and Timeliness evaluates the currency and up-to-date nature of the information. Finally, for the Itinerary Effectiveness and Appeal code, several subcodes were identified, including Alignment, Uniqueness, Balance (organization), Effectiveness and Applicability. Alignment measures how well the itinerary aligns with travel trends and consumer preferences, while Uniqueness measures the originality and differentiation of the itinerary compared to other sources. Balance (organization) assesses the organization and balance of the itinerary, while Effectiveness measures how well the itinerary meets the needs of travelers and the travel industry. Applicability assesses how applicable the itinerary is to a wide range of travelers.

Comparison code refers to the process of evaluating and comparing the itinerary to ones created by the travel agents in travel organizations. This included comparing pricing, features, or overall value for the customer. Experts highlighted the differences, or the lack of them, by comparing the generated AITIs to similar, already-available products. Improvement or feedback code refers to feedback from experts on areas of the AITIs that could be improved. It involves identifying areas for improvement and suggesting specific changes that could enhance the overall quality of the AITIs. Experts emphasized the importance of soliciting feedback from consumers to continuously improve the itinerary and meet evolving travel trends and preferences. Targeting code refers to the process of targeting specific consumer segments with the AITIs. Experts emphasized the importance of understanding the target audience and creating an itinerary that meets their specific needs and desires. Challenges code refers to the obstacles and difficulties that could be possible while executing the AITIs. This includes challenges related to logistics, budget, or regulations. Experts discussed the need to identify potential challenges and develop strategies to overcome them to ensure the AITIs run smoothly and meet customer expectations. Advancement code refers to the need for innovation and progress in itinerary design, execution, and acceptance. Experts highlighted the importance of staying up-to-date with the latest travel trends and technologies to ensure the traditional travel agencies remain competitive and appealing to consumers. This involves incorporating new technologies while utilizing various digital tools or platforms.

As a further step, i.e., theme identification, coded data was used to find any patterns, viewpoints, or opinions shared by the experts. In this case, several experts raised issues regarding the Information Quality, Itinerary Design and Usability and Itinerary Effectiveness and Appeal codes, creating the Itinerary design and quality as the first theme. In the same manner, Comparisons, Improvement or Feedbacks, and Targeting affiliated with Evaluation and comparison as the second theme. Further, Challenges and Advancement affiliated with Future direction and progress as the third and final theme (Table 2).

Table 2 Theme tree

Theme	Code	Subcode
Itinerary design and quality	Information Quality	Completeness
		Relevance
		Objectivity
		Trustworthiness
		Cultural Sensitivity
	Itinerary Design and Usability	Clarity
		Organization
		User-friendly
		Timeliness
	Itinerary Effectiveness and Appeal	Alignment
		Uniqueness
		Balance (organization)
		Effectiveness
		Applicability
Evaluation and comparison	Comparisons	/
	Improvement (feedback)	
	Targeting	
Future direction and progress	Challenges	/
	Advancement	

Source: Authors.

For the purpose of data analysis, the expert evaluations were grouped into three themes, namely: Itinerary design and quality, Evaluation and comparison and Future direction and progress.

In terms of Itinerary design and quality theme, the majority of the experts concluded that presented AITIs aligned with current travel trends and consumer preferences and that the itineraries were either very good or aligned with contemporary trends and consumer preferences. Only one expert thought they were poorly represented. Only two experts believed that there were innovative or unique activities or destinations included in the itinerary. The majority of experts, however, did not find any innovative or unique elements in the itinerary, but they did believe that they corresponded to general demand. All the experts, with the exception of one, thought that the schedule was well-balanced in terms of cost, time, and activities. The one expert who expressed reservations stated that travel costs were not well balanced, taking into account cost increases in the post-COVID era. Most experts agreed that

the itineraries would be appealing to a broad range of travelers when asked if they would or if they were better suited to a particular kind of traveler. Finally, when asked about potential challenges or obstacles that travelers may encounter when using AITIs in real-world situations, the experts mentioned a variety of issues such as insufficient information, poor handling, information validity, up-to-date availability, and issues with specific user needs. According to one expert, the AI itineraries were useful for sightseeing tours but less precise when it came to transportation and hotel accommodations.

In terms of Evaluation and comparison theme, when comparing the AITIs to one made by a human travel agent, experts generally agreed that the AI itinerary had advantages and was comparable in terms of content, though some noted that the cost projections and transportation segment of the itineraries could be more accurate. Based on the responses given by the experts, most of them found the itineraries to be very good or satisfactory in terms of meeting the needs and interests of specific traveler demands, though some suggested that it could be more specific or include more information on micro locations and shopping locations. The experts suggested that the AITIs could be improved through utilization, generating faster connection speeds, and more accurate data. Additionally, some experts suggested that AITIs could be improved by including information about the need for reservations, museum and attraction opening hours, and information about the need for a guide in certain places. Overall, the experts appeared to agree that AITIs have the potential to enhance the travel experience for customers by offering current information that human agents might not have, by offering a good initial proposal that can be improved, and by lessening the workload of agents during peak travel times. They did, however, make the argument that human agents cannot entirely be replaced by AI and that some circumstances still call for human intervention.

In terms of Future direction and progress theme, the expert field interviews provided some interesting insights into challenges, drawbacks, ethical issues, and future progress. Three experts discussed the difficulties that could arise when using AI-generated itineraries and pointed out that external factors like world conflicts, crises, and crowds and lines could pose obstacles. Another expert suggested that the program might be constrained by costs and travel time, and that the AITI's aptitude would be tested by handling more challenging requests. Experts cited a lack of experiential feedback, information unavailability, and information validity as potential drawbacks of relying too heavily on AI in travel itinerary planning. Experts also stressed the importance of not ignoring alternative modes of transportation, obtaining only a generic itinerary, and the accuracy of entered data. According to one expert, travel itinerary cost predictions could also be a potential disadvantage. Experts emphasized the importance of protecting user information, respecting ethical norms, principles, and

traveler rights, as well as ensuring data security and GDPR compliance. Finally, experts predicted that AITIs would see increased usage and representation in the global travel industry in the future. Two experts also suggested that there would be a greater emphasis on raising awareness of the importance of coordination between traditional agents and AI in tourism. The ratio of AI output to live agent correction, according to one expert's prediction, will be 99%:1% in ten years, indicating a significant advance in the quality of AITIs.

DISCUSSION

The integration of AITIs into the tourism industry represents a crucial advancement with significant implications for both operational efficiency and sustainability (Rozalia Gabor et al., 2024). The expert interviews reveal that AITIs align with contemporary travel trends and consumer preferences, as demonstrated by their general satisfaction with the itineraries' quality and usability.

Experts consider AITIs a useful and innovative tool for travel planning (Pillai & Sivathanu, 2020; Lalicic & Weismayer, 2021). The identification of key factors such as Information Quality, Itinerary Design and Usability, and Itinerary Effectiveness and Appeal highlights areas of strength and opportunities for further development.

While AITIs generally met expectations, experts emphasized the need for greater uniqueness and innovation in the itineraries. These findings suggest that user satisfaction is strongly tied to both the quality of the itinerary and the accuracy of the information provided (Ashfaq et al., 2020; Prentice et al., 2020a; Prentice et al., 2020b). This aligns directly with SDG 9 (Industry, Innovation, and Infrastructure), which advocates for innovation in all sectors, including tourism. By focusing on creating more distinctive and culturally sensitive itineraries, AITIs can enhance the travel experience and support SDG 11 (Sustainable Cities and Communities).

Additionally, experts highlighted the importance of completeness, relevance, and trustworthiness, critical attributes for ensuring reliability in AITIs. According to the findings, AITIs have the potential to save time and reduce the workload of travel agents (Garg, 2021), which is particularly valuable as modern tourists prioritize efficiency and prefer prompt, data-driven solutions (Rudež, 2023). The emphasis on these attributes resonates with SDG 12 (Responsible Consumption and Production), encouraging the provision of accurate and responsible travel information that supports sustainable decision-making by travelers.

The evaluation and comparison theme revealed by the experts emphasizes the subtle balance between AI-generated itineraries and those crafted by human agents. While AITI has the potential to reduce travel agents' workload, it also necessitates training and adaptation to new technology (Ivanov, 2019). While AITIs were recognized for their efficiency and ability

to handle large volumes of data quickly, there were concerns about their precision in cost estimations and transportation arrangements. This finding highlights the importance of continuous improvement in AI technologies to enhance their practical application in real-world scenarios.

The experts' feedback also pointed to the potential for AITIs to reduce the workload of human agents, particularly during peak travel times, by providing a solid foundation that can be further refined by human expertise. The future role of travel agents may be determined by how widely AITI is adopted and integrated into the travel industry. This aligns with SDG 8 (Decent Work and Economic Growth), suggesting that AITIs can complement human labor, rather than replace it, thereby enhancing the overall productivity and sustainability of the tourism industry.

The expert insights on the challenges and future direction of AITIs highlight several critical areas for development, particularly in addressing external factors such as geopolitical events and the need for more sophisticated data handling capabilities. Experts discussed the difficulties that could arise when using AI-generated itineraries and pointed out that external factors like world conflicts, crises, and crowds and lines could pose obstacles. These challenges are indicative of the broader obstacles that AI must overcome to fully integrate into the tourism sector.

Moreover, the concerns raised about ethical issues, data security, and the potential drawbacks of over-reliance on AI reflect the importance of aligning AITI development with SDG 16 (Peace, Justice, and Strong Institutions), which emphasizes the need for ethical standards and robust legal frameworks. Experts emphasized the importance of protecting user information, respecting ethical norms, principles, and traveler rights, as well as ensuring data security and GDPR compliance. Ensuring that AITIs adhere to GDPR compliance and respect user privacy is crucial for maintaining trust and safeguarding traveler rights.

Experts also predicted a growing role for AITIs in the global travel industry, with the potential for a 99% AI-generated to 1% human-corrected output ratio within a decade. This projection underscores the necessity for ongoing innovation and skill development within the industry, as outlined in SDG 4 (Quality Education), to prepare travel agents for an AI-augmented future.

Suggesting that AITIs will significantly shape the future of travel planning, policymakers can use these insights to create an enabling environment (Puška & Štilić, 2022). To fully realize the potential of AITIs, a multi-stakeholder approach is essential. This approach should firstly include enhanced training programs, as the tourism industry must invest in comprehensive training programs that focus on digital literacy (Peterka & Stroukal, 2024) and AI proficiency, ensuring that travel agents can effectively collaborate with AI tools to deliver

superior service. Secondly, innovation in itinerary design, as continuous innovation in AITI development, is crucial, particularly in enhancing the uniqueness and cultural sensitivity of itineraries to meet diverse traveler needs and preferences. Finally, sustainable policy advocacy, as engaging with policymakers, is crucial for developing ethical frameworks that govern AI usage in tourism, ensuring compliance with data security standards, and promoting responsible AI deployment.

CONCLUSION

The integration of AITIs into the tourism industry holds significant potential to enhance the efficiency and personalization of travel planning. This research has provided an in-depth analysis of expert opinions on AITIs, revealing both their advantages and limitations. AITIs are seen as valuable tools for streamlining the travel planning process and tailoring itineraries to individual preferences, aligning with contemporary consumer demands for efficiency and personalization. However, the quality of information and the trustworthiness of AITIs are critical factors influencing user satisfaction. High-quality and reliable information are essential for the overall effectiveness and appeal of AI-generated itineraries.

Despite their potential, AITIs face challenges related to accuracy, data security, and ethical considerations. Addressing these issues is crucial for the successful integration of AITIs into mainstream travel planning. The future role of AITIs in the tourism industry will involve balancing AI technology with human expertise. While AITIs can manage extensive data and provide efficient solutions, human agents will continue to be vital for offering refined insights and addressing complex travel needs. The evolution of AITIs will depend on continued advancements in AI technology, the development of ethical frameworks, and the adaptation of travel agents to new tools.

To ensure that AITIs achieve their full potential, strategic recommendations include investing in training and development. Strengthening the digital and AI skills of travel agents is essential for maximizing the benefits of AITIs while ensuring that human expertise remains a key component of the tourism industry. Additionally, the development of AITIs should prioritize innovation and sustainability, focusing on creating itineraries that are unique, culturally sensitive, and aligned with global sustainability goals. Policymakers also need to establish robust ethical and regulatory frameworks to govern the use of AI in tourism. This includes addressing data security, privacy concerns, and the ethical implications of AI deployment. Policymakers can use the insights from this research to create an enabling environment for the growth and development of AI in the tourism industry, including through the provision of funding, infrastructure, and other resources to support the development and adoption of AITIs.

Future research should focus on the practical applications and impacts of AITIs, examining their real-world effectiveness and user experiences. Additionally, investigating ethical implications such as data privacy and algorithmic bias will be crucial for ensuring that AITIs contribute positively to the travel industry and enhance the overall travel experience. As AITIs present considerable promise for transforming the travel planning landscape, by addressing current challenges, investing in technology and training, and fostering a supportive regulatory environment, the tourism industry can exploit the full potential of AI to improve travel experiences and drive innovation in the sector.

REFERENCES

- Abdinematabad, S., Ebadikhah, R., Pourabdollah, M., & Raeinojehdehi, R. (2024). Perceptions of Overseas Residents on Tourism Development in Qingdao: An Impact Analysis. *TourismSpectrum: Diversity & Dynamics*, 1(1), 1-15. <https://doi.org/10.56578/tsdd010101>
- Ahmad, S. F., Alam, M. M., Rahmat, M. K., Mubarik, M. S., & Hyder, S. I. (2022). Academic and Administrative Role of Artificial Intelligence in Education. *Sustainability*, 14(3), 1101. <https://doi.org/10.3390/su14031101>
- Arslan, M. & Kekeç, H. M. (2023). Health Financing in the Pursuit of Sustainable Development Goals: An Examination of Global Averages and Turkey's Position. *Opportunities and Challenges in Sustainability*, 2(3), 141-147. <https://doi.org/10.56578/ocs020303>
- Ashfaq, M., Yun, J., Yu, S., & Loureiro, S. (2020). I, Chatbot: Modeling the determinants of users' satisfaction and continuance intention of AI-powered service agents. *Telematics and Informatics*, 54, 101473. <https://doi.org/10.1016/j.tele.2020.101473>
- Brata, K. C., Pinandito, A., Priandani, N. D., & Ananta, M. T. (2021). Usability improvement of public transit application through mental model and user journey. *TELKOMNIKA Telecommunication Computing Electronics and Control*, 19(2), 397. <https://doi.org/10.12928/telkomnika.v19i2.18323>
- Buhalis, D., & Cheng, E. S. Y. (2020). Exploring the Use of Chatbots in Hotels: Technology Providers' Perspective. *Information and Communication Technologies in Tourism 2020*, 231–242. https://doi.org/10.1007/978-3-030-36737-4_19
- Buhalis, D., & Moldavska, I. (2022). Voice assistants in hospitality: using artificial intelligence for customer service. *Journal of Hospitality and Tourism Technology*, 13(3), 386–403. <https://doi.org/10.1108/jhtt-03-2021-0104>
- Carreira, V., Azeredo, J., González-Rodríguez, M. R., & Díaz-Fernández, M. C. (2021). The Role of Tourism Education in Overtourism and Destination Management. *Overtourism as Destination Risk: Impacts and Solutions.*, 35–48. <https://doi.org/10.1108/978-1-83909-706-520211003>
- Carvalho, I., & Ivanov, S. (2024). ChatGPT for tourism: applications, benefits and risks. *Tourism Review*, 79(2), 290–303. <https://doi.org/10.1108/tr-02-2023-0088>
- Çeltek, E., & İlhan, I. (2020). Big Data, Artificial Intelligence, and Their Implications in the Tourism Industry. *Handbook of Research on Smart Technology Applications in the Tourism Industry*, 115–130. <https://doi.org/10.4018/978-1-7998-1989-9.ch006>
- Crowley, F., Doran, J., & McCann, P. (2021). The vulnerability of European regional labour markets to job automation: the role of agglomeration externalities. *Regional Studies*, 55(10–11), 1711–1723. <https://doi.org/10.1080/00343404.2021.1928041>

- Dhond, R., Gangakhedkarr, S., & Siddanagowder, S. (2023). An Opinion-Based Research on Cryptocurrency and it's Functioning in India. *International Journal of Economic Sciences*, 12(1), 62–84. <https://doi.org/10.52950/ES.2023.12.1.004>
- Fararni, K. A., Nafis, F., Aghoutane, B., Yahyaouy, A., Riffi, J., & Sabri, A. (2021). Hybrid recommender system for tourism based on big data and AI: A conceptual framework. *Big Data Mining and Analytics*, 4(1), 47–55. <https://doi.org/10.26599/bdma.2020.9020015>
- Feuerriegel, S., Shrestha, Y. R., Von Krogh, G., & Zhang, C. (2022). Bringing artificial intelligence to business management. *Nature Machine Intelligence*, 4(7), 611–613. <https://doi.org/10.1038/s42256-022-00512-5>
- Filieri, R., D'Amico, E., Destefanis, A., Paolucci, E., & Raguseo, E. (2021). Artificial intelligence (AI) for tourism: an European-based study on successful AI tourism start-ups. *International Journal of Contemporary Hospitality Management*, 33(11), 4099–4125. <https://doi.org/10.1108/ijchm-02-2021-0220>
- Floridi, L., & Chiriatti, M. (2020). GPT-3: Its Nature, Scope, Limits, and Consequences. *Minds and Machines*, 30(4), 681-694. <https://doi.org/10.1007/s11023-020-09548-1>
- Garg, P. K. (2021). Overview of Artificial Intelligence. In *Artificial Intelligence* (pp. 3-18). Chapman and Hall/CRC.
- Goel, P., Kaushik, N., Sivathanu, B., Pillai, R., & Vikas, J. (2022). Consumers' adoption of artificial intelligence and robotics in hospitality and tourism sector: literature review and future research agenda. *Tourism Review*, 77(4), 1081-1096. <https://doi.org/10.1108/tr-03-2021-0138>
- Goswami, S. S., Mondal, S., Halder, R., Nayak, J., & Sil, A. (2024). Exploring the Impact of Artificial Intelligence Integration on Cybersecurity: A Comprehensive Analysis. *Journal of Industrial Intelligence*, 2(2), 73-93.
- Hicham, N., Nassera, H., & Karim, S. (2023). Strategic Framework for Leveraging Artificial Intelligence in Future Marketing Decision-Making. *Journal of Intelligent Management Decision*, 2(3), 139-150. <https://doi.org/10.56578/jimd020304>
- Huseyn, A. (2023). Assessment of Tourism-Led Growth Risks in Resource-Rich Countries: Evidence From Azerbaijan. *Economics - innovative and economics research journal*, 11(2), 137-152. <https://doi.org/10.2478/eoik-2023-0053>
- Ivanov, S. H. (2019). Ultimate transformation: How will automation technologies disrupt the travel, tourism and hospitality industries? *Zeitschrift Für Tourismuswissenschaft*, 11(1), 25–43. <https://doi.org/10.1515/tw-2019-0003>
- Ivanov, S. (2020). The impact of automation on tourism and hospitality jobs. *Information Technology & Tourism*, 22(2), 205-215. <https://doi.org/10.1007/s40558-020-00175-1>
- Ivanov, S., Del Chiappa, G., & Heyes, A. (2021). The research-practice gap in hotel revenue management: Insights from Italy. *International Journal of Hospitality Management*, 95, 102924. <https://doi.org/10.1016/j.ijhm.2021.102924>
- Kong, H., Wang, K., Qiu, X., Cheung, C., & Bu, N. (2022). 30 years of artificial intelligence (AI) research relating to the hospitality and tourism industry. *International Journal of Contemporary Hospitality Management*. 35(6), 2157-2177. <https://doi.org/10.1108/ijchm-03-2022-0354>
- Kopalle, P. K., Gangwar, M., Kaplan, A., Ramachandran, D., Reinartz, W., & Rindfleisch, A. (2022). Examining artificial intelligence (AI) technologies in marketing via a global lens: Current trends and future research opportunities. *International Journal of Research in Marketing*, 39(2), 522–540. <https://doi.org/10.1016/j.ijresmar.2021.11.002>
- Lalicic, L., & Weismayer, C. (2021). Consumers' reasons and perceived value co-creation of using artificial intelligence-enabled travel service agents. *Journal of Business Research*, 129, 891–901. <https://doi.org/10.1016/j.jbusres.2020.11.005>

- Mah, P. M. (2022). Analysis of Artificial Intelligence and Natural Language Processing Significance as Expert Systems Support for E-Health Using Pre-Train Deep Learning Models. *Acadlore Transactions on AI and Machine Learning*, 1(2), 68-80. <https://doi.org/10.56578/ataiml010201>
- Marino, S. (2022). Developing a Sustainable Development Goals Research Hub among MERCOSUR's Universities: A Case Study. Opportunities and Challenges in Sustainability, 1(1), 2-12. <https://doi.org/10.56578/ocs010102>
- Musleh Al-Sartawi, A. M. A., Hussainey, K., & Razzaque, A. (2022). The role of artificial intelligence in sustainable finance. *Journal of Sustainable Finance & Investment*, 1–6. <https://doi.org/10.1080/20430795.2022.2057405>
- Nah, F. F., Zheng, R., Cai, J., Siau, K., & Chen, L. (2023). Generative AI and ChatGPT: Applications, challenges, and AI-human collaboration. *Journal of Information Technology Case and Application Research*, 25(3), 277–304. <https://doi.org/10.1080/15228053.2023.2233814>
- OpenAI. (2023, February 12). Response to “Figure 1” query. Retrieved from <https://openai.com/chat-ai/>
- Ostherr, K. (2022). Artificial Intelligence and Medical Humanities. *Journal of Medical Humanities*, 43(2), 211–232. <https://doi.org/10.1007/s10912-020-09636-4>
- Parameswaran, U. D., Ozawa-Kirk, J. L., & Latendresse, G. (2020). To live (code) or to not: A new method for coding in qualitative research. *Qualitative Social Work*, 19(4), 630–644. <https://doi.org/10.1177/1473325019840394>
- Pavlik, J. V. (2023). Collaborating With ChatGPT: Considering the Implications of Generative Artificial Intelligence for Journalism and Media Education. *Journalism & Mass Communication Educator*, 78(1), 84-93. 107769582211495. <https://doi.org/10.1177/10776958221149577>
- Peterka, P., & Stroukal, D. (2024). Evidence Against the Undertaxation of Digital Companies From the Weighted Effective Tax Rate Method Analysis. *International Journal of Economic Sciences*, 13(1), 58–80. <https://doi.org/10.52950/ES.2024.13.1.004>
- Pillai, R., & Sivathanu, B. (2020). Adoption of AI-based chatbots for hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 32(10), 3199–3226. <https://doi.org/10.1108/ijchm-04-2020-0259>
- Praharaj, S., Mishra, B. B., Mishra, U. S., Panigrahi, R. R., & Mishra, P. C. (2023). Role of Service Automation on Guest Experience of Hotel Industry. *Tourism Hospitality Management*, 29(2), 265–278. <https://doi.org/10.20867/thm.29.2.11>
- Prentice, C., Dominique-Ferreira, S., & Wang, X. (2020a). The impact of artificial intelligence and employee service quality on customer satisfaction and loyalty. *Journal of Hospitality Marketing & Management*, 29(7), 739–756. <https://doi.org/10.1080/19368623.2020.1722304>
- Prentice, C., Weaven, S. K. W., & Wong, I. A. (2020b). Linking AI quality performance and customer engagement: The moderating effect of AI preference. *International Journal of Hospitality Management*, 90, 102629. <https://doi.org/10.1016/j.ijhm.2020.102629>
- Puška, A., & Štilić, A. (2022). Unapređenje konkurentnosti zemalja primjenom računarstva u oblaku. *Akademski pregled*, 5(2), 144-157. <https://doi.org/10.7251/AP2202144P>
- Rafiq, F., Dogra, N., Adil, M., & Wu, J. Z. (2022). Examining Consumer's Intention to Adopt AI-Chatbots in Tourism Using Partial Least Squares Structural Equation Modeling Method. *Mathematics*, 10(13), 2190. <https://doi.org/10.3390/math10132190>
- Rozalia Gabor, M., Alexandru Curta, P., & Dana Oltean, F. (2024). Tourism Competitiveness and Mobile Data: A Grey Relational Analysis for European Entrepreneurship pre & during Pandemic. *Economics - innovative and economics research journal*, 12(2), 1–20. <https://doi.org/10.2478/eoik-2024-0015>

- Rozalia Gabor, M., Dana Oltean, F., & Coca, A. (2023). Innovative Tourism Products as Sustainable Solutions for Emerging Economies. *Economics - innovative and economics research journal*, 11(1), 69-83. <https://doi.org/10.2478/eoik-2023-0007>
- Rudolph, J., Tan, S., & Tan, S. (2023). Chatgpt: Bullshit spewer or the end of traditional assessments in higher education? *Journal of Applied Learning and Teaching*. 6(1), 342-363. <https://doi.org/10.37074/jalt.2023.6.1.9>
- Rudež, H. N. (2023). What features of digital travel-related information is generation Z looking for? *Tourism Hospitality Management*, 29(4), 495–504. <https://doi.org/10.20867/thm.29.4.2>
- Saydam, M. B., Arici, H. E., & Koseoglu, M. A. (2022). How does the tourism and hospitality industry use artificial intelligence? A review of empirical studies and future research agenda. *Journal of Hospitality Marketing & Management*, 31(8), 908–936. <https://doi.org/10.1080/19368623.2022.2118923>
- Štilić, A., Nicić, M., & Njeguš, A. (2022). Global Distribution Systems Versus New Distribution Capability and Internet of Things. *The European Journal of Applied Economics*, 19(1), 81-97. <https://doi.org/10.5937/EJAE19-36420>
- Štilić, A., Nicić, M., & Puška, A. (2023). Check-in to the future: Exploring the impact of contemporary information technologies and artificial intelligence on the hotel industry. *Turisticko Poslovanje*, 31, 5–17. <https://doi.org/10.5937/turpos0-43739>
- Sujood, N., Ali, R. R., Arwab, M., & Hamid, S. (2023). Post-pandemic intention of the tourism and hospitality (t&h) industry employees towards the use of information technology. *Tourism Hospitality Management*, 29(2), 279–295. <https://doi.org/10.20867/thm.29.2.12>
- Tussyadiah, I. (2020). A review of research into automation in tourism: Launching the Annals of Tourism Research Curated Collection on Artificial Intelligence and Robotics in Tourism. *Annals of Tourism Research*, 81, 102883. <https://doi.org/10.1016/j.annals.2020.102883>
- United Nations. Transforming Our World: The 2030 Agenda for Sustainable Development (A/RES/70/1); UN General Assembly: New York, NY, USA, 2015; Available online: <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>
- Vieira, D. P., Júnior, E. R., & de Lacerda Rangel, G. (2024). New entrants for attractions network evolution. *Tourism and Hospitality Research*, 24(2), 291-303. <https://doi.org/10.1177/14673584231151895>
- Vincent, C., Levac, S., Dumont, F., Archambault, P. S., Routhier, F., & Mostafavi, M. A. (2024). Usability of a navigation application for travel in Quebec City with wheeled mobility device and, further validation of the Evaluation of satisfaction with geospatial assistive technology. *Disability and Rehabilitation: Assistive Technology*, 19(2), 367-382. <https://doi.org/10.1080/17483107.2022.2089739>
- Vindrola-Padros, C., & Johnson, G. C. (2020). Rapid Techniques in Qualitative Research: A Critical Review of the Literature. *Qualitative Health Research*, 30(10), 1596–1604. <https://doi.org/10.1177/1049732320921835>
- Yochum, P., Chang, L., Gu, T., & Zhu, M. (2020). An Adaptive Genetic Algorithm for Personalized Itinerary Planning. *IEEE Access*, 8, 88147–88157. <https://doi.org/10.1109/access.2020.2990916>
- Zhu, Y., Zhang, R., Zou, Y., & Jin, D. (2023). Investigating customers' responses to artificial intelligence chatbots in online travel agencies: the moderating role of product familiarity. *Journal of Hospitality and Tourism Technology*, 14(2), 208–224. <https://doi.org/10.1108/jhtt-02-2022-0041>

APPENDIX

A1: Example on request for generating AITIs

Good day, please generate 5 different in-detail, day by day, travel itineraries based on the following Q&As Please add suggestions for accommodation and restaurants. State the approximate price for the proposed itineraries, including transportation, accommodation, food/drink costs, as well as attractions fees.

Q1: What would be the departing city?

A1: Belgrade, Serbia

Q2: Can you describe your desired travel location or region?

A2: Europe

Q3: What is the purpose of your travel (e.g. leisure, business, etc.)?

A3: leisure

Q4: How many days would you like to spend on your trip?

A4: 3 to 5

Q5: How would you like to travel to your preferred destination (e.g. airplane, train, car)?

A5: airplane or car

Q6: Are there specific sights or attractions that you would like to visit during your trip?

A6: must sees and cultural sights, Instagram popular places would be ok too

Q7: Are there any specific experiences (e.g. food, culture, adventure) that you would like to have during your trip?

A7: no

Q8: Are there any specific preferences or requirements that you have for your itinerary?

A8: low-budget travel

Thank you!

A2: Response from ChatGPT (OpenAI, 2023)

Of course! Here are 5 different travel itineraries for your trip to Europe departing from Belgrade, Serbia for 3 to 5 days, taking into consideration your desire for leisure and to visit must-see cultural sights and popular Instagram places, with a low-budget preference. Prices are estimated and subject to change based on current exchange rates and seasonality, and can vary depending on the exchange rate and individual spending habits. I hope these itineraries provide you with a good starting point for planning your trip to Europe. Enjoy your travels!

A3: AITI 1, Belgrade to Budapest, 3 Days (OpenAI, 2023)

Approximate cost for this itinerary, including transportation, accommodation, food/drink costs, and attractions fees, is approximately 150-200 EUR.

Day 1: Belgrade to Budapest

Depart Belgrade in the morning by train or car and head to Budapest, Hungary. Arrive in Budapest and check into a budget hotel such as Hotel Visegrad or Hotel Parlament, which start at approximately 25-35 EUR per night. Explore the city by visiting the famous thermal baths like Széchenyi Bath or Gellért Bath, which has an entrance fee of around 25 EUR. Visit Fisherman's Bastion for an iconic view of the city and the Parliament building, which are both free to visit. Have dinner at a local restaurant like Kisharang Étterem, which offers traditional Hungarian cuisine at an affordable price.

Day 2: Budapest Sightseeing

Start the day with a visit to the famous Buda Castle, which has an entrance fee of around 25 EUR. Visit the Great Market Hall, a bustling indoor market that offers a variety of local food and products. Walk along the Danube river and stop by the iconic Chain Bridge, which connects Buda and Pest. In the evening, take a relaxing stroll in City Park and visit the Vajdahunyad Castle, which is lit up beautifully at night. Have dinner at one of Budapest's famous ruin bars like Szimpla Kert, which offers a unique atmosphere and affordable drinks.

Day 3: Budapest to Belgrade

In the morning, visit St. Stephen's Basilica and the Heroes' Square, which are both free to visit. Return to Belgrade by train or car in the early afternoon.

A4: AITI 2, Belgrade to Vienna, 4 Days (OpenAI, 2023)

Approximate cost for this itinerary, including transportation, accommodation, food/drink costs, and attractions fees, is approximately 150-200 EUR.

Day 1: Belgrade to Vienna

Depart Belgrade in the morning by train or car and head to Vienna, Austria. Arrive in Vienna and check into a budget hotel such as A&O Wien Stadthalle or Hotel Harmonie Wien, which start at approximately 25-35 EUR per night. Spend the afternoon visiting the famous Schönbrunn Palace and its beautiful gardens, which has an entrance fee of around 25 EUR. Have dinner at a local restaurant like Gasthaus Schenk, which offers traditional Austrian cuisine at an affordable price.

Day 2: Vienna Sightseeing

Start the day by visiting the iconic St. Stephen's Cathedral, which is free to visit.

Walk along the famous Ringstrasse and visit the Vienna State Opera, which has guided tours available for a fee. In the afternoon, visit the Kunsthistorisches Museum, which has an entrance fee of around 15 EUR.

Have dinner at a local restaurant like Figlmüller, which is famous for its traditional Wiener Schnitzel.

Day 3: Vienna Sightseeing

Visit the famous Prater amusement park and take a ride on the giant Ferris wheel, which has an entrance fee of around 10 EUR. In the afternoon, visit the Hofburg Palace, which has an entrance fee of around 20 EUR. Have dinner at a local restaurant like Plachutta, which offers traditional Austrian cuisine.

Day 4: Vienna to Belgrade

In the morning, visit the Museum Quarter and the famous Museum of Modern Art (MUMOK), which has an entrance fee of around 15 EUR. Return to Belgrade by train or car in the early afternoon.

A5: AITI 3, Belgrade to Istanbul, 4 Days (OpenAI, 2023)

Approximate cost for this itinerary, including transportation, accommodation, food/drink costs, and attractions fees, is approximately 200-250 EUR.

Day 1: Belgrade to Istanbul

Depart Belgrade in the morning by plane and arrive in Istanbul, Turkey.

Arrive in Istanbul and check into a budget hotel such as Taksim Hotel Istanbul or Taksim Premium Hotel, which start at approximately 30-40 EUR per night. Spend the afternoon exploring the city center and visiting the famous Taksim Square and Istiklal Street, which are both free to visit. Have dinner at a local restaurant like Adana Ocakbasi, which is famous for its traditional Turkish cuisine and drinks.

Day 2: Istanbul Sightseeing

Start the day by visiting the famous Hagia Sophia, which has an entrance fee of around 20 EUR.

Walk through the historic Sultanahmet district and visit the famous Blue Mosque, which is free to visit.

In the afternoon, visit the famous Topkapi Palace, which has an entrance fee of around 20 EUR.

Have dinner at a local restaurant like Van Kahvalti Evi, which offers traditional Turkish cuisine and drinks.

Day 3: Istanbul Sightseeing

Spend the day visiting the famous Grand Bazaar, which is free to visit. Have dinner at a local restaurant like Imroz, which offers traditional Turkish cuisine at an affordable price.

Day 4: Istanbul to Belgrade

Spend the morning visiting the famous Bosphorus Strait and its beautiful sunset views, which is free to visit. Return to Belgrade by plane in the early afternoon.

A6: AITI 4, Belgrade to Paris, 5 Days (OpenAI, 2023)

Approximate cost for this itinerary, including transportation, accommodation, food/drink costs, and attractions fees, is approximately 250-300 EUR.

Day 1: Belgrade to Paris

Depart Belgrade in the morning by plane and arrive in Paris, France. Arrive in Paris and check into a budget hotel such as Hotel Le Bellechasse or Hotel du Cadran, which start at approximately 40-50 EUR per night. Spend the afternoon exploring the city center and visiting the famous Notre-Dame Cathedral, which is free to visit. Have dinner at a local restaurant like L'Auberge du Pont de Collonges, which is famous for its traditional French cuisine and drinks.

Day 2: Paris Sightseeing

Start the day by visiting the famous Eiffel Tower, which has an entrance fee of around 15 EUR. Walk through the historic Champs-Élysées and visit the famous Arc de Triomphe, which is free to visit. In the afternoon, visit the famous Louvre Museum, which has an entrance fee of around 15 EUR. Have dinner at a local restaurant like Le Comptoir du Relais, which offers traditional French cuisine and drinks.

Day 3: Paris Sightseeing

Spend the day visiting the famous Palace of Versailles, which has an entrance fee of around 20 EUR. Have dinner at a local restaurant like L'Atelier de Joel Robuchon, which offers traditional French cuisine at an affordable price.

Day 4: Paris Sightseeing

Spend the day visiting the famous Sacré-Cœur Basilica and its beautiful views of the city, which is free to visit. Have dinner at a local restaurant like Le Jules Verne, which offers traditional French cuisine and drinks.

Day 5: Paris to Belgrade

Spend the morning visiting the famous Latin Quarter and its charming streets, which is free to visit. Return to Belgrade by plane in the early afternoon.

A7: AITI 5, Belgrade to Lisbon, 5 Days, (OpenAI, 2023)

Approximate cost for this itinerary, including transportation, accommodation, food/drink costs, and attractions fees, is approximately 200-250 EUR.

Day 1: Belgrade to Lisbon

Depart Belgrade in the morning by plane and arrive in Lisbon, Portugal. Arrive in Lisbon and check into a budget hotel such as Hostel do Chiado or Lisbon Destination Hostel, which start at approximately 25-35 EUR per night. Spend the afternoon exploring the city center and visiting the famous Praça do Comércio, which is free to visit. Have dinner at a local restaurant like Cervejaria Ramiro, which is famous for its traditional Portuguese cuisine and drinks.

Day 2: Lisbon Sightseeing

Start the day by visiting the famous Belem Tower, which has an entrance fee of around 10 EUR. Walk through the historic Alfama district and visit the famous São Jorge Castle, which has an entrance fee of around 10 EUR. In the afternoon, visit the famous Jerónimos Monastery, which has an entrance fee of around 10 EUR. Have dinner at a local restaurant like A Cevicheria, which offers traditional Portuguese cuisine and drinks.

Day 3: Lisbon Sightseeing

Spend the day visiting the famous Baixa district and its charming streets, which is free to visit. Have dinner at a local restaurant like A Pipa, which offers traditional Portuguese cuisine at an affordable price.

Day 4: Lisbon Sightseeing

Spend the day visiting the famous Bairro Alto district and its nightlife, which is free to visit. Have dinner at a local restaurant like Rua da Bica, which offers traditional Portuguese cuisine and drinks.

Day 5: Lisbon to Belgrade

Spend the morning visiting the famous Rossio Square and its beautiful fountains, which is free to visit. Return to Belgrade by plane in the early afternoon.