The Role of Artificial Intelligence in Personalizing the Traveler Experience

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ABSTRACT

The industry that is thought to have profited most from technical advancement is tourism. One notable example of this breakthrough in the past ten years is artificial intelligence (AI), which has become a vital instrument that can drastically alter the experience of visitors. Artificial Intelligence (AI) is revolutionizing travel planning, booking, and experience with chatbots providing round-the-clock customer support and personalized recommendation systems suggesting locations, activities, and places to visit. AI is there prior to, during, and following the excursion. The purpose of this study is to investigate existing technologies, their advantages and disadvantages, and the effects of their implementation in the tourist sector. Specifically, it looks at how AI can be used to personalize the passenger experience. In addition to using state-of-the-art techniques, these results are also obtained by administering a questionnaire to tourists in order to get a specific, quantitative response. Furthermore, the study's limitations are discussed and recommendations for further research are made.

INTRODUCTION

AI has been a part of tourism from the automated reservation system's initial applications. Significant advancements have been made recently, as the development of increasingly sophisticated tools, including chatbots and recommendation systems, has been made possible by the advent of machine learning algorithms and natural language processing (Gonçalves, M., 2023).

Customer service chatbots: Chatbots are computer programs designed to mimic human-to-human discussions and are utilized to offer customer care in real time. According to studies, chatbots can answer a variety of consumer concerns, from straightforward ones like check-in times to more complicated ones, thereby improving productivity and client happiness.

Personalized Recommendation Systems: Recommendation engines make relevant product and service recommendations based on user data. Within the tourism industry, these systems use data like as past travel experiences, expressed interests, and internet activity to recommend vacation locations, lodging options, and activities that best fit the traveler's profile.

In the tourism industry, artificial intelligence is changing conventional methods and opening up new prospects. Businesses that use AI will be more competitive because they can provide efficient and customized experiences.

"The broad adoption of AI across various market applications, such as demand forecasting, big data analysis, and automation and robotics in the hotel industry" (dos Santos et al, 2024) is acknowledged by the scientific literature in the tourism sector.

RESULTS

The questionnaires were distributed in hotels to tourists between September 4th and October 2nd, 2023 in the city of Bragança, Portugal. The total number of responses was 156.

Upon gathering demographic data in the first section, it was discovered that 10 of the individuals were under the age of 18, 20 were between the ages of 18 and 24, 47 were between the ages of 25 and 34, 53 were between the ages of 35 and 44, 21 were between the ages of 45 and 54, 3 were between the ages of 55 and 64, and 2 were 65 or older. It leads us to the conclusion that the respondents' age range is quite young.

103 (66%) of the respondents were men, 46 (29%) were women, and 7 (5%) indicated they were unsure.

84 people identify as Portuguese, 29 as Spanish, 15 as United Kingdom, 14 as French, 12 as Brazilians, and 2 as Germans.

The first question on the questionnaire asked about the kind of AI services you utilized while traveling; the responses are shown in Fig. 1 below. The second section of the questionnaire concentrated on the experience with AI services in tourism.

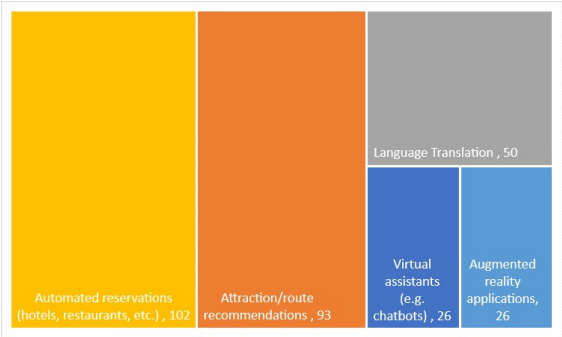

Fig. 1. Type of AI services used during the trip.

Respondents to this question had the option of selecting more than one choice; the following findings are shown in descending order in Fig. 1: reservations made automatically I was given 102 options, 93 suggestions for sites or routes, 50 responses for language translation, and an equal number of responses for the usage of augmented reality and virtual assistants.

When asked how often they use AI services in their travels, of the 156 respondents, 58 responded that they use AI services in their travels frequently, 40 responded occasionally, 32 rarely, and 26 responded that they always use these services.

When respondents were asked about the level of personalization provided by AI ser-vices, the answers were not very positive in relation to this question. 68 of the re-spondents responded that the level of personalization was low, 54 very low, 29 mod-erate, 3 high and 2 responded that it was very high.

When asked to what extent AI services improve their travel experience. As can be seen, the majority of comments are very good. Of the respondents, 98 said that the improvements were significant, and 50 said that their trip was significantly improved by using this service. Merely 8 out of those polled said their experience had not changed much.

CONCLUSIONS

Travelers are generally delighted with chatbot services, which have a high success rate of resolving issues without the need for human intervention, according to the results of utilizing chatbots in customer care. Additionally, it was shown that businesses who successfully integrated chatbots had a considerable rise in consumer satisfaction. With a noticeable rise in user engagement, the adoption of personalized recommendation systems produced highly accurate and pertinent results. Travelers who followed these suggestions spoke of more individualized and fulfilling trips.

AI has many advantages, such as comprehensive insights into visitor behavior, operational efficiency, and customisation. It does, however, confront obstacles including privacy issues, the requirement for substantial amounts of precise data, and the difficulty of putting complex systems into practice.

During the investigation, limitations of the study were discovered, including sample size and potential biases in the respondents' answers.

Future studies can examine how AI affects various tourist demographics and how new technologies are developed and used in the travel industry.

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