AI in the Hospitality, Travel, and Tourism Industries, an Opportunity or a Threat?

Efin Shu
Universitas Pelita Harapan, Jalan Imam Bonjol no. 6, Medan, Sumatera Utara 20112, Indonesia,
efin.shu@uph.edu

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Efin Shu[*]

Universitas Pelita Harapan, Jalan Imam Bonjol no. 6, Medan, Sumatera Utara 20112, Indonesia
* corresponding author, email: efin.shu@uph..edu

ARTICLE INFO	ABSTRACT
	Artificial Intelligence (AI) has had a profound impact on the way people do business around the world, including in the hospitality, travel, and tourism industries. Despite the promising capabilities presented by AI technology, this technology also presents some threats to these industries. The primary risk lies in the reduction of human talent and the elimination of jobs. This creates a dilemma whether to keep up with this technology or withhold from it. Therefore, this study explores recommendations to the stakeholders in these industries regarding their future strategies in light of the opportunities and threats presented by this technology. The data was collected by exploring relevant literature through Google Scholar and the Google search engine. The findings indicate that if these industries are to be sustainable, they are challenged to redesign their structures and business processes during the technology adoption process. In addition, the industry must strike the right balance between the utilization of AI and human interactions to gain a competitive advantage and to compete in these industries.

I. Introduction

The advancement of Artificial Intelligence (AI) transformed the landscape of global business. Organizations around the world have adopted AI-powered technologies to keep up with the trend of technology transformation into a global economy. This technology offers the potential to improve customer service, broadening operational capability, and reducing costs, therefore, improving overall business performance. Ultimately, this will contribute to the growth of the economy of the country.

The hospitality, travel, and tourism industries are among the industries that have been affected by the development of this technology. Major online travel agents such as Booking.com, Expedia, and Skyscanner have utilized the chatbot feature in running their business. When travelers are planning for their holiday, they might not realize that they are interacting with the AI. In particular, when they contact the major tour operator, they are connected to the online Chatbot, not a human being (Threestayanti, 2021).

In the hotel industry, the Dorchester Collection hotel, a five-star hotel owned by Brunei Investment Agency in London, England, has implemented the AI technology called Metis. This AI software processes and analyzes the customer feedback survey, reviews, and online polling to obtain an overview of the business performance (Threestayanti, 2021).

In addition, the Hilton McLean Hotel in Virginia, United States has used AI technology in the form of an AI robot. Connie, the concierge robot, answers the hotel guests' inquiries about the hotel features, and local tourist destinations, then provides recommendations. Connie also has the motor ability to move her legs and hands to show directions to the hotel guests. She expresses various emotions through various colors of light. Through the AI algorithm, she also has the ability to continually learn from her interactions with humans and improve her abilities (Threestayanti, 2021).

The Henn-na Hotel in Nagasaki, Japan is the first hotel in the world that fully employs multi-lingual robots to handle the check-in and check-out process for the guests as their main job descriptions (Threestayanti, 2021).

Despite the promising capabilities presented by AI technology to the world, this technology also poses some threats (Prentice et al., 2020). Some of the risks associated with AI technology include the loss of low-tech jobs, loss of control when robots have autonomy over people, as well as security and privacy issues (Tussyadiah, 2020). Furthermore, employees might feel threatened by the presence of AI-assisted robots in the workplace and this might affect their mental health. Further, employees may experience stress due to the possibility of losing their jobs when their work progress is monitored by robots, or even when they compete against the robots (Kumar et al., 2021). Those who remain in their positions may be required to exert greater effort in performing their duties and work longer hours with more complex and dynamic roles (Cain et al., 2019).

In addition to the aforementioned risks, the most significant risk is the potential reduction in the necessity for human talent and the elimination of jobs (Naumov, 2019). Artificial intelligence (AI) has the potential to enhance customer experiences through the reduction of human labor. In certain instances, human talent will be superseded by technology (Buhalis, 2020).

Based on the government AI Readiness Index 2023 by the Oxford Insights and International Development Research Center report, Indonesia is ranked eighth among the ASEAN countries in the application of AI by the government (Jayani, 2019). Meanwhile, in the world ranking, Indonesia is in 43rd position out of 181 countries with a score of 60,89 out of 100 in 2022. Besides, Indonesia received the lowest score on the technology sector pillar of the readiness index, indicating a need for a sufficient supply of AI tools from the nation's technology sector. The rank is considered as a little above the average for the government support towards AI, as presented in Figure 1.
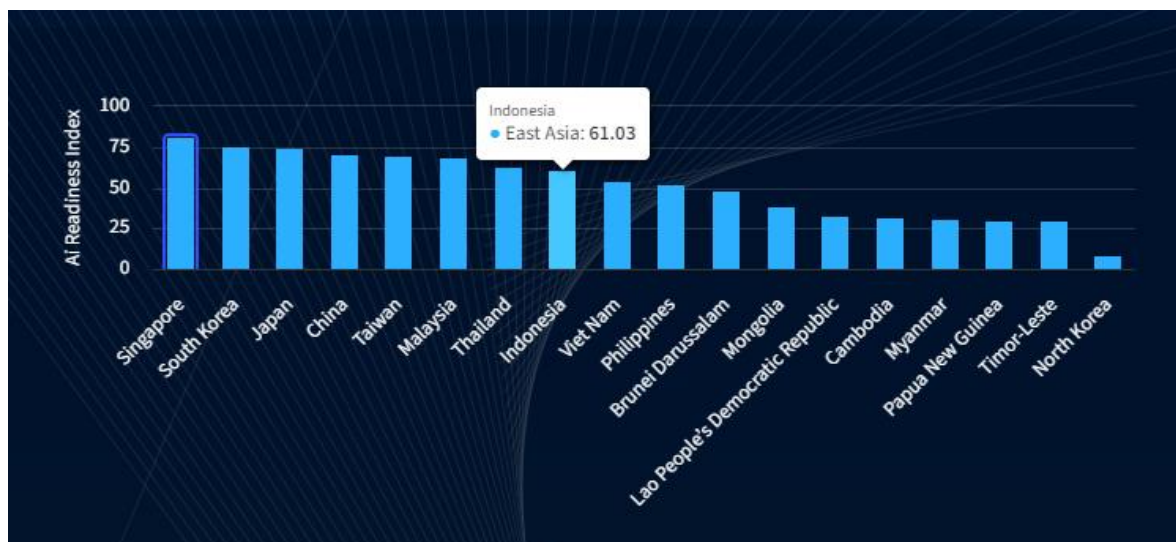

Fig. 1. Government AI Readiness Index 2023

Source: https://oxfordinsights.com/ai-readiness/ai-readiness-index/

Following the lack of AI readiness in the country, the hospitality, travel, and tourism industries in Indonesia are facing a dilemma in implementing this technology since these industries are predicted to create 22.8 million employment opportunities in 2024. Thus, these industries are highly favored by the government (Purwowidhu, 2023). Apart from increasing the GDP, job creation presented by this industry will boost the economy of the country as well.

The aforementioned risk prompts the question of whether the hospitality, travel, and tourism industry should refrain from implementing AI or accept the risk of reducing their workforce and embracing this technology. This paper aims to provide recommendations to industry players on their future directions in light of the opportunities and threats presented by this technology.

II. Method

This study employed the qualitative approach. The data collection process was performed by exploring some literature in Google Scholar and Google search engines related to AI applications in the hospitality, travel, and tourism industries. The qualitative approach was applied in analyzing the articles from webpages and journal articles from Google Scholar. Relevant literature was gathered by using the keywords "Artificial Intelligence in the hospitality, travel, and tourism industry" and "the opportunities and threats of using AI in the hospitality industry". The appeared journal articles and webpages were reviewed and analyzed based on the research questions. In the subsequent phase, conclusions were drawn and recommendations were formulated. Figure 2 illustrates the steps of the research process.
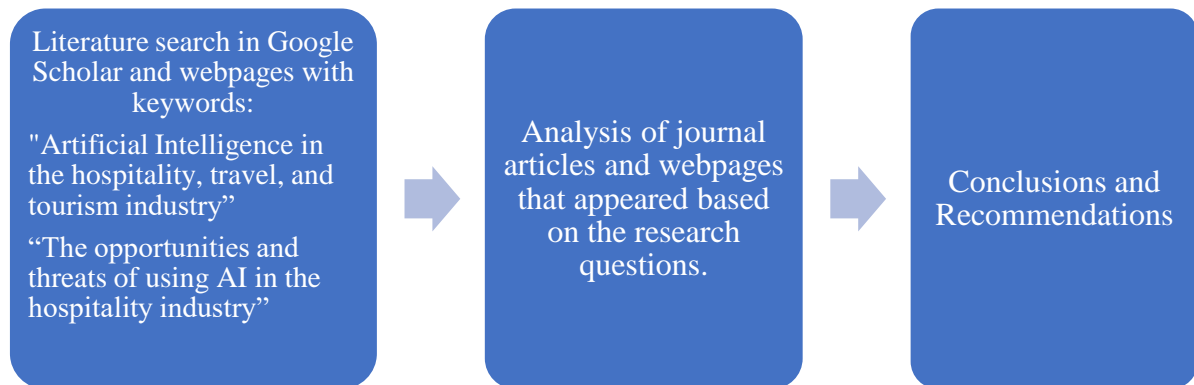

Fig. 2. The Steps of the Research Process

Source: Prepared by the writer (2024)

III. Results and Discussion

In addition to generating employment opportunities, these industries are notable for their high labor intensity and frequent customer contact (Bednarska, 2013). This indicates that the manner in which individuals interact—that is, between customers and service providers—and the impact of that interaction on the quality of the customer experience has a significant impact on these industries. To put it another way, human capital is crucial to this sector since it may be used to build a long-term competitive advantage (Bednarska, 2013).

Similar to two sides of a coin, the question of whether to apply Artificial Intelligence and reduce manpower or to keep being labor-intensive remains a dilemma. As the world is shifting towards the digital age, the hospitality, travel, and tourism industries cannot refrain from this trend. The previous human capital as the sustainable competitive advantage might be shifted to AI, robots, and service automation. Besides, AI has the potential to perform a wide range of functions that could benefit these industries.

For hotel rooms, AI can monitor and predict the rooms' maintenance, room pricing, room inventory, and energy efficiency in the rooms. The AI sensor in the camera can monitor and control the temperature and lighting (Rajak et al., 2023). AI can also serve as a virtual assistant to assist guests in checking in and out from their smartphones, as well as requesting bills through voice commands to be sent to email or text messages (Verihubs, 2023).

In the area of hotel sales and marketing, AI can facilitate a more targeted and personalized marketing campaign according to the guests' preferences based on their past behavior and demography (Haleem et al., 2022). AI can also identify the most appropriate marketing channel and the most effective time to advertise, thereby, resulting in a more efficient advertising budget (Verihubs, 2023).

In the tourism industry, the predictive analytics of AI can forecast future demand and enable proactive targeting of potential tourist segments, as well as anticipating demand fluctuations.

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Moreover, AI can also manage and analyze tourists' data, subsequently providing recommendations about the best ways to approach them (Verihubs, 2023).

According to Wolfram Höpken, professor of Business Informatics at Ravensburg-Weingarten University of Applied Sciences in Southern Germany, Chatbot chatbots will soon be utilized as city tour guides (Welle, 2023).

With the preceding capabilities of AI technology, it is evident that this technology can enhance the customer experience (Goel et al., 2022). The incorporation of AI will facilitate the transformation of the industry into an intelligent hotel and tourism industry ((Ruel & Njoku, 2021), (Lai & Hung, 2018)). The aforementioned implementations may be found in the realms of property management systems, revenue management systems, and customer relationship management, thereby providing a comprehensive overview of the overall business performance (Mariani et al., 2018).

Furthermore, not all customers shun this technology. The millennial and the subsequent generation are mostly motivated by the selection of AI solutions. Therefore, this technology can leverage the on-site services processes and maintain the relationship with the customers (Citak et al., 2021). Further, employees will be relieved from routine jobs and will have the opportunity to focus more on strategic activities such as building customer relationships and providing personalized services.

IV. Conclusion

In order for the hospitality, travel, and tourism industries to be sustainable, it is imperative that they consider the implementation of this technology. During the technology adoption process, they are challenged to redesign their structures and business processes (Saini & Bhalla, 2022); Prentice et al., 2020). It is evident that not all customers are amenable to interacting with robots. Consequently, the industry must achieve an optimal equilibrium between the deployment of AI and human interactions, a process that is inherently complex. The challenge of providing personalized guest experiences is further compounded in this context. Nevertheless, this technology will facilitate the industry's ability to gain a competitive advantage, as the inability to adapt to the shifting landscape of the digital age may impede businesses' capacity to compete effectively. In addition, the hospitality, travel, and tourism industries suffered significant losses during the 2.5-year period of the COVID-19 pandemic. One solution proposed was to minimize physical interaction during the service process. This could be achieved through the adoption of AI technology, where customers interact with chatbots and AI robots instead of humans. The pandemic has intensified the need for AI implementation in these industries, as the occurrence of a pandemic like COVID-19 remains uncertain. Future researchers are encouraged to examine additional factors that may impede the readiness of these industries to implement AI technology in Indonesia. Future research could also investigate how companies redesign their structures and business processes related to their manpower, with a focus on their welfare. With the reduction in certain job positions in the hospitality, travel, and tourism industries, it is essential to understand the broader economic implications for Indonesia. This is a crucial area for future investigation.

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