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Transforming Tourism Services: The Influence of Artificial Intelligence on Travelers' Experience

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ABSTRACT

Artificial Intelligence (AI) has significantly advanced across various industries, including hospitality and tourism. The integration of AI in tourism is reshaping travel experiences and operations, revolutionizing everything from travel planning to decision-making and overall destination experiences. However, the effectiveness of AI in enhancing tourists' satisfaction and providing valuable experiences remains a topic of debate among scholars. This study, grounded in the Technology Acceptance Model (TAM), aims to examine how AI elements, specifically speed, information accuracy, perceived ease of use, and perceived usefulness contribute to travellers' experiences from the planning phase to the completion of their journey. A quantitative research approach is employed using a cross-sectional research design and convenience sampling to target local tourists in Klang Valley. Data collected through self-administered questionnaires and analysed using the partial least squares structural equation modelling (PLS-SEM) technique via SmartPLS software. Findings indicate that AI elements such as speed, information accuracy, perceived ease of use, and perceived usefulness have positive and significant effects on travellers' experiences and satisfaction. The results highlight AI's role in providing clear and accurate information about tourism attractions and destinations, enabling travellers to access necessary information quickly and efficiently. Overall, this study contributes to the ongoing discussion on AI's effectiveness in tourism, reinforcing its potential to revolutionize the industry by improving service efficiency and customer satisfaction.

1. Introduction

The development of digital technology has revolutionized various industry sectors, including tourism and hospitality industry [1]. One of the most significant innovations is the implementation of Artificial Intelligence (AI), which is bringing about a profound transformation in the way the industry operates [2]. AI not only improves operational efficiency but also changes the way service providers and customers interact, creating a more personalized and effective experience. By simulating human

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intelligence, AI provides innovative solutions that enhance operational efficiency and enrich the traveller's experience. AI in the travel industry is significantly transforming how companies interact with their customers and solve any difficulties [3]. Nowadays, many travel companies highly leverage AI-powered tools in providing valuable experience to travellers from their travel planning phase to landing in the destination. AI have now taken the place of travel agents such as allowing travellers to book flights and accommodations and hire vehicles online. It can be seen now that many travel, tourism and hospitality companies have started to adopt AI in the form of chatbots, conveyor restaurants, self-service information/check-in/check-out kiosks, and many others. For example, chatbots were deployed in websites and social media platforms as representatives of the service providers to assist travellers to obtain any information about products or services provided easily [4].

There are various criteria for AI that are expected by Internet users, such as speed, personalization, accuracy, usefulness, efficiency, and many more. Speed refers to how quickly the AI technology can process and respond to customer requests. Information accuracy ensures that the data provided is precise and relevant, while ease of use assesses how intuitive and easy the technology is for customers to use [5]. Perceived usefulness reflects the customer's view of the benefits gained from using AI technology. The main problem that often arises in the implementation of AI technology is the mismatch between customer expectations and the actual performance of AI, both in terms of speed, accuracy, usefulness, and ease of use. If one of these aspects is not met, it can reduce the level of customer satisfaction and trust in the technology [6]. Therefore, it is important for companies to continuously improve these four aspects to provide an optimal user experience [7].

The development of digital technology has revolutionized the tourism and hospitality management sector, with artificial intelligence (AI) being a significant innovation that is changing the way the industry operates [8]. It is important to note that by using AI, travellers receive personalized recommendations for destinations, accommodations, and activities, creating unique and memorable journeys. AI-powered chatbots and virtual assistants offer round-the-clock support, reducing response times, and elevating customer service. Additionally, AI-driven language translation bridges linguistic barriers, ensuring inclusivity in travel.

While AI is improving operational efficiency and more personalized interactions, there is a gap in research about the impact of AI performance in hospitality and tourism industry on customer experiences, especially in terms of speed, accuracy of information, perceived ease of use, and perceived usefulness [4-8]. For example, studies on tourist experiences highlight interactions between humans and robots [7]. While current studies on AI focus more on AI adoption and practices from the hospitality industry players' perspective compared to the tourists' perspective [8]. Due to that, this research focuses on the influence of AI in the tourism and hospitality sector by considering four main independent variables, namely speed, accuracy of information, ease of use, and perceived usefulness. In nutshell, this research aims to examine the influence of AI on traveller experience by highlighting how this technology can create more effective, inclusive services and improve customer satisfaction in the tourism industry through investigating the influence of AI on traveller's experience. The key findings of this research underscore the remarkable enhancement of customer experiences facilitated by AI.

2. Literature Review

Previous research shows that AI plays an important role in improving service efficiency in the tourism and hospitality sector. Data processing speed enables faster response to customer needs. Information accuracy supports more informed decision-making, while ease of use improves the convenience of customer interactions. Perceived usefulness also influences the level of technology

adoption by users. Overall, effective AI implementation can significantly increase the efficiency of customer experience, improve service quality, and strengthen industry competitiveness [1].

2.1 Artificial Intelligence

The emergence of a new group of technologies powered by Artificial Intelligence (AI), such as Virtual Reality (VR), Augmented Reality (AR), the Internet of Things (IoT), robots, chatbots, and virtual assistants, will create new ways of conducting business, provide added value to customers, and transform how customers experience services [9]. Generally, these new technologies significantly influence customers' attitudes toward searching for product information, evaluating alternative products, making decisions, and ultimately sharing their opinions and experiences on various digital platforms.

The adoption of AI among business operators has become common nowadays, particularly in service-based businesses, due to its capability to help businesses gain a competitive advantage and remain relevant in the market [1]. As a result, AI has attracted the attention of many scholars who study it from various perspectives, including those of business operators and consumers. Some key topics of research include adoption, impact, challenges, and more. From the hospitality and tourism perspective, understanding the implications of AI is crucial, as this industry is service based. It is essential for operators to understand how AI can enhance service delivery by providing valuable information and experiences. The application of AI in the hospitality and tourism industry has become a major focus of research due to its potential to improve efficiency and service quality [4,10]. Since research on the implications of AI is still relatively new, it is important to note that there are limited studies focusing on the association between AI components and their effects on customer experience [9,11,12]. Some components of AI that are still on scholars' radar include speed, information accuracy, ease of use, and perceived usefulness.

Speed in AI refers to the ability of AI components to process data and respond quickly to customer requests. This technology allows service providers to provide real-time answers, which can significantly increase customer satisfaction [13]. Furthermore, information accuracy is an important element in ensuring that the data delivered to customers matches their needs. An accurate AI system can reduce information errors and increase customer confidence in the services provided [14]. Ease of use refers to how intuitive AI technology is in interacting with users. An easy-to-use system will increase customer convenience when accessing digital services, thus strengthening the relationship between service providers and consumers [6]. Perceived usefulness, on the other hand, reflects the extent to which customers feel that the technology used provides tangible benefits to their experience [15]. Previous research shows that these four variables have a significant influence on customer experience efficiency [16]. Optimal AI implementation can create services that are fast, accurate, easy to use, and perceived as useful by customers. Thus, effective implementation of AI in the tourism and hospitality sector not only increases operational efficiency but also improves the quality of interactions between service providers and customers, thereby strengthening the overall competitiveness of the industry.

2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) was developed by Davis [15]. This model suggests that an individual’s beliefs on technology are influenced by their intention to use the technology. The intention to use the technology is influenced by an individual’s perception of whether it is easy to

use and its usefulness [17]. According to this model, an individual's perspective may be derived from the external factors, which are stimulated by organisational and individual factors and the technological system [13]. The perceived ease of use refers to the individual's belief that the technology incorporated will make their work easier. Meanwhile, perceived usefulness refers to the individual beliefs that the technology they use will increase their work performance [15]. TAM has already been applied in investigating a broad range of studies regarding technological acceptance including in the area of hospitality and tourism study [18].

2.3 Artificial Intelligence (AI) and Travellers Experience

Like the other industries, the application of AI in hospitality and tourism services will change the way customers respond to and interact with service providers. By incorporating robotic elements in communication and other service components, businesses can offer a distinct experience that enhances customers' overall quality of experience [11,12]. However, there is also a possibility that customers may have negative experiences or feelings of uncertainty when using AI or robotic services, as their characteristics differ from those of humans [12].

In the hospitality and tourism industry, travellers can experience AI and robotics when searching for information on tourism websites, making online bookings, or receiving food service in restaurants. Since hospitality and tourism is a fragile and service-based industry, there are various reasons why many vendors in this sector adopt AI to enhance service delivery. These include gaining a competitive advantage, keeping up with technological advancements, addressing workforce shortages during peak seasons, increasing productivity, and ensuring efficient service even during unexpected crises, such as COVID-19 [1]. The application of AI components, such as virtual assistants and chatbots, can enhance travellers' experiences through personalization by providing real-time solutions and easily customizing their demands. This characteristic of AI allows business operators to always be ready to offer services to travellers, reduce response times, improve operational efficiency, and ultimately enhance the overall travel experience [10]. Moreover, employing AI in the service industry, including the hospitality business, can reduce the possibility of human errors.

By differentiating themselves from competitors, business operators can remain relevant in the industry and enhance customer experience. This is particularly important because, in the tourism industry, customer experiences are shaped not only during their trip or stay at a destination but also before and after their journey [1]. Previous scholars have clearly stated that the framework for understanding how AI influences customer experience remains unclear, particularly in the context of the relationship between AI and customer experience [9,11]. Due to that, there is a growing demand for hospitality and tourism studies to focus on the effectiveness of AI in providing positive experiences for travellers in the hospitality and tourism industry [10].

2.4 Speed

Artificial Intelligence (AI) has become a key element in the transformation of the tourism and hospitality industry, particularly in improving the speed of service to customers. Speed, in this context, refers to the ability of AI systems to process data and respond to customer requests in real-time, which contributes significantly to improving operational efficiency and customer satisfaction [10,16]. One prominent implementation of AI is the use of chatbots and virtual assistants. These technologies enable hotels and tourism companies to provide information and services to customers quickly and accurately, without direct human involvement. Chatbots can answer common questions, assist with the reservation process, and provide personalized recommendations, thereby reducing

wait times and improving customer experience [7]. Recent studies show that the adoption of AI-based chatbots can speed up service response by up to 80%, which has a positive impact on customer satisfaction and their loyalty [19]. In addition, AI is used in data analysis to predict travel trends and customer behaviour. By processing large amounts of data in a short period of time, AI can identify customer patterns and preferences, allowing companies to proactively customize their offerings and services [20]. For example, AI-based predictive analytics can help hotels optimize occupancy rates by dynamically adjusting prices and promotions based on projected demand.

The implementation of AI is also seen in integrated hotel management systems. This technology enables the automation of various processes, such as check-in and check-out, inventory management, and room service [21]. By reducing manual intervention, processing times become faster, and staff can focus on more strategic and customer-oriented tasks. However, it is important to note that AI adoption must be accompanied by adequate training for staff and business process adjustments to maximize its benefits. In addition, attention to data privacy and security of customer information is crucial in the implementation of this technology. With the right approach, AI can be an effective tool in improving service speed and operational efficiency in the tourism and hospitality sector. Based on the literature reviewed, the following hypothesis is proposed:

H1: Speed has a significant impact on the traveller's experience in hospitality and tourism services (P_{15}).

2.5 Accuracy of Information

In recent years, the application of Artificial Intelligence (AI) in the tourism and hospitality industry has shown a significant increase, especially in improving the accuracy of information delivered to customers [9,10,12]. Information accuracy is a crucial factor that affects customer experience and satisfaction, as well as operational efficiency in this sector [22]. One prominent implementation of AI is the use of chatbots in customer service. AI-based chatbots are capable of providing quick and accurate information to potential travellers, such as destination details, accommodation recommendations, and itineraries [23]. This capability not only improves service efficiency but also ensures that the information customers receive matches their needs and preferences [4]. In addition, AI plays a role in data analysis to forecast travel trends and customer behaviour [24]. By processing large amounts of data, AI can identify patterns and provide accurate predictions regarding destinations that will be popular, accommodation preferences, and activities that travellers are interested in [14]. This information allows service providers to proactively customize their offerings, increasing the relevance and accuracy of information provided to customers.

The implementation of AI is also seen in service personalization. By analysing a customer's interaction history and preferences, AI-based systems can recommend travel packages, restaurants, or activities that match individual interests [10,22]. This approach ensures that the information delivered is not only accurate, but also relevant and customized to each customer's specific needs. However, the adoption of AI in improving information accuracy also faces challenges, especially related to data security and privacy. The collection and analysis of customer data requires careful management to prevent misuse of information and ensure compliance with privacy regulations [25]. Therefore, it is important for industry players to implement strict security protocols in data management. From the above information, the application of AI in the tourism and hospitality industry has brought a positive impact in improving the accuracy of information delivered to customers. By utilizing this technology, service providers can offer a more personalized, efficient, and satisfying experience, which ultimately contributes to increased customer loyalty and competitive advantage in the global market. Therefore, the following hypothesis is proposed:

H2: Accuracy of information has a significant impact on the traveller's experience in hospitality and tourism services (P_{25}).

2.6 Perceived Ease of Use

Based on the Technology Acceptance Model (TAM), Perceived Ease of Use (PEOU) refers to the extent to which individuals believe that the use of a technology system does not require excessive effort or is difficult to operate [15]. This concept explains that the adoption of a technology by individuals is strongly influenced by their perception of its ease of use. If the technology is considered easy to use, then the likelihood of its use will be higher [17,26]. In recent years, the application of Artificial Intelligence (AI) in the tourism and hospitality industry has increased significantly, especially in the aspect of user-friendliness. AI plays an important role in improving the interaction between service providers and customers, which ultimately has a positive impact on efficiency and customer experience [13]. One of the most prominent implementations of AI is the use of virtual assistants and chatbots. These technologies allow hotel guests to make reservations, obtain information about facilities, as well as handle various inquiries without the need for direct interaction with staff [1,27]. This not only improves operational efficiency but also makes it easier for customers to access the services they need.

In addition, AI is used to analyse data on customer preferences and behaviour. By utilizing this data analysis, hotels can offer services that are more personalized and suited to the needs of each guest. For example, AI systems can recommend activities or facilities that match guest preferences, thereby increasing customer satisfaction and loyalty [28]. AI-based facial recognition technology has also been adopted to speed up the check-in process and enhance security. With this system, guests can directly access their rooms without having to go through the time-consuming check-in process, thus improving their comfort and stay experience [5]. However, the application of AI in this industry is not without its challenges. The large initial investment as well as the need for staff training to adapt to the new technology are obstacles that need to be overcome. In addition, it is important to maintain a balance between the use of technology and the human touch in service to keep the customer experience warm and personalized [29]. Thus, the following hypothesis is proposed:

H3: Perceived ease of use has a significant impact on the traveller's experience in hospitality and tourism services (P_{35}).

2.7 Perceived Usefulness

Perceived Usefulness (PU) is one of the crucial factors in technology adoption, as described in the Technology Acceptance Model (TAM). This is also true in the adoption of Artificial Intelligence (AI) in the tourism and hospitality sector. In general, PU refers to the extent to which individuals believe that the use of a particular technology will improve their performance [15]. In the tourism and hospitality industry, the adoption of AI has shown significant improvements in operational efficiency and customer experience. A recent study by Gursoy [30] showed that AI plays an important role in improving customer service experience through personalization and efficiency. The implementation of AI enables service providers to provide recommendations tailored to individual preferences, thereby increasing customer satisfaction and loyalty. In addition, AI can automate routine tasks, allowing staff to focus on more valuable interactions with guests.

However, despite its clear benefits, the adoption of AI in this industry is not free from challenges. Research El Archi and Benbba [27] identified that issues related to privacy, security, and data management are major concerns for consumers. These concerns can affect the perceived usefulness

of AI and hinder widespread adoption of the technology. Therefore, it is important for companies to address these issues through transparency and strong data protection policies. In addition, research by Go *et al*., [29] shows that the positive emotions that consumers feel when interacting with AI systems contribute to an increase in perceived usefulness. Consumers who feel comfortable and satisfied with AI-based interactions tend to perceive this technology as a useful and efficient tool [26]. This emphasizes the importance of intuitive and responsive user interface design in the development of AI systems. Ultimately, the perceived usefulness of AI in the tourism and hospitality industry is influenced by various factors, including functional benefits, privacy concerns, predictions and forecasting, and users' emotional responses [31]. To maximize the adoption and effectiveness of AI, companies must ensure that these technologies not only offer performance improvements but also address consumer concerns and provide a positive user experience. Based on the literature reviewed, the following hypothesis is proposed:

H4: Perceived usefulness has a significant impact on the traveller's experience in hospitality and tourism services (P_{45}).

2.8 Conceptual Framework

Figure 1 below illustrates the conceptual model that portrays the influence of exogenous constructs, which include speed, information accuracy, perceived ease of use, and perceived usefulness, on the endogenous construct of travellers' experience with services in the hospitality and tourism industry.

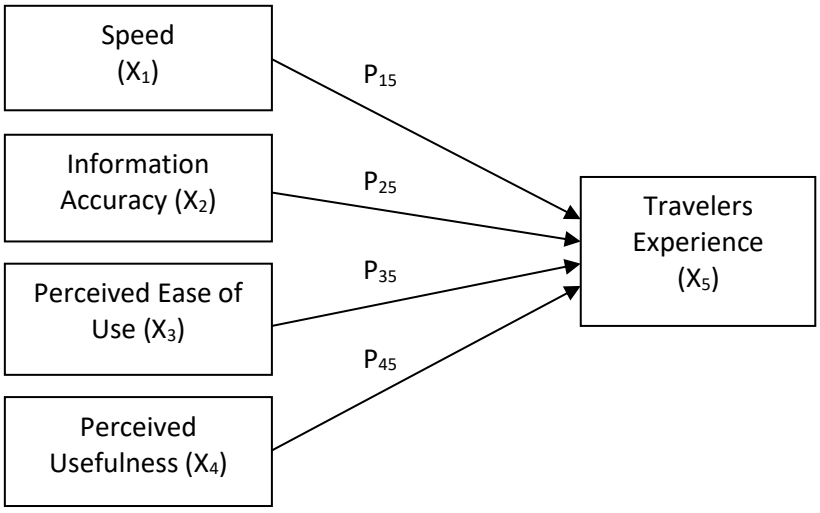

Fig. 1. Conceptual framework

3. Methodology

3.1 Research Design and Sampling

A cross-sectional research design was employed in this study to assess respondents' experiences using AI as a source of information before making a final decision on choosing a tourism destination. Using a convenience sampling technique, self-administered questionnaires were distributed to local and international tourists visiting various tourist destinations and attractions in Kuala Lumpur and the Klang Valley. Most of them have experience using and interacting with AI components, either before or after their visit, particularly when searching for information about destinations or attractions, booking hotels, and accessing transportation services. To determine the appropriate

sample size, this study refers to several indicators from previous scholars. First, for path analysis, the PLS-SEM sampling procedure suggests the "10-times rule," where the total number of structural paths between exogenous and endogenous constructs in the research framework should be multiplied by 10. Since this study includes four paths, the minimum target sample size is 40 (10 × 4 structural paths = 40 respondents) [32]. Next, for unidentified or large populations, Hair *et al*., [33] suggests that an appropriate sample size ranges between 100 and 200 respondents. Based on these guidelines, a total of 132 participants were selected as the sample for this study, as this was considered acceptable and valid for further analysis.

3.2 Research Instrument – Questionnaire

The questionnaire for this study consists of two sections. Section A gathers information about respondents' demographic profiles, including the social media and travel websites usage that provide AI services. All questions in Section A were analysed descriptively, with findings reported in terms of frequency and percentage. While Section B focuses on the main constructs investigated in this study namely, speed, information accuracy, perceived ease of use, perceived usefulness, and travellers' experience. All constructs in Section B were measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The constructs of speed and information accuracy were each measured using four items adapted from [34-38]. While constructs of perceived ease of use and perceived usefulness were each measured using four items sourced from [15,37-39]. Table 1 summarizes all the constructs and items adapted in this study to analyse respondents' perceptions of the functions of AI in providing valuable experiences.

Table 1
Summarize of constructs and items

Constructs	Items	Sources
Travelers Experience	1. AI helps me save time in the entire travel process.	[34,36-38]
Efficiency	2. AI-based services increase convenience and flexibility in my journey.	
	3. I feel more confident in making travel decisions with the help of AI.	
	4. AI improves my overall travel experience.	
Speed	1. The AI-based system helps me get travel information quickly.	[34-37]
	2. AI speeds up the process of finding tickets, routes, and accommodation.	
	3. AI services reduce the time needed to complete travel transactions.	
	4. AI allows me to respond faster to schedule changes.	
Accuracy of Information	1.The information provided by AI about destinations and travel services is very accurate.	[34,35,36,38]
	2. AI helps me get travel recommendations that match my preferences.	
	3. AI provides up-to-date information on weather, transportation, and travel policies.	
	4. I rarely find errors in the information provided by AI while planning a trip.	
Perceived Ease of use	1.AI-based applications or systems are easy to use in planning trips.	[15,37,39]
	2. I have no difficulty in understanding the AI features in the travel app.	

	3. The navigation in the AI-based system is intuitive and not confusing. 4. I feel comfortable using AI-based services without the need for additional assistance.	
Perceived Usefulness	1.AI helps me make better travel decisions. 2. Using AI increases efficiency and effectiveness in my travel planning. 3. I find AI very useful in improving my travel experience. 4. AI-based services increase my satisfaction in traveling.	[15,38,39]

3.3 Reflective Measurement Model Assessment

Based on the PLS-SEM technique, four main criteria must be met in research involving a reflective measurement model. First, internal consistency, assessed using Cronbach's Alpha and composite reliability, should be above 0.7. Second, indicator reliability requires factor loadings above 0.708. Third, convergent validity is achieved when the Average Variance Extracted (AVE) value is greater than 0.5. Fourth, discriminant validity is assessed through cross-loadings, the Fornell-Larcker criterion (√AVE > r), and the Heterotrait-Monotrait (HTMT) ratio, which should be less than 0.9 [32].

3.4 Structural Model Assessment

For the assessment of a structural model using PLS-SEM, several elements need to be considered, namely the variance inflation factor (VIF), which should be less than 5, the path coefficient (β) value, the standard error (SE), the t-value (greater than 1.96), the p-value (less than 0.05), and the confidence interval (CI) at 95% [32]. In addition, it is also necessary to assess the coefficient of determination, commonly known as R-squared (R^2). To evaluate the contribution of exogenous constructs to the development of the endogenous construct, the total variance explained by the exogenous constructs is assessed. The R^2 value is categorized as weak, moderate, or strong based on threshold values of 0.25, 0.5, and 0.7, respectively [32,40].

4. Results

4.1 Profile Demographic of Respondents

An analysis of the respondents' demographic profile found that the majority are female (53.4%) compared to male (46.6%). The analysis also indicates that the largest age group among respondents is 41 years old and above (42.7%), followed by 20-25 years old (27.5%), 26-30 years old (15.3%), 31-35 years old (9.9%), and 36-40 years old (4.6%). In terms of travel experience within a year, most respondents travel 1 to 2 times annually (41.3%), followed by 3 to 5 times a year (34.4%) and more than 6 times a year (24.4%).

Additionally, before making travel decisions, the respondents tend to refer to various travel websites for information and reviews from previous tourists about the destination. The main purpose of this information search is not only to assess the attractiveness of the destination but also to obtain information about the quality of services and products, safety, accessibility, facilities, and other elements relevant to their needs during the holiday. The research findings indicate that the most popular digital platform among respondents for searching travel information and reading reviews from previous tourists is Platform X (34.4%), followed by Instagram (26%), Traveloka (21.4%), Tripadvisor (11.5%), Facebook (3.1%), Booking.com (2.3%), and Agoda (1.5%).

4.2 Reflective Measurement Model Evaluation

The results presented in Table 2 showed that this study met the criteria for reflective measurement model evaluation, as no issues were identified regarding factor loading, internal reliability, discriminant validity, and convergent validity. The research findings indicated that the values of factor loading (λ), Cronbach's Alpha (α), composite reliability (CR), and Average Variance Extracted (AVE) for all constructs were well above the threshold. Specifically, the analysis indicates that each construct studied has a factor loading above 0.708 (λ > 0.708), indicator reliability greater than 0.501 (IR > 0.501), a Cronbach's alpha value greater than 0.7 (α > 0.7), and composite reliability greater than 0.7 (CR > 0.7). This indicates that all measured items are reliable, exhibit strong internal consistency, and belong to their respective constructs. Furthermore, convergent validity, measured based on the AVE value, shows that all items have a strong relationship with their constructs and can explain more than 50% of the variance of their respective constructs.

Table 2
Reflective measurement model evaluation

Constructs	Items	λ (>0.708)	IR (>0.501)	(α) (>0.7)	CR (>0.7)	AVE (>0.5)	Discriminant Validity
Accuracy	Accuracy_1	0.855	0.731	0.872	0.913	0.724	Yes
	Accuracy_2	0.8	0.640				
	Accuracy_3	0.887	0.787				
	Accuracy_4	0.858	0.736				
Perceived Ease of Use	Ease_1	0.884	0.781	0.927	0.948	0.82	Yes
	Ease_2	0.907	0.823				
	Ease_3	0.938	0.880				
	Ease_4	0.893	0.797				
Travellers Experience	Experience_1	0.924	0.854	0.937	0.955	0.842	Yes
	Experience_2	0.885	0.783				
	Experience_3	0.925	0.856				
	Experience_4	0.935	0.874				
Speed	Speed_1	0.816	0.666	0.901	0.931	0.773	Yes
	Speed_2	0.92	0.846				
	Speed_3	0.914	0.835				
	Speed_4	0.862	0.743				
Perceived Usefulness	Usefulness_1	0.892	0.796	0.924	0.946	0.815	Yes
	Usefulness_2	0.917	0.841				
	Usefulness_3	0.882	0.778				
	Usefulness_4	0.92	0.846				

The results of the discriminant validity test using the Fornell-Larcker criterion confirm that each construct in this study meets the discriminant validity requirements. According to the Fornell-Larcker criterion, the square root of the AVE (bolded in the table) must be greater than the correlation between other constructs in the model. Table 3 shows that the square root AVE values for each construct are all greater than the correlations with other constructs. This is evident from the values of accuracy of information (0.851), perceived ease of use (0.906), perceived usefulness (0.903), speed (0.879), and traveller's experience (0.917). This finding confirms that each construct is distinct, meaning it measures a unique concept. Therefore, the research model demonstrates strong discriminant validity, indicating that the instrument effectively differentiates between different constructs.

Table 3
Fornell-Larcker criterion

Constructs	1	2	3	4	5
Accuracy of Information (1)	0.851				
Perceived Ease of Use (2)	0.732	0.906			
Perceived Usefulness (3)	0.729	0.826	0.903		
Speed (4)	0.757	0.666	0.672	0.879	
Travellers Experience (5)	0.736	0.788	0.82	0.693	0.917

Note: The values in bold are AVE square root values

Table 4 presents the evaluation of discriminant validity based on the Heterotrait-Monotrait Ratio (HTMT). The analysis indicates that the correlation coefficient between constructs is less than 0.9 (HTMT < 0.9), confirming that all constructs studied are distinct.

Table 4
Heterotrait-Monotrait Ratio (HTMT)

Constructs	1	2	3	4	5
Accuracy of Information (1)					
Perceived Ease of Use (2)	0.712				
Perceived Usefulness (3)	0.706	0.735			
Speed (4)	0.755	0.728	0.736		
Travellers Experience (5)	0.709	0.752	0.788	0.753	

Note: HTMT.90 <0.90

4.3 Structural Model Evaluation

The analysis of the Variance Inflation Factor (VIF) revealed that all exogenous constructs have VIF values below 5. This result indicates that the structural model developed in this study has no collinearity between constructs in explaining the endogenous construct. Table 5 below demonstrates the highest VIF value is observed for perceived usefulness (VIF = 3.421), while the lowest VIF value is observed for speed (VIF = 2.546) in relation to the construct of travellers' experience.

Table 5
Variance inflation factor

Constructs	Travellers Experience
Accuracy of Information	3.095
Perceived Ease of Use	3.418
Perceived Usefulness	3.421
Speed	2.546

Note: VIF <5

4.3.1 Hypothesis Testing

The significance assessment was performed using the PLS-SEM technique through the bootstrapping procedure with 5,000 samples. The evaluation is based on the statistical t-value (t > 1.96), p-value (p < 0.05), and 95% confidence interval (CI95%). The analysis revealed that all four exogenous constructs significantly affect the endogenous construct.

First, the construct of speed has a significant impact on traveller's experience in hospitality and tourism services (β = 0.272, t = 2.033, p < 0.05, CI[0.147, 0.226]). Previous study has suggested that

one of the significant roles of AI is its ability to provide real-time responses to assist customers with their requests [10]. For example, chatbots can quickly answer customer inquiries about products or services. Additionally, they can accurately personalize responses based on customers' requests 24/7. In addition, AI functions such as automatic processing can save time for both service providers and customers by speeding up tourism operations, including booking and payment processes [1]. There is no doubt that AI characteristics, such as speed, can significantly enhance travellers' experiences positively. Therefore Hypothesis 1 (P_{15}) is accepted.

Next, the research findings discovered that the construct of accuracy of information has a significant impact on traveller's experience in hospitality and tourism services ($\beta = 0.227$, $t = 2.383$, $p < 0.05$, CI[0.189, 0.195]). The literature discusses that, with the assistance of AI, business operators can provide services to customers more quickly and accurately [10,41]. Even though the information provided by AI is presumed to be correct, it is not always accurate in certain situations, such as weather forecasts at tourist destinations [1]. Nevertheless, the accuracy of information provided with the assistance of AI cannot be denied [24]. Therefore Hypothesis 2 (P_{25}) is accepted.

Additionally, the construct of perceived ease of use also found has a significant impact on traveller's experience in hospitality and tourism services ($\beta = 0.328$, $t = 3.777$, $p < 0.05$, CI[0.159, 0.486]). Previous studies have also stated that the adoption of new technologies, including AI components such as chatbots, is significantly influenced by the characteristics of AI, particularly its ease of use [26]. Similarly, the current study found that tourists' intention to use AI for travel decisions is due to its ease of use [42]. Moreover, since AI components simplify documentation and recognition processes for tourists during travel, they positively impact the overall tourist experience [31].

Lastly, the analysis exposed that perceived usefulness has a significant impact on traveller's experience in hospitality and tourism services ($\beta = 0.567$, $t = 6.798$, $p < 0.05$, CI[0.386, 0.707]). Literature have indicated that AI plays an important role in the tourist decision-making process, as its usefulness provides valuable information before, during, and after travel [26,42]. Additionally, usefulness also includes the ability of AI-powered systems to predict and forecast tourism-related information, such as flight ticket prices, entrance fees for tourist attractions, and hotel rates thereby enhancing tourist satisfaction and experience [31]. Table 6 summarizes the results of the research hypothesis testing, indicating the path significance level of the path coefficients between constructs.

Table 6
Summary of hypothesis testing

Path Analysis	β	T-Values	P - Values	CI 95%		Result
				Upper Bound	Lower Bound	
H1 (P_{15}): Speed -> Travellers Experience	0.272	2.033	0.00	0.147	0.226	Accepted
H2 (P_{25}): Accuracy of Information -> Travellers Experience	0.227	2.382	0.00	0.189	0.195	Accepted
H3 (P_{35}): Perceived Ease of Use -> Travellers Experience	0.328	3.777	0.00	0.159	0.486	Accepted
H4 (P_{45}): Perceived Usefulness -> Travellers Experience	0.567	6.798	0.00	0.386	0.707	Accepted

Note: Sig level 0.05 ($p<0.05$)

4.3.2 Coefficient of Determination (R^2)

The evaluation of the coefficient of determination in the structural model is important for measuring its predictive accuracy. The analysis revealed that the four exogenous constructs namely

speed, accuracy of information, perceived ease of use, and perceived usefulness jointly explain 88.3% (R^2 = 0.883) of the variance in the endogenous construct, traveller's experience. A strong R^2 value indicates that all exogenous constructs contribute significantly to the variance of the endogenous construct. Figure 2 illustrates the structural model, presenting the effects of speed, accuracy of information, perceived ease of use, and perceived usefulness on traveller's experience and the R^2 value.

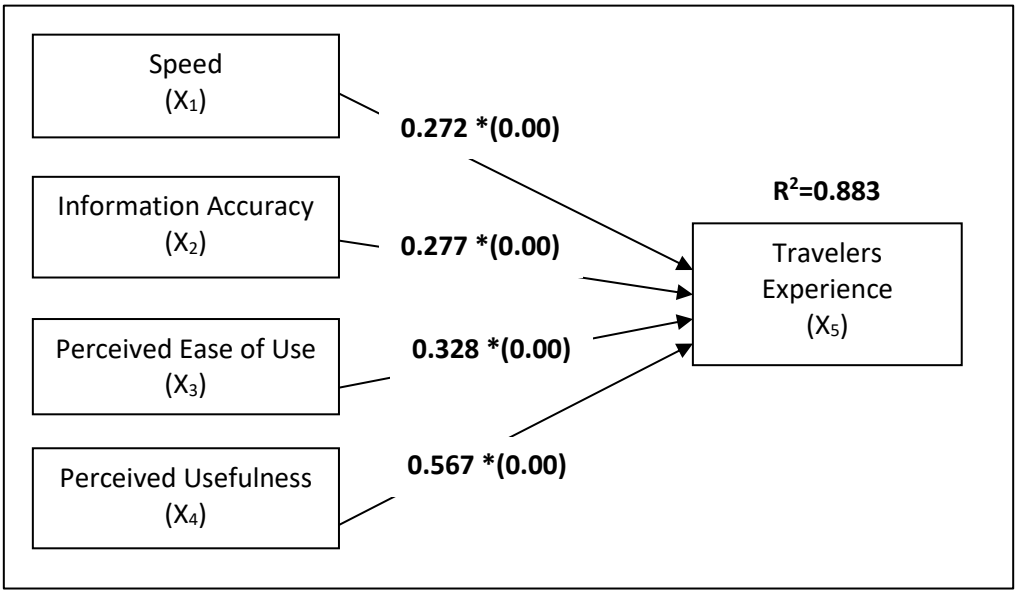

Fig. 2. Structural Model

5. Discussion

The emergence of new technologies, typically powered by Artificial Intelligence (AI), has also transformed the way information is received and shared among Internet users [43]. For example, chatbots, virtual assistants, Virtual Reality (VR), Augmented Reality (AR), and the Internet of Things (IoT) are all part of this transformation. This new era is significantly reshaping the customer experience [44]. Since studies regarding the impact of AI on tourists' experiences in using tourism services are relatively new, this study was conducted to understand how the features and roles of AI can significantly affect traveller's experiences. The research findings indicate that AI components have a major impact on travellers from before they begin their trip until they complete it. The analysis found that AI components, such as chatbots and virtual assistants, are not only useful for providing essential information to travellers, but they are also capable of offering immediate support in an easy way, which significantly enhances travellers' experiences in the hospitality and tourism industry

By incorporating AI into the hospitality and tourism industry, it will improve the effectiveness of operations and transform the hospitality business to be more productive while reducing human errors. Moreover, the integration of AI in the hospitality business also reflects the dedication of the authorities in Malaysia towards adopting technology and innovation to provide outstanding customer service. It is important to note that excellent customer service, whether provided by humans or with AI support, will affect tourists' experiences and their behaviour in the future, including how they share their experiences with others. While AI has become essential in providing better service to travellers, there is also apprehension about losing the human element. For example, virtual assistant and chatbot can replace customer services workers, and self-service technologies such as check-in kiosks will reduce demand for support staff at front desk. To overcome this

challenge, it is essential for service providers to balance the benefits of AI with the human touch to maintain personalization and authenticity in the tourist experience. Thus, while utilizing the benefits of AI, service providers ought to focus on improving employees' skills in technology and customer service. For example, in certain situations particularly those involving emotions or complex interactions where empathy is indispensable, human handling and physical engagement are required. Likewise, AI is an effective tool for providing recommendations and generating ideas for various purposes. However, when it comes to decision-making, human expertise is essential, as human consideration and interpretation can add a personal touch.

6. Conclusions

In conclusion, this study provides significant contribution to the field of hospitality and tourism by providing valuable insights about the connection between the application of AI in business operations and travellers' experiences. Based on the research findings, this study provides several practical implications. From a business perspective, this study emphasizes the importance of applying AI in business operations, as it can significantly increase efficiency, enhance customer service, and streamline operations. From the traveller's perspective, the study highlights how the utilization of AI-powered technologies can assist travellers such as personalize their demands, provide real-time services, assist in the booking process, and many more which ultimately enhancing their satisfaction, trust, and loyalty. However, it is also important to note the need for a balance between technological advancements and human touch to ensure authenticity and maintain personalization in providing memorable experiences for travellers. In a nutshell, future research is strongly encouraged to adopt a longitudinal approach in evaluating travellers' perceptions over different periods such as before, during, and after their travels. This approach could generate more robust and comprehensive research findings.

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