The Impact of AI-Enabled Services on Guest Value and Revisit Intention through the Meditation Role of Guest Experience
An Applied Study on Five-Stars Hotels in the Egyptian Context

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Abstract
Purpose *– The purpose of this paper is to investigate the effect of AI-enabled services on guest value and revisit intention through the meditation role of guest experience in the Egyptian hospitality sector, considering five stars hotels in Alexandria.*
Design/methodology/approach *– the population of the study includes guests who visited five stars hotels in Alexandria. A questionnaire is distributed, and 652 valid responses were considered in the analysis.*
Findings *– Results proved that the relationship between AI-enabled services and guest experience is partially supported, the relationship between AI-enabled services and guest satisfaction is partially supported, as well as the relationship between AI-*

enabled services and guest value is partially supported. The findings also partially supported the relationship between guest experience and guest satisfaction and the relationship between guest experience and guest value. Finally, the results fully supported the relationship between guest satisfaction and revisit intention. The current study is concerned with providing realistic solutions based on customer opinions and experience.
Keywords *– AI-enabled services, Guest Satisfaction, Revisit Intention, Guest Experience, Guest Value.*

ملخص البحث :
يهدف هذا البحث إلى تحليل تأثير الخدمات المدعومة بالذكاء الاصطناعي على قيمة العملاء ونية إعادة الزيارة، مع التركيز على تجربة النزيل في قطاع الضيافة المصري، وتحديدًا في فنادق الخمس نجوم بمدينة الإسكندرية. تم توزيع استبيان وجمع ٦٥٢ استجابة صالحة خضعت للتحليل الإحصائي .
كشفت النتائج عن دعم جزئي للعلاقة بين الخدمات المدعومة بالذكاء الاصطناعي وتجربة العملاء، بالإضافة إلى العلاقة بين هذه الخدمات ورضا العملاء، وكذلك تأثيرها على قيمة العميل. كما أظهرت النتائج دعمًا جزئيًا للعلاقة بين تجربة العميل ورضاه، وأيضًا بين تجربة العميل وقيمته. وفي المقابل، أثبتت النتائج وجود علاقة قوية ومؤكدة بين رضا العميل ونية إعادة الزيارة.
توفر هذه الدراسة رؤى عملية قائمة على آراء العملاء وتجاربهم، ما يسهم في تحسين جودة الخدمات المقدمة في قطاع الضيافة وتعزيز تجربة النزلاء.

الكلمات المفتاحية : الخدمات المدعومة بالذكاء الاصطناعي، رضا العميل ، إعادة الزيارة، تجربة العملاء.

1. Introduction

Luxury hotels set themselves apart from their rivals because their staff members value each guest's uniqueness, pay attention to their preferences, and fulfill their requests accordingly (Böhme, 2023). Meanwhile, the hotel sector is not an exception to the way technology has permeated every aspect of our life in the current digital era. Technology has shown to be a useful tool in helping luxury hotels achieve their aims of improving visitor pleasure and experience. Technology allows luxury hotels to exceed guests' expectations by streamlining operations, personalizing the guest experience, and delivering a flawless stay. In this sense, technology has emerged as a critical component that raises visitor pleasure in upscale accommodations, and its significance is only expected to increase. Furthermore, although the hotel industry is still in the early stages of adopting artificial intelligence (AI) and robotics, there are already several examples of hotels that have done so successfully (Al-Hyari et al., 2023), yet, research is not consistent in determining which services exactly are better to guests through AI.

Guest experience is essential in determining the guest satisfaction and overall success of a hotel. AI applications can enhance the guest experience by providing personalized and efficient services. For example, AI-powered chatbots can quickly respond

to guest inquiries and provide instant assistance, reducing wait times and improving communication. Moreover, AI can also enable hotels to offer tailored recommendations and experiences based on guests' preferences and past behaviors, creating a more memorable and enjoyable stay. By leveraging AI technology, hotels can elevate their guest experience to new heights, setting themselves apart from competitors in the industry (Buhalis and Moldavska, 2021). Therefore, the current research aims to investigate the impact of AI-enabled services on guest value and revisit intention through the mediating impact of guest satisfaction and guest experience. This research covers the gaps in literature by addressing the adoption of AI tools application in the luxury hotels in the Egyptian context, focusing on one of the big cities that had not been addressed before, which is Alexandria.

Problem Statement

Despite the advantages and perceived potential for hospitality industry, the practice of attaching AI applications with hotel operation is still not so prevalent in the real practice compared with other industries such as manufacturing or healthcare. One reason for this disparity could be the complexity and unique nature of the hospitality industry, which may require more customized AI solutions. Additionally, the cost of implementing AI technology in hotels may also be a deterrent, as it can be a

significant investment for businesses in this sector (Zhang and Shanshan, 2019).

Finding the application of AI solutions in hotels to improve customer experience is one of the major issues facing the hospitality sector. This can be done by examining potential obstacles, the technical and operational preparedness of organizations to use AI applications, and how it impacts the guest experience both during the guest's visit and even before the guest chooses the hotel for his stay. AI solutions in hotels have the potential to streamline various processes, such as check-in and check-out procedures, room service requests, and personalized recommendations for guests. Additionally, by analyzing data from past guest interactions, AI can help hotels anticipate and meet customer needs more effectively, leading to higher levels of satisfaction and loyalty (Shvaikovskaia, 2022).

Customer satisfaction may also be an essential element in determining the revisit intentions and customer value of the hospitality level of hotels. In addition, customer satisfaction plays a crucial role in influencing the reputation and word-of-mouth recommendations of hotels. It can significantly impact the overall success and profitability of the hospitality industry. Therefore, hotel managers should prioritize customer satisfaction and strive to exceed customer expectations. By consistently delivering exceptional service and addressing any concerns or

issues promptly, hotels can create a positive experience for their guests. This not only increases the likelihood of repeat business but also encourages guests to spread positive word-of-mouth, attracting new customers and enhancing the hotel's reputation in the industry (Carvalho and Alves, 2023).

This research is addressed through seven sections including: Section one: introduction, section two: literature review, section three is dedicated to research methodologies. Moreover, section four is dedicated to the results and findings of the study, and section five is concerned with discussion and conclusions. The sixth section addresses the recommendations, and seventh section includes the research limitations.

2. Literature Review

AI-enabled services in Egyptian Hotels

AI has been used extensively in the hotel sector to streamline operations and improve customer experience. AI technologies improve trip management and execution by offering information about tourism sites, such as popular destinations, cuisine, and cultures (Gab-Allah, 2023). According to Gaafar and Allah (2020), tourism firms only use a limited number of AI technologies. In Egypt, only a few hotels have digital kiosks for check-in/out services, while all the international hotel chains

have mobile check-in/out apps. However, not all of them provide online payment methods (Gab-Allah, 2023).

Touni (2020) indicated that hotels in Egypt are using AI in smart rooms and meeting rooms and SA in mobile check-in/out apps, order services, and digital kiosks. However, some obstacles are identified that prevents the fully adoption of RAISA in Egypt, which are; high costs, absenteeism of qualified employees and experts to operate such new technologies, and the customers' preferences of face-to-face customer-employees communications. On the other hand, the study of Yasin et al. (2022) assured that there is agreement on AI efficiency, ease of use, quality, employee performance, and speed of task completion. This result was concluded from surveying AI specialists from many Egyptian hotels. They also discovered that AI automation and employee performance are highly connected.

Guest Experience and Satisfaction

Customer experience emphasizes the subjective nature of the term by describing it as events that engage individuals in a personal way and noting that each customer's emotional, physical, intellectual, or spiritual engagement relates to the experiences. Experiences happen all along the consumption chain, arise when consumers gain information or feelings, and need active engagement between businesses and consumers (Lemon and Verhoef, 2016).

However, a person's favorable evaluation of their experience is referred to as satisfaction, and it happens when they feel that a product or service has exceeded their expectations in terms of value. When customers are happy with a certain service (like technology), they typically feel good about the company that offers it and maintain their equilibrium. In the context of hospitality and tourism, contentment is a crucial precondition for loyalty (Shin and Jeong, 2022). Although AI has an impact on workers, customers may also be impacted in a service environment since staff attitudes and behaviors have a significant impact on customer reactions (Prentice et al., 2020).

Customers' consumption journeys involve AI services in addition to interactions with customer support representatives and tangible items. Clients prefer humans to machines, even though service organizations strive to use AI to increase operational efficiency and give convenience to clients. In a similar vein, clients would rather work with "people" than AI-powered machines. The efforts of service organizations to provide AI services and the experiences of customers with these services might result in a knowledge gap that shows up as a discrepancy between what management thinks consumers need and expect and what customers need and anticipate (Prentice et al., 2020).

Revisit Intention

Recurring tourists need far less marketing expenditures than first-time ones since they often stay longer, engage in more engaging activities, are happier, and recommend the location to others. The act of a tourist repeating an activity or visiting a place is referred to as the intention to return, and it can be considered a form of post-consumption behavior (Nguyen Viet et al., 2020).

Clients who discover a match in self-congruity, or a positive overall impression, and who have high assessments of a place where they experience desirable feelings are inclined to visit or return. This is because individuals tend to seek out experiences that align with their self-image and reinforce positive emotions (Kim and Lee, 2015; Nguyen Viet et al., 2020).

Guest Value

It is the value derived from customers because of rising sales, customer retention, and customer churn. Customer assessment, whether cognitive or cognitive and emotive, yields customer value from the customer's point of view (Moise et al., 2021). Customers behave and respond subjectively based on their perceptions rather than on facts. As a result, their impression should be used to determine the items' worth (Levyda, 2017).

Guest value is the feature that consumers obtain against the overall expenses they pay back. The idea of guest value was

employed by the researchers to comprehend consumers' decision-making processes while making purchases. As for the visitor, instead of depending on quality, they used guest value to learn about the options available in the market (Ibrahim et al., 2019).

Hypotheses Development

Relationship Between AI-enabled services and Guest Experience

Ameen et al. (2021) studied how AI-enabled services might enhance consumer experience. Customers who have utilized a beauty brand's AI-enabled service were given access to an online survey. The results showed that AI-enabled services had a significant impact on consumer experience. Halim et al. (2022) aimed to determine how service quality that was enabled by AI affected consumers' experience in the Indonesian market. The findings demonstrated that AI-enabled services had a significant effect on consumer experience.

Kautish and Khare (2022) investigated the impact of AI-enabled services on consumer experience. Using a sample of 739 online fashion retail customers. According to the findings, AI-enabled services had a significant effect on consumer experience. According to the previous studies that were illustrated, the first hypothesis can be suggested;

H_1: There is a Significant Relationship between AI-enabled services and Guest Experience

Relationship Between Guest Experience and Guest Satisfaction

Ahmed et al. (2020) evaluated how Egyptian hotel customers' experience affected their satisfaction with the hotel's image. The findings revealed a significant positive relationship between the experience of the visitors of the hotel and their satisfaction. Ugwuanyi et al. (2021) looked at how the experience of visitors affected the destination marketing metrics of satisfaction. The results of the study showed that guest experience had a positive significant impact on visitors' satisfaction.

Paulose and Shakeel (2021) investigated the impact that perceptions of guest experience had on customer satisfaction, where 170 guests from three prestigious hotels participated in a random questionnaire survey. The findings indicated that guest experience positively influenced guest satisfaction. According to the previous studies that were illustrated, the second hypothesis of the study can be suggested;

H_2: There is a Significant Relationship between Guest Experience and Guest Satisfaction

Relationship Between Guest Satisfaction and Revisit Intention

Marinkovic et al. (2014) examined the effect of guest satisfaction on revisiting intentions for full-service restaurants. The relationships between the variables in the conceived model were examined using confirmative factor analysis and structural equation modeling. The outcomes supported the importance of satisfaction and the intention to return.

Worsfold et al. (2016) assessed the satisfaction of both staff and visitors, as well as the visitors' impressions of value and likelihood of revisiting. Data from a major international hotel chain was analyzed using structural equation modeling. There is a strong correlation between passenger satisfaction with the service and their intention to return and the work satisfaction of the staff. Based on the previously mentioned literature, the third hypothesis can be determined;

H_3: There is a Significant Relationship between Guest Satisfaction and Revisit Intention

Relationship Between Guest Experience and Guest Value

Razli et al. (2020) attempted to investigate the correlation between co-creation experience and guest-perceived value in a peer-to-peer (P2P) accommodation setting from a service-dominant logic perspective. The outcome validated the

significance of hosts placing a premium on the guest experience by optimizing the visitor's engagement and curiosity, resulting in increased guest value.

Cao et al. (2022) ascertained whether or not Airbnb users intended to use smart voice assistants (SVAs), such as Google Home or Amazon Alexa. A survey was designed and distributed to 255 Airbnb visitors in the United Kingdom. The findings showed that there was a significant effect of guest experience on guest value.

Souki et al. (2023) clarified the effects of guests' perceived value of their hotel experiences of three Brazilian hotels. The results indicated that guests' perceived value was positively impacted by hotel customers' experiences. According to the previous studies that were illustrated, the fourth hypothesis of the study can be suggested;

H_4: There is a Significant Relationship between Guest Experience and Guest Value

The Relationship between AI-enabled services and Guest Satisfaction

Nguyen and Malik (2022) explored how information sharing affects customer satisfaction and employee service quality in the hotel sector. Customer satisfaction was therefore positively impacted by the caliber of personnel services. Knowledge

sharing's influence on employee service quality was mitigated by AI system quality; the more the AI system quality, the greater the influence of knowledge sharing on employee service quality.

Zahra et al. (2023) evaluated the critical role that customer satisfaction plays in determining how effective AI-powered services are. Results revealed the key characteristics and factors that support consumer happiness in the context of AI-driven services. According to the previous studies that were illustrated, the fifth hypothesis of the study can be suggested;

H_5: There is a Significant Relationship between AI-enabled services and Guest Satisfaction

The Relationship between AI-enabled services and Guest Value

Li et al. (2022) presented a model that explains how AI contactless services affect users' sense of psychological safety, sense of control, hedonic value, and level of service. Results revealed that two aspects of AI contactless services contributed to the psychological safety of the consumers under investigation. This, in turn, had a significant impact on their perceived control and hedonic value while hurting their perceived safety.

Rjsé et al. (2023) evaluated the role of AI enabled airline cabin services on the emotional values. It was concluded that AI programs help passengers feel less unnatural when they are in

flight. This can be started by assisting them in learning how to better manage their emotions and time through respecting the value of customers. According to previous studies that were illustrated, the sixth hypothesis can be suggested;

H_6: There is a Significant Relationship between AI-enabled services and Guest Value

3. Research Methodology

The main purpose of the current research is represented in understanding the effect of AI-enabled services on revisits intention and guest value through the meditation role of guest experience and guest satisfaction in the Egyptian hospitality sector. To achieve the main aim of the research, the researcher adopted the positivist philosophy that relies in turn on quantitative analysis and deductive methodology to analyze the gathered data. By using this method, testable hypotheses may be created and facts that are pertinent to a large population can be concluded using statistical techniques. Furthermore, reasonable methods and quantitative analysis guarantee that the study's conclusions are supported by factual facts rather than arbitrary interpretations. Therefore, the current research framework could be expressed using Figure 1:

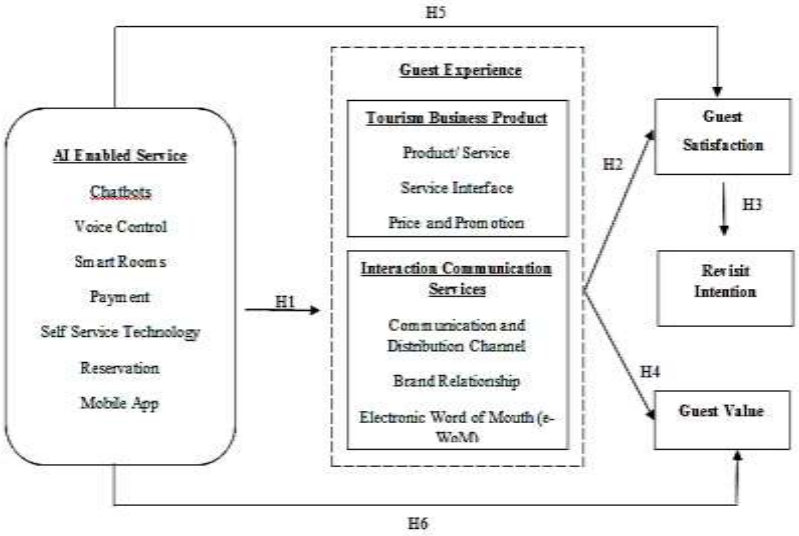

Figure 1: Research Framework

In the current study, the primary data was adopted by developing a questionnaire to acquire the required data from the population of the study, which is represented in the guests who use AI services in 12 five-stars hotels located in Alexandria, Egypt which are: Four Seasons Hotel Alexandria at San Stefano, Hilton Alexandria Corniche, Sheraton Montazah Hotel, Steigenberger Cecil Hotel, Radisson Blu Hotel, Alexandria, Maritim Jolie Ville Alexandria, Aifu Resort - El Montaza, Paradise Inn Windsor Palace Hotel, Sofitel Alexandria Corniche, Tolip Alexandria, Helnan Palestine Hotel and Cherry Maryski Hotel.

The questionnaire includes statements which measure the whole guest experience starting from the pre-visit to the hotel, during his/her stay and his/her feedback after leaving the hotel. Through this statements, AI-enabled services are measured through seven dimensions, first dimension is chatbots, where the statements measure the guests, opinion about using the hotel's chatbots, pre-, during and post his/her stay at the hotel, voice control is also measured pre-, during and post the hotel's visit, the third dimension measured through the three stages is the self-service technology. Statements of smart rooms measure the opinion of the guest during the stay at the hotel. The dimension of payment focused only on mobile payment and how it is easy and secure to be used. For the reservation, the statements measure the process of online reservation before visiting the hotel. Finally, the mobile app, the statements measure the usage of the mobile app pre and during the stay.

For the Tourism Business Product, it is measured through three dimensions, Product/ Service, which care for measuring the service provided through the stay. Service interface measures the expectations of the customers before they visit the hotel, as well as measuring their opinion about the service during their stay. Finally, the dimension of price and promotion measures the opinion of the guest about the prices and the promotions provided by the hotel.

For Interaction Communication Services, it is also measured through three dimensions; Communication and Distribution Channel, this dimension measures the opinion of the guests about the service provided in the hotel. It also measures their opinion about the AI usage inside the hotel. Second dimension is Brand Relationship, it asks the guests about their opinion about the brand and the reputation of the hotel, and it also asks them about their satisfaction during their stay and the way they are treated from the employees during their stay. The third dimension is e-WOM, this dimension measures how the word of mouth and the opinion of other people can affect the guest's intention to book in the hotel. It also measures the intent of the guest to write his opinion about the hotel after his/her stay ends.

Guest Satisfaction, this variable is measured from different perspectives, as it measures the expectation of the customers about the service provided. It measures the guest satisfaction from the service provided during his stay, it also makes a comparison between their expectations before they visit the hotel and what they find during their stay.

Revisit Intention, this variable measures the revisit intention of the guests depending on their satisfaction.

Guest Value, this variable measures the guest's opinion about the services provided in the hotel, the value, and the price of the

hotel compared to the provided services and compared to the prices of the other hotels.

The statements of the questionnaire are adopted from the studies of Miočić et al. (2012); Oh et al. (2013); Morvay (2014); Abd-Elaziz et al. (2015); Gumussoy and Koseoglu (2016); Sarmah et al. (2017); Sadeghi et al. (2017); Chiang (2018); Wang et al. (2018); Adirestuty (2019); Rather and Camilleri (2019); Nordheim et al. (2019); Nunkoo et al. (2020); Khanra et al. (2021); Chen et al. (2022); Li et al. (2022); Siripipatthanakul et al. (2022).

The questionnaire was designed to gather comprehensive data on the usage, perception, and impact of AI services in the hotel industry, specifically in the Egyptian context. The questionnaire starts with an introduction that shows the aim of the questionnaire, after that the questionnaire is divided into two main section. The first section measures the respondents demographics; age, gender, and education. The second section tests the research variables, these variables are measured through 5-Likert scale questionnaires. The utilized questionnaires were developed as 5-Likert scale questionnaires, every essential item on the 5-Likert scale questionnaires that the researcher created had five possible responses: “strongly disagree”, “disagree”, “neutral”, “agree”, and “strongly agree” (Joshi et al., 2015).

Accordingly, the paper examines the effect of AI-enabled services on revisits intention and guest value through the meditation role of guest experience and guest satisfaction in the Egyptian hospitality sector. The population of the study is determined by guests who used AI services in 5-star Hotels in the Egyptian context.

The sample size for the current investigation was established using the Saunders equation, which requires a minimum sample size of 385 respondents or more to achieve a 95% confidence level (Saunders et al., 2016). The sample of the study was concentrated on distributing questionnaire forms to 1000 guests, while 723 forms were only retrieved, with a response rate of 72.3%. After reviewing them, it was found that only 652 responses were valid for analysis.

Before distributing the questionnaires on the sample, a pilot study is done, where it includes 50 participants. The pilot study is done at May 2023, while the questionnaires are distributed through the period from June till September, 2023.

The demographic breakdown of the respondents reveals that out of 652 participants, 51.1% identify as male, and 48.9% as female. Regarding age distribution, the largest proportion falls within the 30-40 (27.3%) age bracket, followed by 22-30 (25.9%), 50-60 (19.2%), 40-50 (17.9%), and 60 or older (9.7%) categories. In terms of education level, the highest proportion holds master's

degrees (46.8%), followed by bachelor's degrees (33.6%), with a smaller yet notable portion having attained doctorate degrees (19.6%). This demographic profile provides insights into the composition of the sample population and may influence interpretations of the study findings within the context of age, gender, and education levels.

4. Results and Findings

Pilot Study

From the pilot study done with 50 respondents, all KMO, AVE, Cronbach's Alpha, and Factor Loading values fall within acceptable ranges. For the accepted statements, chatbots construct consists of three statements, as three statements are deleted. Voice control construct consists of five statements as three statements are deleted. On the other hand, smart rooms construct has five statements, which means that there are no deleted statements, similarly, as payment construct as all its statements are valid. In addition, all the statements of reservation are agreed. For self-service technology construct, it has five statements, where the other six statements are deleted.

Only one statement is cancelled at mobile app construct as well as at product/service construct. Service interface consist of five statements, as two statements are deleted. Two statements are also cancelled at price and promotion construct, and five

statements are accepted. For communication and distribution channel, this variable consists of five statements, as one statement is cancelled. From the twelve statements of brand relationship, only five statements are accepted. In the three constructs; electronic word of mouth, guest satisfaction and revisit intention, only one statement is deleted in each of them, where each variable consists of five statement. Finally, all the statements of guest value are accepted, where it is consisted of seven statements.

Measurement Model using the Confirmatory Factor Analysis

The measurement model is conducted using the confirmatory factor analysis, where the model fit indices shows that the model is well fitting. This had been shown as the minimum discrepancy or chi-square divided by the degrees of freedom (CMIN/DF) was 1.107 (< 2.00); the probability of getting as larger discrepancy as occurred with the present sample (p-value) was 0.000 (P-value < 0.05); goodness of fit (GFI) was 0.893 (> 0.90); adjusted goodness of fit index (AGFI) was 0.883 (> 0.90); the Bentler-Bonett normed fit index (NFI) was 0.953 (> 0.90) and the Tucker-Lewis index (TLI) was 0.995 (> 0.95); the comparative fit index (CFI) was 0.995 (> 0.90). Also, the root means square residual (RMR) was 0.020 (< 0.1); the root mean square of approximation (RMSEA) was 0.013 (< 0.1).

After accepting the model fit indices for the model under study, the measurement model shows the factor loadings of the statements assigned to each construct and the results are illustrated. It could be found that all the factor loadings are between 0.904 and 1.00, with all P-values are less than 0.05. This means that all the factor loadings are greater than 0.4, reflecting good validity and adequate model.

Descriptive Analysis and Testing Assumptions

This section shows the descriptive analysis for the research variables. The results indicate that across all variables, the mean scores are generally around 3, suggesting a moderate level of agreement or perception on each aspect within the context of the study. Specifically, variables such as chatbots (M = 3.1181), voice control (M = 3.1089), smart rooms (M = 3.1426), payment (M = 3.1380), self-service technology (M = 3.1595), reservation (M = 3.1212), mobile app (M = 3.1227), product/service (M = 3.1135), service interface (M = 3.1334), price and promotion (M = 3.1733), communication and distribution channel (M = 3.1396), brand relationship (M = 3.1503), electronic word of mouth (e-WOM) (M = 3.1334), guest satisfaction (M = 3.1350), revisit intention (M = 3.3620), and guest value (M = 3.4371) all hover around this central tendency. These findings suggest a consistent perception across a range of factors related to hospitality and service provision, with slightly higher mean scores for variables such as revisit intention and

guest value, indicating a comparatively more positive outlook on these aspects.

In addition, an informal test is used to assess approximate normality when the formal test finds that the data are not normally distributed. The analysis presents the informal test of normality, where some of skewness and kurtosis values are above the range of ±1, implying that the data is not normal. To describe the correlations between the research variables, non-parametric tests are performed.

The Variance Inflation Factor (VIF) shows the degree of correlation between the research variables and is used to detect multicollinearity. The analysis illustrates that all VIF values are less than 10, indicating that there is no multicollinearity problem between the independent variables.

Table 1: Descriptive Analysis for the Research Variables

Variables	Mean	Std. Dev.	Frequency					Skewness	Kurtosis	VIF
			1	2	3	4	5			
Chatbots	3.12	1.26	110	85	142	248	67	-.423	-.955	5.47
Voice Control	3.11	1.23	100	93	166	222	71	-.351	-.896	5.21
Smart Rooms	3.14	1.28	107	87	148	226	84	-.370	-.967	5.65
Payment	3.14	1.27	103	90	159	214	86	-.338	-.945	5.34
Self Service Technology	3.16	1.26	100	94	141	236	81	-.390	-.943	5.64
Reservation	3.12	1.29	119	75	143	238	77	-.406	-.997	5.79
Mobile App	3.12	1.28	114	80	149	230	79	-.383	-.980	5.50
Product/ Service	3.11	1.28	114	84	140	242	72	-.400	-.994	
Service Interface	3.13	1.28	105	93	148	222	84	-.345	-.980	
Price and Promotion	3.17	1.25	93	105	129	246	79	-.397	-.947	
Communication and Distribution Channel	3.14	1.25	96	102	148	227	79	-.346	-.944	

Variables	Mean	Std. Dev.	Frequency					Skewness	Kurtosis	VIF
			1	2	3	4	5			
Brand Relationship	3.15	1.21	87	111	137	251	66	-.399	-.902	
e-WOM	3.13	1.28	108	90	142	231	81	-.370	-.988	
Guest Satisfaction	3.14	1.24	94	104	154	220	80	-.324	-.934	
Revisit Intention	3.36	1.21	42	153	107	227	123	-.300	-1.025	
Guest Value	3.44	1.21	18	180	112	183	159	-.145	-1.273	

Testing the Research Hypotheses

This section shows the results for the effect of independent variables on dependent variables. Table 2 shows the SEM analysis for the impact of the research variables. It could be observed that: Chatbots (Estimate = 0.269, p = 0.000), Voice Control (Estimate = 0.110, p = 0.046), Smart Rooms (Estimate = 0.221, p = 0.000), Reservation (Estimate = 0.135, p = 0.006), and Mobile App (Estimate = 0.174, p = 0.000) demonstrate significant positive effect on Product/ Service as the P-values are less than 0.05, while, Payment (p = 0.215), and Self Service Technology (p = 0.904) shows an insignificant effect on Product/ Service as the P-values are more than 0.05. Also, R-squared for "Product/ Service" is 0.832. This value indicates that 83.2% of the variability in the Product/ Service can be explained by the model.

Moving to Service Interface, significant positive effects were observed for Chatbots (Estimate = 0.199, p = 0.006), Voice Control (Estimate = 0.148, p = 0.008), Smart Rooms (Estimate = 0.191, p = 0.000), Self-Service Technology (Estimate = 0.111, p

= 0.038), Reservation (Estimate = 0.131, p = 0.009), and Mobile App (Estimate = 0.167, p = 0.000), with p-values less than 0.05. In contrast, Payment (Estimate = 0.015, p = 0.763) showed an insignificant effect, with a p-value exceeding 0.05. Also, R-squared for "Service Interface" was 0.819, indicating that 81.9% of the variability in Service Interface can be explained by the independent variables in the model.

Regarding Price and Promotion, a significant positive effect was observed for Chatbots (Estimate = 0.143, p = 0.040), Voice Control (Estimate = 0.191, p = 0.000), Smart Rooms (Estimate = 0.118, p = 0.023), Self-Service Technology (Estimate = 0.118, p = 0.022), Reservation (Estimate = 0.144, p = 0.003), and Mobile App (Estimate = 0.170, p = 0.000), with p-values less than 0.05. In contrast, Payment (p = 0.115) showed an insignificant effect, with a p-value exceeding 0.05. Also, R-squared for "Price and Promotion" was 0.830, indicating that 83% of the variability in Price and Promotion can be explained by the independent variables in the model.

For Communication and Distribution Channel, the results indicate significant positive effects from Chatbots (Estimate = 0.147, p = 0.036), Voice Control (Estimate = 0.187, p = 0.000), Smart Rooms (Estimate = 0.145, p = 0.006), Payment (Estimate = 0.171, p = 0.000), and Self-Service Technology (Estimate = 0.210, p = 0.000), with p-values less than 0.05. However,

Reservation (p = 0.282) and Mobile App (p = 0.307) demonstrate an insignificant effect on Communication and Distribution Channel, with p-values greater than 0.05. The R-square value for Communication and Distribution Channel is 0.825, indicating that 82.5% of the variability in this construct can be explained by the independent variables included in the model.

Moving to the analysis of Brand Relationship, significant positive associations were found with Chatbots (Estimate = 0.294, p = 0.000), Voice Control (Estimate = 0.149, p = 0.007), Smart Rooms (Estimate = 0.126, p = 0.016), Reservation (Estimate = 0.140, p = 0.005) and Mobile App (Estimate = 0.154, p = 0.002). However, Payment (p = 0.278) and Self-Service Technology (p = 0.671) demonstrated insignificant effects on Brand Relationship, as their p-values exceed 0.05. The coefficient of determination (R-square) for the dependent variable "Brand Relationship" is 0.822. These results suggest that approximately 82.2% of the variability in Brand Relationship can be explained by the independent variables in the model.

Regarding E-WOM, a significant positive effect was observed for Voice Control (Estimate = 0.212, p = 0.000), Smart Rooms (Estimate = 0.177, p = 0.001), Reservation (Estimate = 0.169, p = 0.001), and Mobile App (Estimate = 0.212, p = 0.000), with p-values less than 0.05. In contrast, Chatbots (p = 0.234), and Self-Service Technology (p = 0.853) showed an insignificant effect,

with a p-value exceeding 0.05. Also, R-squared for E-WOM is 0.811, indicating that 81.1% of the variability in E-WOM can be explained by the model.

Regarding to Guest Satisfaction, significant positive effects were observed for Chatbots (Estimate = 0.181, p = 0.019), Price and Promotion (Estimate = 0.161, p = 0.002), and Electronic Word of Mouth (Estimate = 0.097, p = 0.036), with p-values less than 0.05. In contrast, Voice Control, Smart Rooms, Payment, Self Service Technology, Reservation, Mobile App, Product/ Service, Service Interface, Communication and Distribution Channel, and Brand Relationship showed an insignificant effect, with a p-value exceeding 0.05. Also, R-squared for Guest Satisfaction was 0.834, indicating that 83.4% of the variability in Guest Satisfaction can be explained by the model.

Regarding to Guest Value, significant positive effects were observed for Voice Control (Estimate = 0.105, p = 0.048), Product/ Service (Estimate = 0.145, p = 0.002), Service Interface (Estimate = 0.091, p = 0.044), Price and Promotion (Estimate = 0.210, p = 0.000), Communication and Distribution Channel (Estimate = 0.144, p = 0.002), and Electronic Word of Mouth (Estimate = 0.116, p = 0.006), with p-values less than 0.05. In contrast, Chatbots, Smart Rooms, Payment, Self Service Technology, Reservation, Mobile App, and Brand Relationship showed an insignificant effect, with a p-value exceeding 0.05.

Also, R-squared for "Guest Value" was 0.834, indicating that 86.3% of the variability in Guest Value can be explained by the independent variables in the model.

Furthermore, a significant positive effect of Guest Satisfaction on Revisit Intention was observed (Estimate = 0.491, p = 0.000). Also, R-squared for "Revisit Intention" was 0.253, suggesting that 25.3% of the variability in Revisit Intention can be elucidated by the independent variables incorporated in the model.

Table 2: SEM Analysis for the Research Variables

			Estimate	P	R^2
Product/ Service	<---	Chatbots	.269	***	
Product/ Service	<---	Voice Control	.110	.046	
Product/ Service	<---	Smart Rooms	.221	***	
Product/ Service	<---	Payment	.063	.215	.832
Product/ Service	<---	Self Service Technology	.006	.904	
Product/ Service	<---	Reservation	.135	.006	
Product/ Service	<---	Mobile App	.174	***	
Service Interface	<---	Chatbots	.199	.006	
Service Interface	<---	Voice Control	.148	.008	
Service Interface	<---	Smart Rooms	.191	***	
Service Interface	<---	Payment	.015	.763	.819
Service Interface	<---	Self Service Technology	.111	.038	
Service Interface	<---	Reservation	.131	.009	
Service Interface	<---	Mobile App	.167	***	
Price and Promotion	<---	Chatbots	.143	.040	
Price and Promotion	<---	Voice Control	.191	***	
Price and Promotion	<---	Smart Rooms	.118	.023	.830
Price and Promotion	<---	Payment	.078	.115	
Price and Promotion	<---	Self Service Technology	.118	.022	

			Estimate	P	R^2
Price and Promotion	<---	Reservation	.144	.003	
Price and Promotion	<---	Mobile App	.170	***	
Communication and Distribution Channel	<---	Chatbots	.147	.036	
Communication and Distribution Channel	<---	Voice Control	.187	***	
Communication and Distribution Channel	<---	Smart Rooms	.145	.006	
Communication and Distribution Channel	<---	Payment	.171	***	.825
Communication and Distribution Channel	<---	Self Service Technology	.210	***	
Communication and Distribution Channel	<---	Reservation	.053	.282	
Communication and Distribution Channel	<---	Mobile App	.049	.307	
Brand Relationship	<---	Chatbots	.294	***	
Brand Relationship	<---	Voice Control	.149	.007	
Brand Relationship	<---	Smart Rooms	.126	.016	
Brand Relationship	<---	Payment	.055	.278	.822
Brand Relationship	<---	Self Service Technology	.022	.671	
Brand Relationship	<---	Reservation	.140	.005	
Brand Relationship	<---	Mobile App	.154	.002	
Electronic Word of Mouth	<---	Chatbots	.089	.234	
Electronic Word of Mouth	<---	Voice Control	.212	***	
Electronic Word of Mouth	<---	Smart Rooms	.177	.001	
Electronic Word of Mouth	<---	Payment	.133	.012	.811
Electronic Word of Mouth	<---	Self Service Technology	-.010	.853	
Electronic Word of Mouth	<---	Reservation	.169	.001	
Electronic Word of Mouth	<---	Mobile App	.212	***	
Guest Satisfaction	<---	Chatbots	.181	.019	
Guest Satisfaction	<---	Voice Control	-.008	.895	
Guest Satisfaction	<---	Smart Rooms	.087	.120	
Guest Satisfaction	<---	Payment	.082	.101	.834
Guest Satisfaction	<---	Self Service Technology	-.010	.845	
Guest Satisfaction	<---	Reservation	.089	.080	
Guest Satisfaction	<---	Mobile App	.084	.105	

			Estimate	P	R^2
Guest Satisfaction	<---	Product/ Service	-.016	.754	
Guest Satisfaction	<---	Service Interface	.091	.064	
Guest Satisfaction	<---	Price and Promotion	.161	.002	
Guest Satisfaction	<---	Communication and Distribution Channel	.046	.369	
Guest Satisfaction	<---	Brand Relationship	.080	.120	
Guest Satisfaction	<---	Electronic Word of Mouth	.097	.036	
Guest Value	<---	Chatbots	.076	.286	.863
Guest Value	<---	Voice Control	.105	.048	
Guest Value	<---	Smart Rooms	-.065	.203	
Guest Value	<---	Payment	.037	.418	
Guest Value	<---	Self Service Technology	-.005	.923	
Guest Value	<---	Reservation	.058	.218	
Guest Value	<---	Mobile App	.032	.506	
Guest Value	<---	Product/ Service	.145	.002	
Guest Value	<---	Service Interface	.091	.044	
Guest Value	<---	Price and Promotion	.210	***	
Guest Value	<---	Communication and Distribution Channel	.144	.002	
Guest Value	<---	Brand Relationship	.054	.250	
Guest Value	<---	Electronic Word of Mouth	.116	.006	
Revisit Intention	<---	Guest Satisfaction	.491	***	.253

The model fit indices; CMIN/DF = 1.153, GFI = 0.886, CFI = 0.993, AGFI= 0.877, and RMSEA = 0.015 are all within their acceptable levels, which support the results of the impact of independent variables on dependent variables through the mediating variables. The SEM model conducted for the effect of the research model is illustrated in Figure 2.

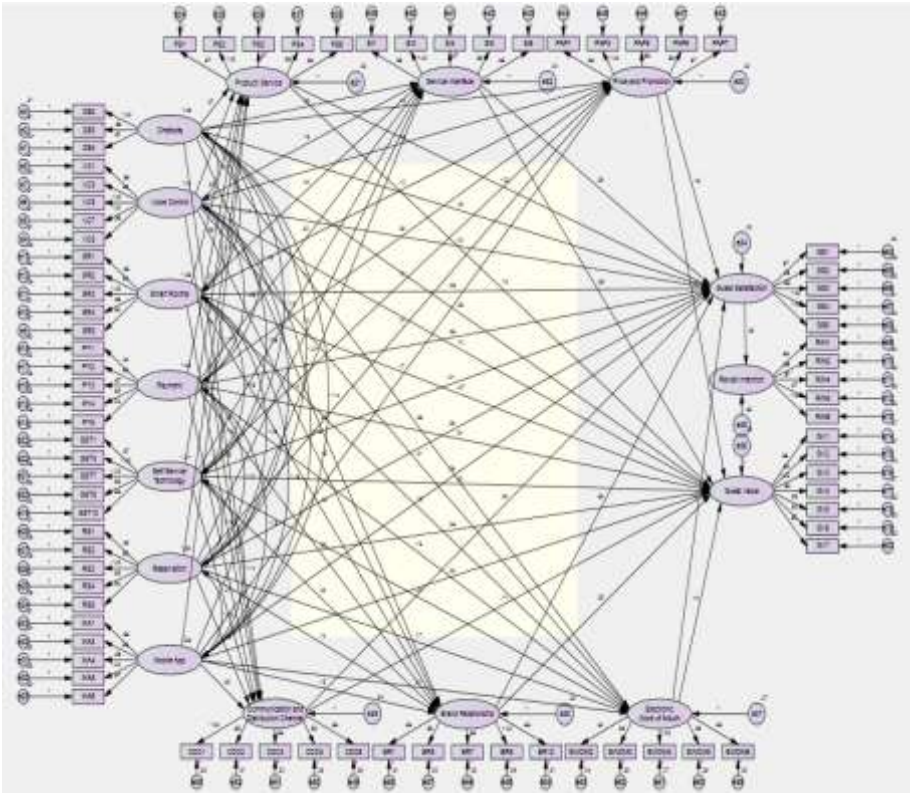

Figure 2: SEM for the Research Variables

5. Research Discussion and Conclusion

This section represents the discussion of research findings. Hypotheses are tested through structural equation modeling. For the structural equation modeling, it is tested among the six hypotheses of the study. The results of the first hypothesis proved a significant positive effect of Chatbots, Voice Control, Smart Rooms, Reservation, and Mobile App on Product/ Service.

However, Payment and Self-Service Technology showed an insignificant influence on Product/ Service.

For Service Interface, the results showed significant positive effects of Chatbots, Voice Control, Smart Rooms, Self-Service Technology, Reservation, and Mobile App on Service Interface, while Payment proved an insignificant impact on Service Interface. Regarding Price and Promotion, a significant positive impact of Chatbots, Voice Control, Smart Rooms, Self-Service Technology, Reservation, and Mobile App were proved on Price and Promotion. However, Payment proved an insignificant effect on Price and Promotion. Moving to Communication and Distribution Channel, the results indicated significant positive effects from Chatbots, Voice Control, Smart Rooms, Payment, and Self-Service Technology on Communication and Distribution Channel. However, Reservation and Mobile App showed insignificant influences on Communication and Distribution Channel.

Moving to the analysis of Brand Relationship, significant positive associations were found with Chatbots, Voice Control, Smart Rooms, Reservation, and Mobile App on Brand Relationship. On the other hand, Payment and Self-Service Technology showed insignificant influences on Brand Relationship. Regarding Electronic Word of Mouth, it was proved that Voice Control, Smart Rooms, Reservation, and

Mobile App all have significant positive effects on e-WOM, while Chatbots, and Service Interface, had insignificant effects on e-WOM. According to all the above results, the first hypothesis, "***There is a significant relationship between AI-enabled services and Guest Experience***", is partially supported.

For the second hypothesis, the results showed that Price and Promotion, Electronic Word of Mouth both have positive significant effect on guest satisfaction. However, Product/ Service, Self Service Technology, Communication and Distribution Channel, and Brand Relationship have insignificant influences on guest satisfaction. According to the above results, the second hypothesis, "***There is a significant relationship between Guest Experience and Guest Satisfaction***", is partially supported.

Furthermore, the analysis of the third hypothesis proved that Guest Satisfaction has a significant positive influence on Revisit Intention. Accordingly, the third hypothesis, "***There is a significant relationship between Guest Satisfaction and Revisit Intention***", is fully supported.

The analysis of the fourth hypothesis showed that Product/ Service, Service Interface, Price and Promotion, Communication and Distribution Channel, and Electronic Word of Mouth all have positive and significant impacts on the guest value. On the other hand, Brand Relationship showed an insignificant influence

on the guest value. Accordingly, the fourth hypothesis, "***There is a significant relationship between Guest Experience and Guest Value***", is partially supported.

The analysis of the fifth hypothesis showed that only Chatbots have significant positive effect on Guest Satisfaction, while Voice Control, Smart Rooms, Payment, Self Service Technology, Reservation, Mobile App, all have an insignificant influence on Guest Satisfaction. Accordingly, the fifth hypothesis, "***There is a significant relationship between AI-enabled services and Guest Satisfaction***", is partially supported.

The analysis of the sixth hypothesis showed that Voice Control has positive significant on Guest Value. On the other hand, Chatbots, Smart Rooms, Payment, Self Service Technology, Reservation, Mobile App, and Brand Relationship showed an insignificant effect on Guest Value. Accordingly, the sixth hypothesis, "***There is a significant relationship between AI-enabled services and Guest Value***", is partially supported.

In conclusion, the findings of this study contribute valuable insights into the intricate interplay between AI-enabled services, guest experience, satisfaction, and value in the context of the hospitality industry. The partial support observed for the relationships between AI-enabled services and guest experience, satisfaction, and value underscores the nuanced nature of these

connections, suggesting that while AI plays a role, other factors may also influence the overall guest perception.

Moreover, the partial support for the relationships between guest experience and both satisfaction and value highlight the need for a comprehensive understanding of the guest journey and the various touch points that contribute to their overall assessment. This underscores the importance of addressing not only AI-related aspects but also the broader experiential elements that shape guest perceptions.

Crucially, the fully supported relationship between guest satisfaction and revisit intention emphasizes the pivotal role that satisfaction plays in fostering guest loyalty and the likelihood of return visits. As the hospitality industry continues to integrate AI technologies, the current study advocates for a balanced approach, incorporating realistic solutions rooted in customer opinions and experiences. By acknowledging and addressing the multifaceted nature of guest perceptions, industry practitioners can strategically leverage AI to enhance overall guest satisfaction and, consequently, cultivate sustained customer loyalty. This research serves as a foundation for future studies and provides actionable insights for hospitality professionals seeking to optimize the implementation of AI-enabled services in a manner that aligns with guest expectations and preferences.

6. Research Recommendations

From the results concluded from the analysis, some recommendations are provided to decision makers and top management in five-star hotels in Egypt for the aim of developing the adoption of AI in enhancing service quality.

- **Holistic Integration of AI-Enabled Services:** Recognize the partial support for the relationship between AI-enabled services and guest experience, satisfaction, and value. Emphasize a holistic approach to the integration of AI, considering it as part of a broader set of elements contributing to the guest journey. Encourage the design and implementation of AI technologies that seamlessly align with the hotel's overall service philosophy and enhance the guest experience.
- **Customer-Centric Design Principles:** Acknowledge the partial support for the relationship between guest experience and satisfaction/value. Prioritize customer-centric design principles that prioritize the guest journey and touchpoints, ensuring that AI technologies complement and augment the overall experience rather than overshadowing it. Solicit feedback from guests during the design process to align AI features with their preferences and expectations.

- **Personalization and Customization:** Given the partial support for various relationships, focus on the personalization and customization capabilities of AI-enabled services. Tailor AI interactions to individual guest preferences, creating a more personalized and memorable experience. Utilize AI algorithms to understand and anticipate guest needs, thereby enhancing satisfaction and perceived value.
- **Comprehensive Training for Staff:** As AI technologies become integral, invest in comprehensive training programs for hotel staff. Equip them with the necessary skills to understand, manage, and complement AI services effectively. A seamless collaboration between AI and human touchpoints can contribute positively to guest experience, satisfaction, and value.
- **Strategic Implementation for Revisit Intentions:** Given the full support for the relationship between guest satisfaction and revisit intention, strategize the implementation of AI-enabled services to directly enhance satisfaction levels. Leverage AI to address pain points identified by guests, ensuring that their expectations are not only met but exceeded, thereby fostering loyalty and encouraging repeat visits.
- **Continuous Guest Feedback Mechanism:** Establish a robust and continuous guest feedback mechanism to capture evolving preferences and sentiments. Regularly analyze

customer opinions and experiences related to AI-enabled services to adapt and refine offerings over time. This iterative approach ensures that the hotel remains responsive to changing guest expectations.

- **Collaboration with AI Developers and Experts:** Foster collaboration with AI developers and experts to stay abreast of technological advancements and best practices. Engage in ongoing dialogue to explore new possibilities for AI integration that align with the unique demands of the Egyptian hospitality market.

In conclusion, this study provides an opportunity for Five-Star Hotels in Egypt to leverage AI-enabled services effectively. By embracing a balanced, customer-centric approach and incorporating the recommendations above, hotels can not only enhance the guest experience but also position themselves as industry leaders in the thoughtful integration of AI technologies.

7. Research Limitations and Suggestions

This research has many limitations through the study that it dealt with. First limitation of this research is the time limit to finish the research, which represent an obstacle towards collecting a larger sample to represent the data under study. Second recommendation is related to the place of collecting data, data is collected only from Egypt, as a developing country. Therefore,

the research presented some recommendations for future researchers in the same field of study, which are as follows: choosing a better time frame to be able to collect a larger sample, involving different countries, especially the developing countries, as there is lack of studies that focus on the developing countries. Third suggestion is conducting a comparative study between developed and developing countries.

Another recommendation, regarding the population of the study, is that this study targeted hotels in Alexandria. Thus, the researcher suggests making this research on other Hotels all over Egypt. Moreover, it is suggested to conduct further studies in other developing countries. Also, a comparative study could be conducted between different countries (whether developed or developing) to identify the points of differences and similarities.

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