Investigating Artificial Intelligence in Hotels and Restaurants

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***Abstract*--** The rise in global tourism has led to a boom in the hotel industry. There will be more rivalry and pressure to maintain standard performance and stay up to date with current trends as more hotels operate. In recent decades, the automation and machine industries have been incorporating new technologies and corporate development revolutions with digital technical features. The hotel sector employs a number of cutting-edge techniques to improve and offer customized customer care. With the implementation of numerous comfort-defining innovations, the hotel industry has improved its overall system and embraced numerous creative approaches to delivering excellent customer service. Modern technology and digital elements of hotel operations are being improved and adapted by the hospitality sector. In addition to outlining the benefits and drawbacks of AI in the hotel sector, this paper focuses on how AI has the potential to completely transform the sector. The paper also explains about the concepts of biasness, which may happen due to artificial intelligence (AI).

***Keyword*--** Artificial intelligence, hospitality industry, technology applications, tourism.

I. Introduction

A recent development in science, artificial intelligence (AI) has greatly improved our daily lives and grown to be a vital tool. In the twenty-first century, it has expanded quickly. AI has grown from its modest origins to become a global phenomena. Artificial Intelligence is a tool that is already changing every facet of human life by allowing individuals to reevaluate how they integrate information, analyze it, and use the resulting insights to make better decisions [4]. AI quickly enhances many human functions, such as customer service, language translation, and illness diagnosis. AI is present in practically every industry. AI technical advancements in service jobs are causing a major revolution in the hotel business. Nearly every aspect of travel and tourism uses technology. Potential uses include speech recognition, natural language processing (NLP) systems, robotics, communication systems, intelligent travel agents, forecasting and prediction systems, recommendation and customization systems, and more [21].

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In its most basic and general definition, hospitality refers to a wonderful method of amusing a guest or guests. With the growing growth of numerous supplementary sectors, a gesture more suited to the domestic setting started to take the form of an industry [18]. The growth of the hospitality sector has been boosted by tourism and the expansion of transportation options brought about by globalization. According to an analysis of its characteristics, the hospitality sector is essentially a larger subset of the service sector [3]. Food and beverage (F&B), housing, recreation, tourism, and travel are its four main divisions. The hospitality industry's branches are separated into subcategories if further division is made. Restaurants, pubs, and street food trucks are all part of the F&B sector.

Accommodations, travel agencies, and other modes of transportation are all part of travel and tourism. Recreation simultaneously meets the demand for sports, entertainment, and wellness-related pursuits. All of the hospitality industry's subsectors are interrelated; they not only support one another but also, to a certain degree, depend on one another. As a result, when one sector is impacted, it also affects other sectors. Customer needs are the foundation of the hotel sector and its associated industries. Numerous sub-sectors have rapidly developed to meet the growing demands of consumers and the emergence of new technology [29].

II. Role of Artificial Intelligence (AI) in Hotels

Technology has altered every facet of human existence, and the hotel industry is no different. The hotel industry has seen a number of changes as a result of futuristic technologies like AI. There is a common concern that technology such as artificial intelligence (AI) could negatively affect the human labor force. Nonetheless, AI has been helping to make hospitality more focused on the needs of its patrons. Numerous well-known companies worldwide are depending on robotic servers and AI-powered systems to deliver better services. In the subsections, some of the ways AI is changing the hotel industry are covered.

Numerous businesses have come to the realization that increasing the value of their brands requires gaining knowledge from their customers. AI-powered concierge services have become more popular in recent years. The guest experience is being improved and revolutionized by Hilton concierge. In a similar vein, Connie, a friendly AI-powered robot modeled after IBM Watson, offers customers more individualized service. Such AI-powered receptionist robots have been used in

Japan to assist clients [13]. These AI-enabled gadgets are able to communicate with clients, listen to their inquiries, and provide pertinent responses. In addition to being able to recognize voice for communication, these gadgets are programmed to adjust and learn from their experiences, allowing them to respond to interactions in novel ways.

AI-powered chatbots have demonstrated remarkable outcomes in the hospitality industry. These chatbots have been specially designed and trained to meet the needs of task-based users. These are customer service's fresh face. AI-based applications have produced quite impressive outcomes, particularly when it comes to internet issues. These chatbots are accessible to help customers around-the-clock, overcoming time constraints. By using these chatbots, businesses can communicate with their clientele and provide a positive user experience. These chatbots may handle reservations, place orders, handle customer complaints, and more in addition to communicating with customers [6]. The freedom of accessibility is the most advantageous feature of AI-based technologies. These may be controlled or managed with a smartphone, improving the user experience.

The manual booking method is more laborious and time-consuming. Managing them can be difficult because the majority of the actions are carried out online. A more dependable and convenient booking procedure may be offered by the AI-based system. Large volumes of data can be handled and managed by AI-based apps, which helps in determining the availability of open booking slots and giving customers good options. By giving the customer an improvised booking experience, this can lower friction and increase the likelihood of a sale.

Through online platforms, technology enables users to share their experiences with the services they have used. Customer reviews not only help the business make improvements to its offerings, but they also assist potential clients in selecting the services they want to use. Customers can utilize an AI-powered application to separate reviews or feedback according to their preferences, saving them the trouble of visiting each review-providing website. The user can receive real-time information from this program.

III. Uses of Artificial Intelligence (AI) in Hotels

Modern technology makes extensive use of AI to establish critical commercial tasks. Numerous conventional hotel operating duties are managed by AI. Paperless check-in, guest information gathering, billing, and payment ways using computer-enhanced electronic techniques demonstrate that AI may manage a variety of personal activities in addition to customer service and connection [21]. From pre-customer service contacts to post-customer arrival, the hotel sector is undergoing exponential change. AI has a significant impact on business acceleration, enabling hotel systems to function better than ever before [2]. As more people travel, service providers need to set themselves apart by offering individualized services while also taking into account the preferences of their clients. Analyzing client preferences and making money off of visitor records is difficult. In order to satisfy customer choices at a reasonable cost, machine learning is the best tool for learning from past events and acting accordingly. A thorough grasp of each customer's preferences enables the marketing team or customer care agent to suggest goods and services that the client is likely to utilize.

Mortimer was the first service robot ever created specifically for hotel service. The German robot can help hotel employees with breakfast service, mail distribution to guest rooms, and porter duties. As Mortimer was being developed, many obstacles had to be overcome. First and foremost, the robot had to be both small enough to maneuver through confined locations and big enough to carry the weight of the customer's bags. In order to move quickly and prevent running into clients, the service robot also needed to have an accurate sensing system. Lastly, the service robot had to know how the hotel was set up, including the automated doors, elevators, and bells. After being given all the information they require, including layout, servicing points, holding equipment, and equipment supply, these robots are trained to carry out particular jobs [22].

Software that can converse with people in natural language is called a chatbot, sometimes referred to as a chatterbot [26]. Task-oriented chatbots, which concentrate on carrying out a single task according to pre-programmed "rules," and data/AI-driven chatbots, which are conversational and self-learning, are the two types of chatbots that businesses can use for customer service [30]. The following are some benefits of chatbots for hospitality organizations:

- Enhances visitor experiences by raising loyalty and satisfaction levels. While the chatbots do the laborious tasks, front desk employees may spend more time fostering personal connections with visitors.
- Answer questions more efficiently and promptly.
- Assure more precise service while reducing expenses and removing the possibility of human error.
- Enhanced client relations for larger company teams.
- One can find distinctive upselling and cross-selling opportunities with more individualized interaction.

The hotel can also deploy chatbots, both online and offline. People from all around the world are already used to using internet forums and sending texts. Consequently, hotels have naturally shifted to AI chatbots. By helping with check-in and suggesting hidden gems that only locals are aware of, chatbots save human workers time [22].

IV. Benefits and Challenges of Artificial Intelligence in Hotels

1.Targeting and Segmenting Visitors That is Data-Driven, Automated, and Granular: Hotels need to cut operational costs and provide cost-effective internal services and customer support. In the hospitality sector, ML can provide customized solutions by fusing AI and IoT. Hotels may identify trends, provide tailored offers, and make tailored recommendations that enhance guests' experiences and fit their lifestyle preferences with the aid of IoT, sensor systems, and machine learning [21].

2.Boosts Brand Loyalty: The hotel sector depends heavily on its reputation. Deep learning is now being used by hotels to examine customer reviews posted on social media and in other review platforms. They contain data regarding consumer perceptions of a brand. Negative reviews will allow the establishment to better serve its patrons, while positive reviews will enhance its reputation.

3.In-Person Customer Service: Common tasks that can be accomplished without an employee's assistance include reservations, check-outs, room bookings, customer service, basic problem resolution, and even helping with hotel services [30]. To far, the most notable example of this has been the Hilton group's AI robot, Connie. Tourist information can be obtained by customers interacting with the robot. It is forcing itself to comprehend speech and adapt to new people; hence, the more clients it interacts with, the better.

4.AI is currently being used to trigger and control hotel operations, which lowers operating expenses while also having an impact on hotel employment. This is known as revenue management. By cutting down on operational waste, AI achieves perfection in contrast to humans. AI technology streamlines all procedures, which lowers operating expenses. In addition to meeting organizational needs, the property management system (PMS) offers low-maintenance advantages [30].

5.Robots in the Hotel Industry: In the hotel sector, robotics is a popular and fascinating technology. The first hotel in the world to use just robots was the Henn-na Hotel in Nagasaki, Japan. Throughout the hotel, robots are positioned to help with basic duties including carrying luggage, delivering newspapers, providing breakfast, basic housekeeping, and some food and beverage (F&B) service in restaurants [30].

There is little distinction between service and hospitality. The capacity to make people feel appreciated and accepted is known as hospitality. While hospitality refers to how one makes someone feel after serving them breakfast, service refers to what one does for someone, such as providing breakfast. To be welcomed and friendly, hotel employees must show concern for the visitors' welfare and the standard of their stay. The customer's experience is affected by the interaction between service and hospitality. Hospitality is what creates an emotional connection; excellent service by itself is seldom appreciated. Indeed, a small grin could have a big impact. Robots are made to do customer service duties like answering questions, delivering room service, and checking guests in and out. But because they are emotionless, they will never treat visitors in a friendly manner. A welcoming attitude is expected as a hospitable act. A welcome mentality consists of respect, openness, humility, curiosity, presence, nonjudgment, and dialogue. The capacity to read and react to emotions is central to everything in the hospitality industry. Warm approaches are not met by robots. They are merely computer programs that are unable to form human-like emotional bonds. Robots in hotels could endanger the fundamental qualities of efficiency, security, and hospitality. This has an unforeseen effect on both hotels and visitors.

The first and most urgent problem with AI is how travelers view and consider these technologies. One of the main obstacles that every company looking to use AI will encounter is data privacy. There could be a privacy breach if the AIs use the data they collect from client interactions for other reasons. Technical issues cannot be totally prevented. Mistakes and unfavorable experiences could arise from guests receiving inaccurate and misleading information. It is still a highly expensive and complicated process for a business to think about, even though access to this technology is getting better. Despite this, the lack of human interaction detracts from the overall experience of guests, outweighing all the benefits that robots may offer hotels. Robotic room service, porter features, and check-in/check-out are all underappreciated and only seen as service elements because robots are unable to exhibit expected friendly conduct. Service and hospitality are closely related, and a guest's experience would suffer if one were lacking [30].

V. ARTIFICIAL INTELLIGENCE IN RESTAURANTS AND CHATBOTS

"The pursuit of developing computers that can simulate human intelligence - specifically, learning, reasoning, and self-correction" is how artificial intelligence (AI) is defined as a subfield of computer science [23]. The goal of artificial intelligence (AI) is to create and enhance intelligent systems that can function autonomously in a way that is similar to that of a person. These technologies can be installed in robot bodies or in other gadgets like cars, laptops, speakers, and cellphones. The next section will cover robotic technologies in the restaurant business, while this section will include AI that is available on various kinds of devices.

AI is present in a wide range of sectors, including finance, healthcare, education, and the automotive industry [25]. It is also starting to appear in the restaurant business. According to a study by Accenture and Frontier Economics (Statista, 2019), artificial intelligence (AI) may boost economic development in the lodging and food services sector by 1.4% by 2035. Under the assumption that AI is integrated into economic processes, this estimate rises to 3.2% in the AI steady state. Chatbots, voice-activated devices, and biometric recognition are a few instances of AI-based technologies.

According to Bilgihan, Karadag, Cobanoglu, & Okumus (2013), biometric (e.g., fingerprint or face) recognition is frequently used for authentication purposes, such as identifying the user based on biological characteristics and granting specific access privileges associated with their profile. However, voice-activated technologies and chatbots typically work as digital assistants for the staff and clients of the companies that use them [8]. Restaurants were the second most commonly reported category among establishments where patrons used digital assistants (32%), falling behind online retailers like Amazon (46%), according to a Statista poll (n.d.) of 1040 participants carried out in April 2017. This demonstrates how crucial AI-based solutions are to the food

sector. This chapter will examine some uses of these technologies for dining establishments.

An online application that can carry on human-like chat chats is called a chatbot. To learn from the conversational data supplied and react as a human would, chatbots use machine learning (ML) and natural language processing (NLP) [20]. As soon as the chatbot begins engaging with clients, it keeps learning since every encounter is an opportunity to learn because the more data a chatbot is exposed to, the more it has to examine and absorb. All things considered, chatbots can respond to often asked questions, let clients place or monitor orders, handle payments, and even carry on discussions.

Depending on the requirements and preferences of a certain establishment, chatbots in the restaurant industry can be given a range of tasks. One of the primary benefits of deploying chatbots in a restaurant is their capacity to operate without breaks, sick days, or vacation time, offering customers prompt support whenever they need it. Using a chatbot can also guarantee that comparable client questions are answered consistently. Chatbots can help with a variety of tasks in other kinds of restaurants, like booking a table for a customer, responding to commonly asked questions about the establishment (like location and hours), giving information about menu items (like calorie count, ingredients, and allergies), placing an order, and handling payments.

According to Dale (2016), chatbots can be incorporated into a variety of interfaces, including websites, mobile applications, and third-party websites like Facebook. The primary purpose of the chatbot and the customer's convenience should guide these integrations. Restaurants which operates individually or hotel restaurants may make themselves always accessible to both existing and potential customers at any time and on any device by offering a chatbot service. Additionally, chatbots might be used as agents to gather consumer preferences and incorporate them into marketing efforts for restaurants. These consumer insights could include the most common queries, the most well-liked dishes, and the preferred methods of communication with the restaurant. Restaurant managers and owners may utilize all of this data to create more individualized service recommendations, improve customer service, and strengthen customer relationships.

It's critical to understand that the quality of the chatbot depends on the algorithm that powers it. Inadequate chatbot training could lead to errors, false information, irritated customers, and eventually, discontent. For instance, Microsoft unveiled Tay, a Twitter chatbot, in March 2016. It was designed to learn and get better by interacting with people on social media. However, the chatbot immediately developed a "chaotic, crudely sexist and racist (anti-Semitic) mode of talk" in less than a day, and all of its submitted comments were swiftly removed from the website [5]. As a result, it is crucial to make sure the chatbot is well tested before being made available to customers and that it is capable of answering the vast majority of the queries that clients of restaurants frequently have. Nevertheless, it is very hard to anticipate every scenario and query that a chatbot can run across, therefore this tool's effectiveness depends on ongoing development. As previously said, the more a chatbot engages with consumers, the more equipped it will be for further exchanges. Unresolved issues should also be taken into account, examined, and applied to the creation of new features in the future. Lastly, when a chatbot is unable to complete a task on its own, it should be able to automatically link a user with a restaurant representative.

V. VOICE-ACTIVATED TECHNOLOGIES IN RESTAURANTS

By transferring the contact from an online setting to a conversational style, voice-activated technologies elevate the chatbot concept [12]. By using speech synthesis and voice recognition, voice-activated technologies go farther into the AI toolkit than chatbots [12]. More than 50 years ago, systems that could detect numbers and then words were the first to build voice-activated technology [17]. With the development of voice-activated assistants like Google Assistant, Amazon's Alexa, Apple's Siri, and Microsoft's Cortana, voice-activated technologies gradually became accessible to the general public [11]. Users were able to access these assistants through smart speakers (like Google Home and Amazon Echo), smartphones (like Google Assistant on Android phones), and PCs (like Cortana on Windows computers). According to Intel (n.d.), as of May 2018, 16% of US consumers utilized voice-activated remote controls, 9% used online translation services, 25% had home voice assistants, and 45% had a smartphone voice assistant.

With a 62% market share in 2017, Amazon Alexa was the most popular intelligent voice-activated assistant globally. The aggregate market share of all other assistants was 13%, while Google Assistant held a quarter of the global market. By 2020, this distribution is expected to shift, with Google Assistant expected to account for 43% of the market, Amazon Alexa for 34%, and all other assistants for 23%. It is anticipated that voice-activated assistants would be distributed in this manner across all devices. Based on unit shipping shares of 20% and 18%, respectively, Google Home Mini and Amazon Echo Dot are topping the market for smart speakers alone. Google Home (7%), Alibaba Tmall Genie (7%), and Amazon Echo (12%) are the next three most popular speakers.

Businesses began using voice commerce as speech-activated technologies grew and became more widely used. As of February 2019, a Cision survey found that Amazon's Alexa had the most marketing potential (48%), followed by Google Assistant (29%), Apple Siri (17%), and Cortana (3%). This view is consistent with the previously provided data on the use of voice-activated assistants. By 2020, marketers' choices are expected to change along with consumer preferences, but in any event, companies could gain from focusing on the two most popular assistants, Google Assistant and Amazon Alexa [16].

Voice-activated assistants can only be deployed effectively if they are prepared and capable of carrying out the designated activities. The capabilities of voice-activated assistants designed for particular tasks such as Google Assistant's activities and Amazon Alexa's skills are accessible to help users

accomplish their goals in hands-free mode. For instance, Google Assistant has pre-programmed activities and can assist with a number of tasks, like playing news, sending messages, making phone calls, playing reminders, and finding nearby restaurants (Google Assistant Help, n.d.). Similar to this, Amazon Alexa is prepared to handle a variety of duties pertaining to lifestyle, education, retail, food and drink, communication, entertainment, and gaming, among many other areas (Amazon, n.d.).

Restaurants should think about creating their own Alexa skills that would assist staff, patrons, or both in order to get the most out of this technology. Restaurants can either build their own talents or use pre-existing templates or outside vendors. For people who want to learn Alexa skills on their own, Amazon offers the Alexa Skills Kit (ASK), which includes learning resources, tools, and samples (https://developer.amazon.com/alexa-skills-kit/learn). When a skill is established, it can either be made available to all users or stay within the company that developed it.

Voice-activated technologies, like chatbots, can be used for many jobs at restaurants to help both patrons and staff. Voice-activated technology in restaurants have the potential to improve communication between staff members in various departments in terms of efficiency and speed. When managers are not present, staff members can use a smart speaker to obtain frequently asked queries. Additionally, all staff members may receive company-wide or store-wide messages via smart speakers (for example, before the start of a shift). Wait staff could continue setting the dining room tables while listening to the updates, while kitchen workers may set up their workstations or attend to other tasks because they would be delivered in a hands-free mode.

By using voice-activated technology in this way, restaurants may be able to quickly and effectively distribute information. In order for a manager to be present to welcome a VIP customer or drop by the table for a brief talk, smart speakers may notify managers about bookings made by VIP customers on a particular day. During a hectic day in a restaurant, voice-activated devices may help enhance departmental communication and disseminate information rapidly. In the kitchen, for instance, a chef may alert Alexa or Google Assistant that the restaurant is out of octopus. A suitable application programming interface would then relay this information to a point-of-sale (POS) system. In this manner, voice-activated technology might help advise all wait staff that the kitchen is not taking orders for octopuses that day. This would reduce the amount of time it takes to inform each waiter separately and shorten the wait times for customers.

Consumers may look up restaurants, locate contact information, make a phone call, peruse the menu, and place an order using voice-activated assistants on smartphones or smart speakers [19]. Google Assistant finds open eateries near the user by using Google Maps and Google business information. These abilities are also provided by Amazon Alexa (e.g. Restaurant Finder, which searches for restaurants in a certain zip code). Voice-activated assistants can also be used by customers to place restaurant orders. For instance, GrubHub used Amazon Alexa to include a reorder feature. Customers can reorder food from their past GrubHub orders thanks to this feature [14]. To use this talent, customers need to have a history of their orders. Customers may now find out the nutritional facts of the chain's dishes thanks to a skill developed by Chick-fil-A [28]. Customers can find restaurants that serve a particular type of cuisine by using various talents in the food and drink category. For instance, Oxford Vegans assists locals in Oxford, Mississippi in finding vegan eateries around the University of Mississippi campus. Outside of dining establishments, there are also skills that focus on food and drink (e.g. locating coffee shops, monitoring a food truck, or pairing food and wine).

According to a recent consumer survey, 61% of respondents said they would like to use voice-activated technology to find restaurant directions, 55% said they would like to use it to call, 47% said they would use it to find customer reviews, and 45% said they would use voice commands to make a reservation [19]. These findings demonstrate the value of voice-activated technology for restaurants and provide credence to consumer acceptance of it. Industry experts predict that by 2025, voice-activated technology will be widely used by restaurant operators to gather feedback from patrons [23]. Additionally, restaurateurs indicated that voice ordering and reordering, payment submission, and regulating lighting and atmosphere are the most popular uses of this technology. The latter component makes the assumption that a restaurant has a smart environment with many Internet-connected devices. Establishing such an atmosphere would significantly enhance the restaurant's ability to customize the patron experience and may boost patron happiness, spending, and repeat business.

VI. ETHICS, BIASES AND THE FUTURE OF ARTIFICIAL INTELLIGENCE

Despite significant advancements in technology, artificial intelligence is still in its infancy. AI is predicted to have a profound impact on all facets of human life and culture. Computers and machinery from the Fourth Industrial Revolution are comparable to it. This brings up a number of moral dilemmas that need to be resolved [9]. Bias is another important and relevant concern associated with the widespread use of AI. Bias, including that based on color, age, sex, and socioeconomic status, is inherent in human nature and affects all people. The problem is that AI is much more powerful than humans, which could lead to the amplification of biases present in algorithms. Because artificial intelligence relies on human input, it can be fed erroneous or subjective data, which could lead to biased, improper, or irrelevant decisions. This would suggest that as AI advances, it will pick up the ability to impose biased structures, which it will then reproduce. It has been proposed that AI systems should be predictable, transparent, and strong enough to resist manipulation.

It is obvious that AI cannot currently be trusted to make important decisions, even though this drawback might be addressed as technology develops. AI systems will frequently

have to make trade-offs, and they need to be able to decide fairly so that everyone wins. Lastly, ethical issues ought to be incorporated into AI systems if superintelligence systems are created. In the hospitality sector, technology is playing a critical part in embracing the client experience. Subsections go into greater information about each of these forces. AI and the Internet of Things (IoT) have completely changed how the travel and tourism sector functions today [27]. Technology has given the hospitality sector the same advantages and difficulties as the travel and tourist sector. These days, human-robotic interactions, or HRIs, are becoming more popular and are also favored by consumers [15]. Food trackability can benefit from the application of blockchain technology [10]. Even technology is assisting in the management of halal food and educating consumers about it [24]. Technology is also contributing to more efficient supply chain management from a sustainability perspective [1].

It's still unclear how AI technology will develop in the hotel sector. The viewpoint is comforting, on the one hand. According to this perspective, society can address the most urgent problems via AI. Workers and bots will work well together since privacy concerns will be resolved and connectivity will be established to enable the use of bots. Within this context, artificial intelligence (AI) can be shown as a collection of advances that improve the visitor experience. Businesses would be able to examine their visitors and create experiences, services, and goods that are more tailored to their need. Companies might then design packages that are flexible and tailored to the tastes of their clients.

Conversely, other people have a more negative outlook [9]. This perspective holds that a significant portion of the industry's labor will eventually be replaced by machines, leading to the demise of the hotel experience. As is now the case in many airports, using the devices would be required rather than optional. Then, visitors would see robotic systems and gadgets that aren't quite ready for a production line, and companies would pick less expensive goods, even if they don't work well. Most of the time, technology will take the place of people, yet customers would still pay the same but have a worse experience because the labor expenses would not be passed on to them.

VII. Conclusions

AI has a lot of potential in the hotel sector, from assisting concierges in responding to inquiries from guests to providing tailored recommendations through particular browsers. Even though artificial intelligence is still in its early stages, it is already having an impact on the visitor experience both on and off the site. AI reduces the strain of delivering a remarkable experience by creating luxurious tech-savvy settings, optimizing productivity and efficiency, and exploring new revenue streams. AI-based innovation is required to improve customer experience and upgrade services in order to fulfill growing demands and stay ahead of the competition.

Before technology becomes the new best friend of hotels and guests, a few major obstacles must be addressed. Although the limits may appear to be obstacles, it is imperative to go beyond them in order to leverage AI to create notable operational advancements, especially considering the AI solutions that tourism and hotel management can offer. It is reasonable to assume that AI will completely change the hotel sector if these prerequisites are satisfied. In the upcoming years, the change will only quicken [9].

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