

# Forms and Benefits of Online Reservation Systems: Empirical Evidence from a Census of Star-Rated Hotels in Accra

\*Peace Ankor, Ntow-Gyan Kwame, Jane Dery, Edwina Asamoah, Laura Lardi Issaka

Department of Hospitality and Tourism, Sunyani Technical University, Ghana

\*Corresponding author

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## ABSTRACT

**Purpose:** This study was conducted to explore the forms and benefits of online reservation systems among star-rated hotels in Accra Metropolis, Ghana.

**Methodology:** A cross-sectional design and questionnaire were used to gather data from 183 reservation/front office managers of the star-rated hotels through a census. Descriptive statistics such as means, standard deviations, frequencies, percentages, and the Chi-square test were employed.

**Findings:** OTAs (45.1%) and hotel-owned websites (44.8%) were the dominant ORS platforms, while GDS accounted for 10.1%. Major benefits included quick payment processing ( $M = 3.785$ ,  $SD = 0.44$ ), maximized reservations ( $M = 3.639$ ,  $SD = 0.55$ ), and 24/7 accessibility ( $M = 3.634$ ,  $SD = 0.50$ ). Chi-square analysis revealed significant associations between ORS types and benefits such as instant payment, wider coverage, and operational efficiency ( $p < 0.05$ ).

**Research Limitations:** The study focused exclusively on star-rated hotels in the Accra Metropolis, which limits the generalizability of the findings to other regions or non-star-rated hotels. Additionally, the reliance on self-reported data may introduce response bias.

**Practical Implication:** The findings highlight the strategic importance of ORS adoption in enhancing revenue streams, operational efficiency, and customer satisfaction. Hotel managers are encouraged to invest in robust ORS platforms and staff training to optimize usage and integration with other hotel operations.

**Social Implications:** ORS adoption improves customer convenience, supports contactless transactions, and strengthens Ghana's hospitality sector competitiveness in the global market, particularly for tech-savvy and international travelers.

**Originality/Value/Novelty:** This study provides empirical evidence on ORS forms and benefits within the Ghanaian context, bridging a gap in literature that often overlooks developing economies. It also demonstrates the relevance of TAM and RBV theories in explaining technology adoption and integration in hospitality services.

**Keywords:** Online reservation systems, hotels, hotel's own website, hospitality industry

## INTRODUCTION

There has also been a rise in technological innovations in the hospitality industry that aim at improving the performance of the industry and customer satisfaction. The use of online reservation systems to oversee bookings in hotels using online platforms, which are not dependent on human involvement, is one of the most revolutionary trends noticed in the past few years. Such systems would facilitate booking of rooms quickly and real-time room booking, as well as instant confirmation of rooms available to guests. Barua and Kaiser (2024) state that online reservation is now an indispensable tool of hotel management that is characterised by such

benefits as enhanced accessibility, increased rates of booking, and centralised control of inventory. The adoption of these kinds of technologies is especially essential in cities such as Accra, where tourism and business travel are consistently rising, thereby subjecting hotel services to increased pressure.

Under pressure to keep up with emerging trends, star-rated hotels, which are expected to provide higher levels of service, are increasingly turning to digital solutions that help satisfy customers and stay competitive. According to the study by Oduro (2024), it is noteworthy that in Ghana, hotels equipped with the latest digital systems, including online reservation platforms, are more likely to attract international guests who prioritize convenience and efficiency. The hospitality industry in Accra is growing rapidly, and by adopting online booking technology, workflow can be improved, and guest experiences enhanced as booking errors and queues are reduced. However, the adoption rate and success of these systems vary among hotels, depending on managerial attitudes, financial resources, and staff's digital literacy (Azevedo and Osorio, 2020).

As much as there are numerous positive aspects, a number of obstacles exist that prevent the massive use of online reservation technologies by hotels in Accra. They are low ICT systems, high installation expenses, security threats on the internet, and opposition to shift change by employees and leaders (Kwarteng, 2022). We must comprehend how these challenges combine with features of hotels, including star rating, ownership structure, and market orientation, to come up with focused interventions that can be used to encourage technology adoption. Hotels with star ratings are supposed to provide high-quality services and are subjected to pressures of changing technologies so as to be at the same level as international service standards. Of such innovations, the online reservation system has become an important instrument in the management of customer booking solutions, in addition to service delivery and profitability (Fredrick and Authority, 2019).

Some of the benefits that come with adoption of ORS include; increase in revenue management, guest satisfaction and low operational costs. Research conducted in the past has underscored that hotels who employ ORS have an improved occupancy rate, faster check payments, and greater accessibility to foreign tourists (Faliha et al., 2021). Not only that, ORS also gives businesses the opportunity to stay open 24/7, which is a competitive feature in a market where customer convenience should be of paramount importance (Işkın et al., 2024). Nonetheless, regardless of these advantages, the rate of ORS usage and its perceived utility might differ among hotel categories, managers, and technology systems and therefore, it becomes critical to examine the particular ORS advantages achieved by star-rated in Accra.

Even though the world is transforming digitally in the hospitality industry, there has been no clear appreciation of the extent to which these systems have been adopted by star-rated hotels in Accra and what factors dictate their adoption and successful performance (Alshammare et al., 2022; Sepula, 2019). Thus, the research on digital integration of the hotel industry in Accra at the level of star-rated hotels will be a great contribution concerning the question of the contemporary position of the digitalization of the hospitality industry in Ghana and will serve as guidance in making future regulatory and operational policies. The study is guided by the following research questions: (1) What forms of ORS are used by star-rated hotels in the Accra Metropolis? (2) What are the benefits of adopting ORS among star-rated hotels in the Accra Metropolis?

## LITERATURE REVIEW

### Concept of Online Reservation Systems

Online Reservation Systems (ORSs) are digital systems and platforms that customers can use to make bookings of services, hotels, tables at restaurants, or packages online (through the internet) without necessarily having face-to-face communication with another party (Zhao et al., 2022). These are solutions that are usually incorporated in the websites of businesses or through third-party websites, such as Booking.com, Expedia, or Airbnb, allowing immediate availability/price/confirmation information to be accessed (Saura et al., 2024). ORSs play a prominent role in the hospitality sector to facilitate efficiency in the overall booking process; minimising labour input by occurrences of manual mistakes; heightening the convenience of the clients, and the access to bookings all over the globe (Spanaki and Durmishllari, 2019).

The components that constitute online reservation systems are usually regarded as the following key functionalities: customer relationship management, inventory management, provision of a secure payment gateway, automated confirmation messages, and data analytics tools (Sadreddini, 2020). In terms of hotels, this implies that they have an opportunity to check the use of rooms, control the pricing policy, create and launch promotional offers, and gather feedback, all performed through a unified online portal. Such a level of integration helps to increase operational efficiency, improve customer service, and enhance revenue optimization methods (Natalchuk and Brylinska, 2020).

The online reservation technologies are an indispensable part of the competitive hospitality market nowadays due to the development of digitalization and the rising consumer interest in self-service technologies (Park and Kim, 2024). The systems not only meet the needs of the market in terms of faster and convenient booking methods, but they also ensure that the systems are preventive in terms of marketing and branding the product, as well as interaction with customers. Consequently, their combination has now become the criterion of quality and professionalism, in particular, in those star-rated hotels interested in improving the customer experience and operational perfection (Park and Kim, 2024).

## **Theoretical Review**

The integration of online reservation systems (ORSs) in the hospitality industry can be understood through various theoretical lenses. Among the theories are the Technology Acceptance Model (TAM), Diffusion of Innovations (DOI), and Resource-Based View (RBV).

### **Technology Acceptance Model**

Davis (1989) devised the Technology Acceptance Model (TAM). TAM assumes that perceived usefulness and perceived ease of use are central in influencing the intention of an individual to embrace an emerging technology. Regarding the application of ORS in hotel services, management and employees will embrace its implementation when they realize that it is useful in the delivery of the services and is simple to use. The application of this model has been popular in the research on the realization of digital technology in the service sector, such as that of the hotel industry (Granić and Marangunić, 2019).

TAM will aid the study because it highlights the psychological and functional requirements of adopting ORS. The relevance of the constructs and an assessment of the usefulness and ease of using TAM can be emphasized by the perception of the responses of hotel managers and employees regarding the efficiency and quality of service when using the system (Gupta et al., 2022). Regarding star-rated hotels, where the intention to provide high-quality customer service is usually considered a priority, the belief that by using ORS, booking processes can be simplified, mistakes can be resolved, and customer satisfaction can be increased, becomes a socially compelling reason to implement it. The user friendliness also defines the rate at which the staff would be able to settle into the system, and thus the higher the chances of the system being put to use and becoming permanent in the hotel.

### **Diffusion of Innovations (DOI)**

The Diffusion of Innovations (DOI) introduced by Rogers (2003) explains the scope, issues, and pace at which new technologies are propagated in the organisation or society. DOI focuses on some aspects, which include relative advantage, compatibility, complexity, trialability, and observability (García-Avilés, 2020). DOI helps in the study by expounding on how the whole process of ORS adoption operates in hotel networks. DOI postulates that the hotel star-rating systems will embrace ORS in case they feel that they have a relative advantage concerning traditional booking channels, for example, enhanced competitiveness and enhanced occupancy rates (Li et al., 2025). It also depends on the compatibility with the existing practice and even the chance to test the technology applied or see it in operation. Hotels that observe the peer institution undertaking the implementation of ORS successfully are more likely to take the same step, particularly when the shift happens to be manageable and worth it (Chan et al., 2023).

## Resource-Based View (RBV)

A strategic management paradigm known as the Resource-Based View (RBV) emphasizes how crucial an organisation's internal resources and competencies are to obtaining a competitive advantage. This method has become popular for examining decisions about technology adoption, particularly in the hospitality industry. To better understand how organisational resources affect hotels' ability to accept and successfully implement cutting-edge technological solutions for accommodation management, researchers have used the RBV. According to RBV, hotels with unique and abundant resources are better positioned to implement technology and gain a competitive edge (Lubis, 2022).

Finding and using valuable, rare, unique, and non-substitutable (VRIN) resources is a crucial component of RBV. VRIN resources include a variety of assets, including financial capital, technological infrastructure, and experienced human resources, when it comes to the application of technology in accommodation management. Hotels with significant financial resources can invest in state-of-the-art technological solutions that can improve operational efficiency and guest experiences, including property management systems (PMS), customer relationship management (CRM) software, and data analytics tools. Additionally, hotels can easily integrate and implement cutting-edge technology when they have a strong technical infrastructure that includes hardware, cloud-based services, and dependable internet access (Ofori and Appiah-Nimo, 2022).

RBV also highlights how crucial human capital is in influencing decisions about technology adoption. Hotels with informed and competent staff are better able to comprehend, use, and reap the benefits of sophisticated technological solutions, especially in fields like digital marketing, data analytics, and information technology (IT). These human resources support the creation of creative plans, efficient use of technological instruments, and ongoing enhancement of accommodation management procedures (Kruesi and Bazelmans, 2023).

## Empirical Review

The empirical investigations of the adoption of online reservation technologies have demonstrated that the level of integration differs significantly in geographic and economic contexts. Goh and Law (2019) highlight that hotels with integrated ORSs tend to report improved occupancy rates, optimized revenue streams, and heightened customer satisfaction. This underscores a direct correlation between the effective integration of digital tools and enhanced performance outcomes in the hospitality industry. Likewise, Amoako and Asare (2021) observe similar benefits within the Ghanaian context, noting that ORTs have facilitated market expansion and operational efficiency. However, they also identify persistent challenges such as financial limitations and technical difficulties that hinder full utilization, suggesting that adoption alone does not equate to deep integration.

Further extending the discussion, Bediako and Odoom (2022) focus on the disparity in ORS usage between internationally affiliated and locally owned hotels in Ghana. Their findings show that larger, globally linked hotels are more likely to integrate ORSs due to better infrastructure, stronger ICT support, and higher staff competence in digital technologies. They point out that major barriers include unreliable internet access, inadequate ICT infrastructure, and limited digital literacy among hotel employees. Interestingly, they also identify key enablers like committed leadership and prior digital experience as crucial for successful ORS integration. This adds an organizational and human dimension to the discussion, suggesting that managerial attitude and staff preparedness are instrumental in determining integration success.

Nyamekye and Mensah (2023) add a temporal and situational perspective by examining the effects of the COVID-19 pandemic on ORS adoption. Their study reveals that health-related concerns and the demand for contactless services accelerated the adoption of ORSs, particularly in urban star-rated hotels. This finding emphasizes the importance of external pressures, such as public health concerns, in driving technological transformation in service delivery. Collectively, these studies illustrate that ORS integration is shaped by a dynamic interplay of internal capabilities and external influences, such as infrastructure, customer expectations, and crisis events.



Despite the rich insights provided by previous research, a notable gap persists in understanding the depth and sustainability of ORS integration, especially within the context of star-rated hotels in Accra. Most prior studies either generalize findings across the entire hospitality sector or focus predominantly on adoption rather than long-term integration and optimization. The proposed study aims to address this gap by examining not just whether ORTs are adopted, but how deeply they are embedded into hotel operations, what barriers persist, and what contextual opportunities can be leveraged to enhance their long-term utility. This targeted approach will provide a more nuanced and actionable understanding of ORS integration within a specific and significant segment of Ghana's hospitality industry.

## METHODOLOGY

### Study area

The study was conducted in the Accra Metropolis, located in the Greater Accra Region of Ghana (Figure 1). The specific study sites are Accra Central, Airport Residential, East Legon, Osu, Dzorwulu, and Tesano. These sites were selected because these areas have the greatest number of star-rated hotels within the Metropolis. Accra has some unique features and characteristics, which facilitate the adoption and use of online reservation systems by hotels. Firstly, the Metropolis is a host to myriad hotels ranging from internationally owned (hotel chains), including Holiday Inn, Movermpick, and Novotel Hotel (Ayeh, 2007). Most of these rely on online reservation systems to make booking possible for their international clientele. Complementing the activities of the international hotels is a pool of local and independently owned hotels rated from five stars to one star, to the non-star rated hotels that compete with the internationally recognised hotels. The mix, therefore, provides a better avenue for investigating the adoption of online reservations by a cross-section of hotels within the Metropolis. Secondly, the Metropolis is a host to all the major telecommunication companies that provide internet services in Ghana and these services are essential for the sustenance of any business, including the online reservation system in Ghana (Ofori-Atta, 2015). This provides a conducive environment for online reservation services. Accra hosts many multilateral, bilateral and regional organisations such as the Country office of the United Nations, World Bank, African Development Bank, UNICEF, FAO, and Embassies (Amankwah-Amoah et al., 2018). These institutions receive international guests and therefore tend to rely on online reservations for their hotel bookings (Osei-Tutu et al., 2010).

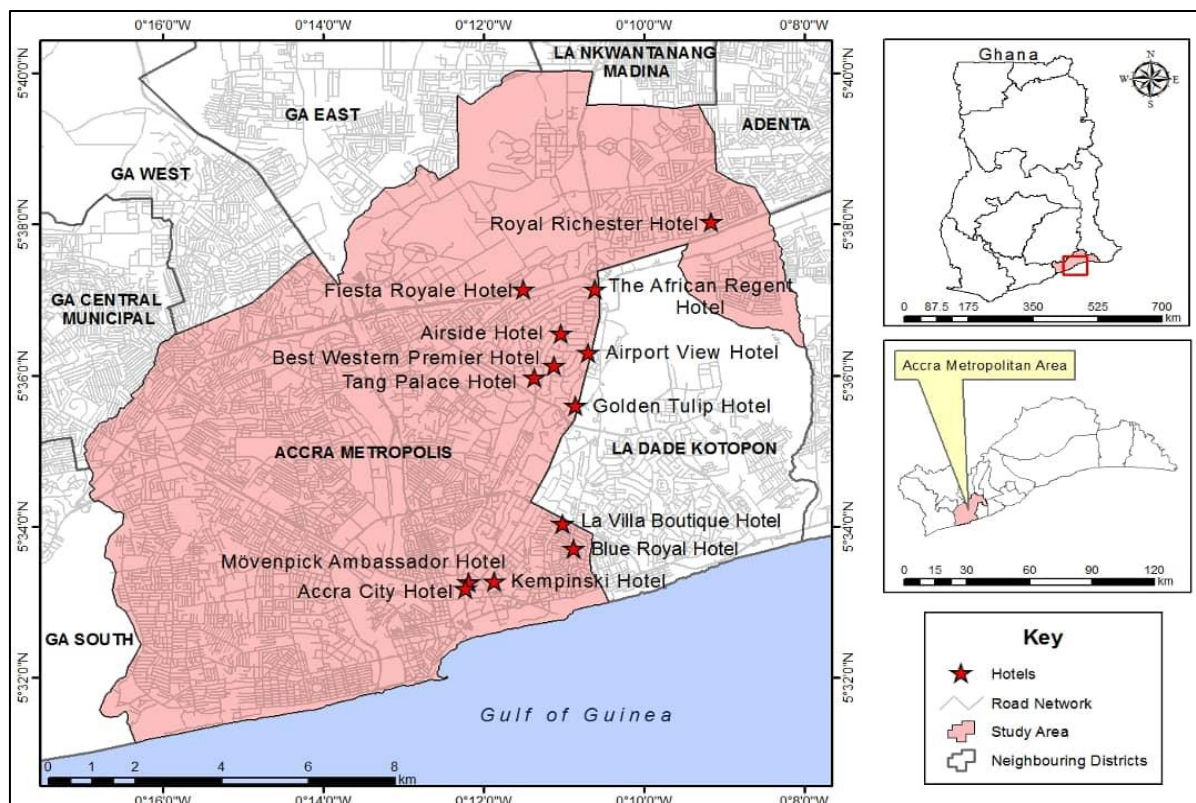


Figure 1: Map of Accra Metropolis

Source: Cartographic Unit, Department of Geography and Regional Planning, University of Cape Coast (2017).

## Research design

The study adopted the cross-sectional design. Being the most common research design for social science research, the cross-sectional design involves deciding on what to find out; identifying the population, selecting a sample or using the entire population; and reaching the respondents to draw the required information (Creswell and Creswell, 2018). This research concentrates on only a cross-section of hotels, specifically star-rated hotels.

## Study Population

The study population comprised all reservation/front office managers of 1-5-star rated hotels in the aforementioned locations in the Accra Metropolis at the time of data collection. The reservations /front office managers were targeted for the study because they are anticipated to have a broad overview of their organization concerning ORS. They are usually responsible for the strategic development of hotels, including the alignment of ICT with business strategies (Pirnar, 2014). The front office /reservations also liaises with the front-line employees to get daily feedback on guests' complaints and demands.

## Sample and Sampling Techniques

Every hotel with a rating of 1–5 stars in the areas listed in the study area section was included. The number of stars a hotel has earned, which is based on the amenities and services it offers, was used to measure its category. Due to the very small number of star-rated hotels in the research region, a census was conducted. There is no possibility of sampling mistake with this method as it guarantees that every member of the population is included. Additionally, it provides the maximum degree of precision and accuracy in the data gathered. Data gathered via the census approach provides a greater level of data accuracy and aids in problem analysis (Kothari, 2004). The hotels were one hundred and ninety-three (193) in total, however, ten hotels did not participate in the survey because they were not interested. Their main reason was that previous studies by students and institutions did not benefit them in any way. However, out of the 183 questionnaires administered (Table 1), one hundred and seventy-two (172) were retrieved from the field indicating a response rate of 89.9% for the study.

Table 1: Profile of Star-rated hotels in the Accra Metropolis

Hotel category	Number of hotels
1 star	76
2 star	84
3 star	13
4 star	7
5 star	3
Total	183

Source: GTA, (2015)

## Data collection instrument

Data was gathered via a questionnaire and interview. A questionnaire makes it possible to quickly contact a large number of responders (Creswell, 2005). Since English is Ghana's official language and the managers are

able to read, write, and comprehend it, the questionnaire was created and sent in that language. A 4-point Likert scale, ranging from strongly agree to strongly disagree, was used for the closed-ended questions on the survey. The kinds of ORS that star-rated hotels in the Accra Metropolis utilize, as well as the advantages of ORS adoption among star-rated hotels, were covered in the questionnaire. Hotels in the Cape-Coast Metropolis participated in a pre-test of the instrument. For four days in January 2018, twenty (20) star hotels participated in the pre-testing. The Metropolis has a sizable number of star-rated hotels, and some of them employ ORS because of the increasing rivalry brought about by the increased number of hotels. This was the reason for pre-testing at Cape Coast. Validating the instrument and improving the questionnaire were the goals of the pretesting. Based on the research literature, the questionnaire was changed by rewriting or eliminating items and evaluating the phrasing to eliminate ambiguity.

In addition to the questionnaire, an in-depth interview guide was used to collect information from the front office or reservation managers. The in-depth interview gives the researcher the opportunity to probe further and clarify issues to the respondents.

### Data Processing and Analysis

After data collection, the responses were checked for completeness, edited, and coded. The data was entered into the Statistical Package for Service Solutions (SPSS) version 22 for further processing. Descriptive statistics such as means, standard deviations, frequencies, percentages, and the Chi-square test were employed.

### Ethical Consideration

The entire protocol for the study was approved by the Ethical Review Board of the University of Cape Coast. Informed consent was sought from respondents before undertaking the research. The provision of adequate information about the study was relevant to enable the participants to decide whether they wanted to take part or not. An introductory letter from the Department of Hospitality and Tourism Management, University of Cape Coast, was used to seek consent from the respondents. All participant information was kept confidential and anonymized to protect their privacy. Data collected were coded, and personal identifiers were removed to ensure anonymity. Only the research team had access to the data, and it was stored securely.

## RESULTS AND DISCUSSION

### Hotel Characteristics

According to the findings in Table 2, the vast majority of hotels in Ghana (86.6%) fell into categories 1 and 2 of the star ratings for lodging establishments. There were very few hotels with ratings of four or five stars (4.1% and 1.7%, respectively). About three out of ten hotels (30.8%) had been in operation for six to ten years, while fewer than a quarter (23.3%) of the hotels had been open for less than five years. Of the hotels, almost 46 percent have been open for at least 11 years. In terms of ownership structure, 17.4% of hotels were chains, while over four out of five were privately owned. The rooms in almost a third (34.2%) of the hotels were in the 21–40 range. Hotels with 61 to 80 rooms made up 7.0%, while those with 20 rooms or fewer made up 32.4%. Of the hotels, more than half (58.5%) charged less than GHS500.00 (\$82.0) a night, while just 7.6% charged more than GHS1000.00 (\$165.0).

Table 2: Hotel Characteristics (N= 172)

Characteristics	Frequency	Percentage (%)
Hotel category		
1 star	70	40.7
2 star	79	45.9

3 star	13	8.0
4 star	7	4.1
5 star	3	1.7
Age of hotel		
<5 years	40	23.3
6-10 years	53	30.8
11-15 years	31	18.0
16-20 years	30	17.4
21-25 years	18	10.5
Ownership structure		
Chain	30	17.4
Individual	142	82.6
Numbers of rooms		
< 20	56	32.4
21-40	59	34.1
41-60	22	12.7
61-80	15	8.7
> 80	20	11.6
Room rate(GHC)		
<500	96	55.8
501-1000	45	26.2
1001-1500	13	7.6
>1501	17	9.8
Hotel Services		
Food and Beverage	172	30.8
Conferences	153	27.4
Laundry	135	24.2



Airport pickup services	99	17.7
Facilities		
Swimming pool	54	31.4
Gym	10	5.8
Convenience Shop	9	5.2
Forex bureau	25	14.5

Source: Field survey (2018)

Hotels offering smaller lodging options were the majority of those with room costs under GHS500.00 (\$82.0). Instead of employing professionals, several of these hotels use family members and do their upkeep. Additionally, these hotel classifications seldom advertise. Hotels that charge more than GHS1000.00 (\$165.0) a room are often three to five-star establishments that are mandated by law to provide certain extra features, such a currency bureau and fine dining areas. In terms of the services provided by the hotels, food and drink accounted for 30.8% of the total, conference services for 27.4%, and airport pickup services for 17.4%. Furthermore, 5.2% of the hotels offered convenience stores, 14.5% provided currency bureau services, and 31.4% had swimming pools.

### Adoption of ORS by star-rated hotels in the Accra Metropolis

According to Figure 2, fewer than a third (22%) of the hotels had not implemented the reservation systems, whereas more than three-quarters (78%) had.

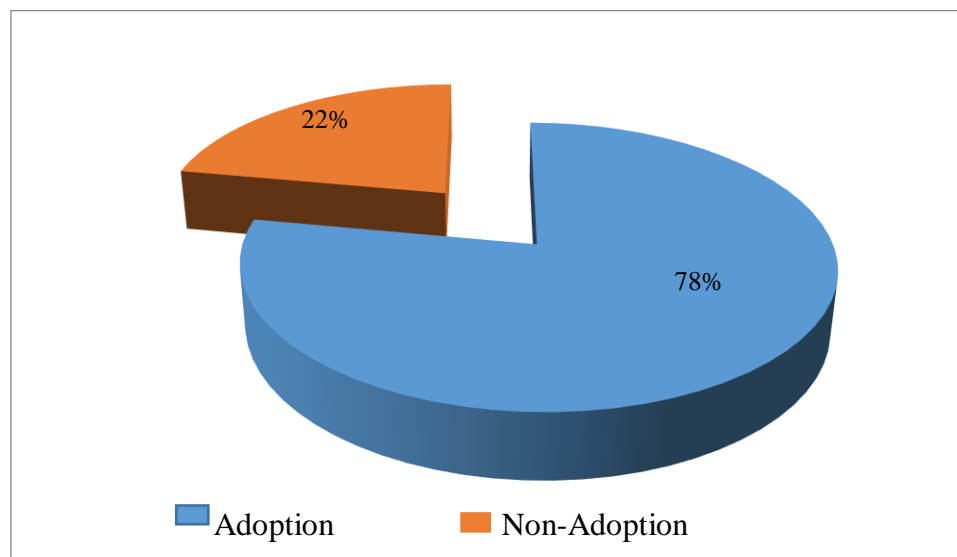


Figure 1: Adoption of Online Reservation Systems

Source: Field survey, (2018)

### Forms of Online Reservation Systems

This section examines the several ORS formats that have been implemented in order to ascertain which ones hotels utilize. Online travel agents were used by 45.1% of respondents, followed by hotel websites (44.8%) and global distribution systems (10.1%), according to Table 3. Therefore, the HOWs and OTAs were the most

often used types of ORS hotels in the research region. Law and Chen (2025) state that OTAs are now leading in the booking sector of hotels since they achieve a broad view, offer challenges to bookings, and sometimes determine the choice of hotel distribution. Likewise, HOWs enable hotels to have direct contact with customers and prevent high commissions offered by OTAs as emphasized by Cheng et al. (2021), which is why they are adopted with nearly the same frequency. In the same regards, the two options, HOWs and OTAs have an almost similar rate of adoption where hotels can have direct contact with customers without incurring high commissions (Duman and Binbasioglu, 2023).

Table 3: Forms of Online Reservation Systems (N=268)

Forms	Frequency*	Percentage
HOWs	120	44.8
OTAs	121	45.1
GDS	27	10.1

\*Multiple responses, Source: Field survey, Ankor (2018)

### Benefits of Using Online Reservation Systems

The results in Table 4 indicated overriding acceptance of the advantages of the adoption of online reservation systems (ORS) by the star-rated hotels in the Accra Metropolis. The top-ranked benefits are the one that helps to get paid in a short time ( $M = 3.785$ ,  $SD = 0.47$ ) and the ones that help to maximize reservations ( $M = 3.639$ ,  $SD = 0.55$ ), and both of these options are in the Strongly Agree setup. They are major benefits with low standard deviations, which implies that the respondents consistently view them as important benefits. The findings match with Sharma and Kumar (2022) that ORS helps increase the revenue streams because it shortens the time delays in payments and enhances the availability of the rooms. Equally important, it was stressed by Alrawadieh et al. (2023) that digital reservation systems improve the efficiency of booking and revenue management, promoting better results for the hotel.

There is also a great degree of agreement in relation to 24/7 business accessibility ( $M = 3.634$ ,  $SD = 0.50$ ) and the capability of managing large numbers of reservations ( $M = 3.529$ ,  $SD = 0.58$ ). The given findings could imply that the respondents perceive ORS to be pivotal as it allows the provision of a round-the-clock service with the guarantee of its constant availability, which is necessary to attract international clients and ensure the optimal utilization of fluctuating demand. The comparatively low rate of variation in the responses indicates that such benefits are mostly enjoyed in the majority of the hotels. This is in line with Law et al. (2022), who indicated that ORS enables hotels to practice without limitation of time, which confers a competitive edge to the business in a globalized world. In addition, Kumar et al. (2021) say that customer satisfaction and the success of operations in the hospitality industry are partially determined by the possibility to receive and process large booking volumes.

The following benefits, in turn, namely decreasing the number of employees ( $M = 3.174$ ,  $SD = 0.69$ ) and helping provide faster services ( $M = 3.139$ ,  $SD = 0.72$ ), did not receive as high ratings but still can be classified as Agree. The standard deviations of these items are relatively high, which implies that there is a difference in the experiences of respondents, which may be a result of the differences in the size of hotels, staffing structures, and the matching of the hotel with their system integration capabilities. Although ORS has the potential to automate a variety of aspects pertaining to the booking process, Olawale and Okafor (2023) argued that a workforce reduction should not be expected in hotels with a complicated system of operations. Also, service delivery may be delayed when integration of ORS with the other operational systems is not complete, according to the report by Yeboah and Amoako (2021).

A closer look at the hotel profiles shows that the efficiency of the various types of ORS does not spread equally among all businesses. OTAs are especially useful to one- and two-star hotels due to their international

exposure without the need to invest in technology heavily. Such budget hotels may not have the means to support advanced websites; hence, OTAs are useful in filling the void due to the use of third-party websites to appeal to international travelers.

On the other hand, HOWs are of greater use to three to five-star hotels. These luxury facilities often have more solid branding and more financial resources, to where they can afford to invest in safe, feature-rich websites with property management systems (PMS) incorporated in them. HOWs can also enable personal booking experiences, loyalty programs, and enable direct upsell options, and minimize the use of high commission fees charged by the OTA. It goes in line with Duman and Binbasioglu (2023), who point out that higher-end hotels benefit due to cost control and brand loyalty associated with HOWs.

In spite of the non-intensive use of GDS, it can be of strategic interest to four and five-star chain-affiliated hotels working with international business travelers. With GDS, there is a real-time management of inventory in different distribution channels, and this feature is very essential in corporate and group bookings. It is too sophisticated and expensive to use in a small hotel, yet in premium chains, it allows connecting to travel agencies and an extensive booking network around the world (Akinyede et al., 2017).

As an outgrowth of these findings, the usability of ORS platforms is dependent on the context, and they are subject to certain changes, i.e., they are dependent on such factors as the star rating, the structure of ownership, and the capacity of the resources. This means that hoteliers ought to have differentiated ORS strategies in regard to the scope of operations and the target market.

In general, these results reinforce the idea that the greatest perceived advantages of ORS undertaking among star-rated hotels in Accra are associated with revenue maximization, always-on availability, processing large numbers of bookings effectively, whereas the perception of reducing the number of workforce, as well as faster services, is less expressive. Based on these findings, the need to emphasize the personal impact of digital tools in hospitality is reinforced by the argument that Kumar et al. (2021) made about the exact relationship between digital tools and revenue and operational efficiency. Nonetheless, the inconsistency in certain answers indicates that all of the benefits of ORS may be achieved only with the use of sufficient infrastructure, appropriate staff education and integration with hotel operations.

Table 4: Benefits of using Online Reservation Systems (N=172)

Benefits	Mean	Std. Dev.
Assists in getting paid quickly	3.785	0.44
Cutting down the number of employees	3.174	0.69
Reservations are maximized	3.639	0.55
Businesses are open to the public 24/7	3.634	0.50
Assists in faster services	3.139	0.72
Helps in handling a large volume of reservations	3.529	0.58

Scale: Strongly Agree =3.5-4.0, Agree=2.5-3.4, Disagree=1.5-2.4, Strongly Disagree= 0-1.4

### Association between Benefits and Forms of Online Reservation Systems

To explore the relationship that exists between the benefits and the forms of ORS, further analysis was carried out using the Chi-square test of independence. Evidence from Table 5 shows that a significant relationship was observed between the benefits of using ORS and the use of the Hotel's Own Website at  $p \leq 0.05$ . Specifically, Table 5 reveals that there was a significant relationship between instant payment and the use of HOWs ( $\chi^2 =$

56.357,  $p = 0.000$ ). Further analysis showed that whereas 67.2% of hotels agreed that instant payment was a benefit associated with using HOWs, 32.8% disagreed. This may be because those hotels that have their websites see it as a strategic tool to help their customers book their facilities easily and directly.

Another significant relationship was observed between reduced staff and the Hotel's Own Website ( $\chi^2 = 37.775$ ;  $p = 0.000$ ). The chi-square test further revealed that the majority (72.2%) of the hotels agreed that a reduction in the number of sales staff is a benefit associated with using HOWs, compared to 26.8% who disagreed. This observation implies that since hotels may not employ a lot of sales staff, there could be a reduction in costs, especially in the payment of salaries to those sales staff who could have been employed. The functions that would be done by hotel staff, including providing information about location and amenities, would now be provided on the website. This reduces the number of employees in the hotel and leads to effective management and distribution of the labour force (Nguyen et al., 2022). There was also an association between wider coverage and HOWs ( $\chi^2 = 50.466$ ;  $p = 0.000$ ). Further analysis indicated that about three-quarters (75.9%) of the hotels agreed that wider coverage was a benefit associated with using HOWs. This implies that hotels that have their website in addition to other forms of reservation systems are aware of the benefits of being more visible online than those that have not yet adopted the system. This finding supports the findings of Pereira et al. (2017), who acknowledged that more hotels consider using their websites to be visible and also save costs.

Additionally, a 24/7 operation and HOWs had a significant relationship ( $\chi^2 = 39.989$ ;  $p = 0.000$ ). Further analysis also indicates that whereas 76.7% of the respondents agreed that a 24-hour, 7 days a week operation is a benefit associated with using HOWs. This implies that hotels that see ORS as a strategic tool to assist their facility in being open to the public 24 hours, 7 days a week, were experiencing the benefits of ORS more than their counterparts who disagree with it. Furthermore, there was a significant relationship between faster service and HOW ( $\chi^2 = 48.395$ ;  $p = 0.000$ ). The analysis further showed that whereas 72.1% of the hotels agreed that faster services were a benefit for using HOWs. Since ORS aids in providing faster services to guests, using HOWs directly for online services may be faster than offline systems. A statistically significant relationship also exists between maximized reservations and HOWs ( $\chi^2 = 33.818$ ;  $p = 0.000$ ). Further analysis showed that almost 4 out of every 5 hotels (78.5%) established that ORS assists them in maximizing reservations. This implies that once a hotel is online and is visible to the customers, it stands the chance of getting more bookings as compared to those facilities that are not online.

Table 5 further shows a significant association between the benefits of using ORS and Online Travel Agents at  $p \leq 0.05$ . Specifically, a significant relationship was found between instant payment and the use of OTAs ( $\chi^2 = 33.672$ ;  $p = 0.000$ ). Further analysis showed that about two-thirds (67.2%) of hotels agreed that instant payment is a benefit associated with using OTAs, while 32.8% disagreed. This finding supports the general knowledge that those hotels that have adopted OTAs receive payments quickly than those that have not, because guests who book online through OTAs may be required to guarantee their booking through payment for the booking to be confirmed and secured before they arrive at the hotel.

Another statistically significant relationship was also observed between reduced staff and OTAs ( $\chi^2 = 33.830$ ;  $p = 0.000$ ). Further analysis showed that at least 7 out of every 10 (72.2%) of the hotels agreed to the reduction of staff being a benefit derived from using OTAs, while 26.8% disagreed with it. This implies that once a hotel is online and can be accessed by the public, there would not be much need to hire a lot of salespeople to market the hotel (Wang and Scott, 2019). Moreover, there was a relationship between wider coverage and OTAs ( $\chi^2 = 40.612$ ;  $p = 0.000$ ). Further analysis indicates that at least three-quarters (75.9%) of the hotels affirmed that wider coverage is beneficial to hotels using OTAs. This finding is consistent with the findings of Koh and Hassim (2021), who asserted that OTAs give hotels benefits through increased visibility and through advertisement, leading to wider access.

Also, there was a relationship between a 24/7 operation and OTAs ( $\chi^2 = 39.502$ ;  $p = 0.000$ ). The result revealed that whereas 76.7% of the hotels agreed that a 24/7 operation is a benefit associated with using OTAs because of its great visibility and availability, less than a quarter (23.3%) disagreed. There was a significant relationship between faster services and OTAs ( $\chi^2 = 27.502$ ;  $p = 0.000$ ). The analysis further indicated that

72.1% of the hotels agreed to ORS assisting them in offering faster services through OTAs. In addition to the benefits associated with using OTAs, there was a statistically significant relationship between maximized reservations and the use of OTAs ( $\chi^2 = 23.675$ ;  $p = 0.000$ ). Further analysis revealed that almost 4 out of every 5 (78.5%) hotels agreed that maximizing reservations is a benefit for using OTAs since their hotels are seen globally. With regards to the use of Global Distribution Systems, some of the benefits of using ORS showed a significant association. Specifically, a statistically significant relationship was found between instant payment and GDS ( $\chi^2 = 8.826$ ;  $p = 0.032$ ). Further analysis showed that 67.2% of hotels agreed that instant payment is a benefit associated with GDS, and only about a third (32.8%) disagreed. Making a reservation through GDS, which is a form of ORS, may also require the guests to make payments online, especially when purchasing air tickets. There was a significant relationship between wider coverage and GDS ( $\chi^2 = 9.591$ ;  $p = 0.022$ ). Further analysis indicated that 75.9% of the hotels agreed that wider coverage is a benefit associated with using Global Distribution Systems. This may be attributed to the visibility and exposure associated with being online.

Another significant relationship was observed between a 24/7 operation and GDS ( $\chi^2 = 15.734$ ;  $p = 0.001$ ). The chi-square test further revealed that, whereas unanimous (97.3%) agreement was established by hotels that a 24/7 operation benefits them in using GDS. Finally, a significant relationship existed between maximized reservations and GDS ( $\chi^2 = 11.366$ ;  $p = 0.010$ ). Further examination carried out showed that more than three-quarters (78.5%) of the hotels agreed that maximizing reservations was a benefit derived from using GDS. This finding supports the findings obtained by Akinyede et al. (2017), who stated that the use of GDS allows tourism service providers to promote and sell their products globally online, at the same time helping them to increase occupancy through maximization and to reduce seasonality.

Table 5: Benefits by Forms of Online Reservation Systems

Forms of ORS	Benefits of using ORS											
	Instant payment		Reduction of staff		Wider coverage		A 24/7 operation		Faster services		Maximized reservations	
HOW	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree
s	67.2	32.8	72.2	26.8	75.9	24.1	76.7	23.3	72.1	27.9	78.5	21.5
	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=
	56.357	0.000*	37.775	0.000*	50.466	0.000*	39.989	0.000*	48.395	0.000*	33.818	0.000*
OTAs												
	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=
	33.672	0.000*	33.830	0.000*	40.612	0.000*	39.502	0.000*	27.502	0.000*	23.675	0.000*
GDS	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=	$\chi^2$	p=
	8.826	0.032*	6.301	0.098	9.591	0.022*	15.734	0.001*	5.075	0.166	11.366	0.010*

\*Significant at  $p < 0.050$  Source: Field survey, Ankor (2018)



In view of this benefit, an in-depth interview was conducted, and one of the managers indicated that payments are made quickly by guests who use credit cards directly and indirectly through Apstar Tours. This enables them to have access to their money quickly. She had this to share:

With the ORS, payments are made quickly by guests who use credit cards, to us and through Apstar Tours, so we get our money quickly, so you see that the online systems benefit a lot (Respondent 2, Manageress of a 2-Star Hotel).

From the above quote, it is revealed that those hotels that have systems in place to enable guests to make online payments to guarantee their bookings enjoy the benefits of receiving their monies prior to guests' arrival at their facility. Additionally, in the case of a no-show guests, the hotels benefits from payments made (Chibili, 2017).

In relation to quantitative finding, the in-depth interviews further confirm that, ORS helps hotels in getting more booking than any other means and it reaches more people due to the visibility and exposure it gives. One of such views is captured in the quote from one of the respondents as presented below:

Obviously we get more bookings than usual. It reaches more people than we can reach because of the visibility and the exposure that the online systems give. For instance, if I want to go to London, I will just have to visit online platforms right here by pressing a button and make a reservation (Respondent 1, Manager of a 1-Star Hotel).

The quote above reiterates the fact that, making reservations online is the current trend for booking hotels. In addition, the ORS has given an added advantage to hotels which have adopted the system in getting more booking than through other means since the reservation system works all the time. This phenomenon helps hotels to maximize their sales since reservations online are not done only during working hours (Navio-Marco et al., 2018).

The interviews also revealed how ORS allows hotels to remain accessible beyond working hours, which is crucial for international clients operating in different time zones. As one manager noted:

Our hotel is now accessible to guests at any time, even when our staff is off duty. Bookings come in overnight, which was impossible before. (Respondent 4, Manager of a 3-Star Hotel)

This observation complements the quantitative rating for 24/7 business availability and aligns with Law et al. (2022), who identify continuous availability as a competitive differentiator in hospitality.

## CONCLUSION

The study examined the forms of online reservation systems (ORS) adopted by star-rated hotels in the Accra Metropolis and the benefits derived from their usage. It was found that the most prevalent ORSs used are global booking services, third-party websites, and hotel-controlled booking engines. Such systems have brought significant changes to the operations of the hotels by enhancing their overall control of reservations and allowing customers to conveniently access hotel services. Findings also showed that the key advantages of adopting ORS are optimizing reservations, ensuring 24/7 accessibility, and enabling easy payments. Respondents strongly asserted that ORS facilitates efficient management of large volumes of bookings, which is important for maximizing revenue and satisfying customers. However, effects such as workforce reduction and quicker service application received lower ratings, implying that these benefits depend on the level of system integration and the scale of the hotel's operations. One of the priorities for star-rated hotels should be to continuously update ORS platforms with new features, including real-time booking, secure payment gateways, and automated communication systems. This will improve operational efficiency and reduce bottlenecks.

## Theoretical Implications

The results of this paper are an addition to the existing literature about the use of technologies in the hospitality industry, especially in the environment of low economic growth, as in Ghana. The study helps to confirm the

Technology Acceptance Model (TAM), holding to the view that the adoption of technological innovations is determined by perceived usefulness of technological innovations as well as their ease of use. The point of perceived usefulness comes out strongly in the discovery as there is high consensus on the benefits of the thing offered, including maximum reservations and 24/7 access. Furthermore, the study can be used as a source of empirical evidence in terms of the integration of TAM with resource viewpoints because this paper shows that the use of technology can be used to streamline operations and competitive behavior in the hotel industry.

### **Practical Implications**

The findings point on the applied significance of ORS to hotels working in a competitive market. With such strong ORS platforms, hotels are in a better position to increase the revenue flow, secure foreign clients and help the convenience of the tech-savvy travellers. Utilitarian advantages like increased speed of payments and facilitation of a wide range of bookings show that the introduction of ORS is not a technical change but a strategic requirement. The results of this research prompt hospitality providers to implement ORS into their organisation processes and focus on the dashboard interfaces simplicity, stable internet connection and integration of safe payment channel to guarantee customer trustworthiness and satisfaction.

### **Managerial Implications**

The study highlights that digital transformation is crucial for the competitiveness of hotels, according to hotel managers. Managers should invest in implementing a sophisticated ORS solution and provide proper staff training to maximize its use. Additionally, managers need to adopt a data-driven decision-making strategy, using ORS analytics to forecast demand, optimize pricing, and personalize customer experiences. The relatively low ratings regarding benefits such as workforce reduction and faster service suggest that managers may need to complement ORS with operational restructuring to fully realize efficiency gains. Maintaining relationships with global booking platforms and continuously monitoring customer feedback will also improve managerial decisions and help leverage ORS effectively.

### **Limitations and Future Research**

In spite of the contributions, the study has limitations. It concentrates on star-rated hotels in the Accra Metropolis and therefore makes its findings limited in that the findings may not be generalized to other geographical regions or hotels not in the star rating category. Also, the investigation mainly based its results on the self-reported data, which can be partial. Comparative studies in several regions or countries should also be used in future research to determine the differences in the use of ORS and its benefits. Besides, longitudinal studies can be carried out to understand the effect of long-term use of ORS on financial performance. Researchers can also address the issues and perils of ORS adoption that including cybersecurity risks and the downtime of the system, to get a more comprehensive idea.

Future studies should broaden the scope beyond the Accra Metropolis to include other regions in Ghana, as well as diverse hotel categories such as non-rated or informal establishments. This will allow for a more comprehensive understanding of ORS adoption across different economic and infrastructural contexts.

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