UNIVERSITY OF CAPE COAST

ADOPTION OF ONLINE RESERVATION SYSTEMS AMONG STAR RATED HOTELS IN THE ACCRA METROPOLIS

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BY

PEACE ANKOR

Thesis submitted to the Department of Hospitality and Tourism Management of the Faculty of Social Sciences, College of Humanities and Legal Studies, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Hospitality Management.

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature…….. Date……

Name: Peace Ankor

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast

Principal Supervisor's Signature……Date……

Name: Dr. Issahaku Adam

Co- Supervisor's Signature…… Date……

Name: Dr. Stephen Edem Hiamey

ABSTRACT

Research has shown that adoption of online reservation systems by the hospitality and tourism industry brings both economic and social benefits to the hotels and customers. The study sought to assess the adoption of online reservation systems among hotels in the Accra Metropolis, Ghana. The study was guided by the pragmatist's paradigm to include the positivists and the interpretivist philosophy of research (quantitative and qualitative approach). Questionnaires were administered to all the 183 reservation/front office managers of the star-rated hotels through census. A purposive sampling was further used for 6 selected managers for interviews for triangulation. Descriptive statistics, Chi-square test of independence, Factor analysis, and Binary logistic regression were used for analysis. The study revealed that the majority of the star rated hotels (87%) in Accra Metropolis have adopted online reservation systems with Online Travel Agents and Hotel's own website being the most forms of reservation systems used. Technological, managerial and economic, and environmental factors emerged as the factors which influenced adoption of ORS. It was also observed that hotels maximized reservations, have their business open to the public always. The study furthers observed that, slow internet access time, lack of qualified personnel, high commission rates, and lack of interaction between personnel and clients were the main barriers to the use of ORS. In as much as the adoption of ORS is beneficial, hotels are faced with several obstacles that prevents them from maximum utilization of the ORS facility.

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DEDICATION

To my dear husband and children

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LIST OF ACRONYMS

CRS	Central Reservations System
FA	Factor Analysis
FAO	Food and Agriculture Organizations
GDS	Global Distribution Systems
GTA	Ghana Tourism Authority
HIS	Hotel Information Systems
HOW's	Hotel's Own Websites
IBM	International Business Machines
ICT	Information and Communication Technology
IDI	In-Depth Interview Guide
IT	Information Technology
KMO	Kaiser-Meyer-Olkin
ORS	Online Reservation Systems
OTA's	Online Travel Agents
PCA	Principal Component Analysis
PSM	Property Management System
SPSS	Statistical Product and Service Solution
TAM	Technology Acceptance Model
TAM2	Technology Acceptance Model Extension
TOE	Technology Organization Environment Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
UNICEF	United Nations International Children's Emergency Fund.

CHAPTER ONE

INTRODUCTION

Background to the Study

The growth of ICT utilization in the tourism and hospitality industry has enhanced the activities of hotels globally and encouraged hotels to adopt and use new technologies (Buhalis, 2003). In the past three decades, hotel management operations have been largely influenced by some key waves of ICT such as the Computer reservation systems (CRS), Global distribution systems (GDS) and the birth of the internet (Hinson & Boateng, 2007). The introduction of these ICTs has changed society and aims at providing service to customers in every sector of the hospitality industry worldwide including tourism and hospitality and ICTs have become increasingly important (Millano, Baggio & Piatelli, 2011). ICTs are used by businesses for communication, marketing and for advertisement as a low-cost tool (Buhalis, 2003; Hudson & Gilbert, 2006; Law, Leung & Buhalis, 2009).

The Internet has become a powerful medium for business marketing and communication and for new commercial prospects as it is frequently called "*e-business*" or "*e-commerce*" today (Buhalis & Law, 2008). This new e-business or e-commerce allows small firms compete with business giants with the help of a better web presentation of their products or services. In the same way, online customers can appreciate a broader choice of products or services, more competitive prices, and having the opportunity to purchase their preferred items or services from the vendors located thousands of miles away. Hotels require great communication skills and sales strategies to remain

competitive in such a marketing environment; thus, the importance of the internet as a search and booking tool (Hudson & Gilbert, 2006).

Within the hotel industry, online booking is showing a tendency that could replace the more traditional methods of booking (Buhalis & Law, 2008). Moreover, the features of the hotel industry and its products are based on critical factor of time. For instance, an unsold hotel room cannot be recovered and an unrecovered service due to cancellation of booking will affect the hotel's revenue due to perishability. That is why online reservation is considered as one of the key marketing factors to be taken into account to constantly fill hotel rooms (Carvell & Quan, 2008). Conversely, the hotel product does not have the same price for each individual customer because of corporational, periodical, or agent modifications and therefore needs technologies to sell itself (Gilbert & Powell-Perry, 2003; Short, 2003; Wilson, 2007).

Online hotel reservations are becoming a very prominent mode for booking hotel rooms. Travelers can make reservations in the comfort of their homes by using online security to protect their privacy and financial information from the public using several Online Travel Agents (OTAs), make comparison of rates and facilities at different hotels (Kabbaj, 2003). Due to the prominence of online reservations, an increasing number of hotels have established their own home page or have purchased a package system from software companies; while other hotels are accessible via a link through intermediaries like OTAs for which a commission is paid (Connell & Reynolds, 1999; Lin & Lee, 2009). In the wake of online transactions, reservations through intermediaries like OTAs seems to be dominating other

forms of booking. This is because OTAs tend to give hotels a greater market shares since they are seen globally by customers and furnish their customers with the appropriate information needed to make a hotel reservation (Denizci, Kucukusta & Zhang, 2015).

However, some customers prefer making reservations through Global Distribution Systems (GDS). From hotels' perspectives, third-party companies or intermediaries add significant cost to final products and services and failure to improve the value of their final products or services may lead to their exclusion from the channel (Jantan, Oly, Ndubisi, & Boon Yean, 2003) hence the use of corporate websites for handling online reservations. Reservations through the internet have created a closer and more direct link between hotels and their customers to the extent that hotels now market and sell their products and services anywhere, and anytime without physically interacting with their customers (Buhalis & Law 2008; Wang, Xiang & Fesenmaier, 2016;)

Online Reservation Systems (ORS) is an electronic interactive system that delivers information to users through telephone lines to personal computers (PCs) or through cables to terminals (Asabere, Doku, Kusi-Sarpong & Oppong, 2014; Denizci, Guillet, Kucukusta & Zhang, 2015; Chevers & Spencer, 2017). The first aspect of ORS provides information in a form of text on news items, education, business, entertainment, shopping, whiles the second aspect of it provide message services and give information that allows customers book a hotel room at any time, from anywhere, through the use of portable devices. These two categories of ORS applications offered by hotels for its customers to check hotel locations, room rates, promotions, or membership information (e.g., membership points); and apps offered by a

third-party organization that provide information on different hotels for the convenience of travelers on a commission basis (e.g., OTAs Kayak, Booking.com, Travelocity and Expedia). The adoption of ORS holds tremendous benefit to hotels in that it enhances the value of the hotel as well as ensures lower cost of goods and services, and serves as a strategic tool for the operators (Basu & Muylle, 2007).

For the easy accessibility to the online reservation, customers belonging to different backgrounds and lifestyles show different search patterns which may be influenced by previous travel experiences, nationalities and stage of travel (Hallab & Gursoy, 2006; Morrison, Kim & Lehto, 2007), and also require different information from online sources based on different stages of their travel (Crotts, Law & Kozak, 2007). In the year 2015, online travel industries performed creditably in the first quarter with the total number of bookings made on the internet each year being 57 percent and hotel reservation through the internet and smartphone also summing 65 percent. Findings from the year 2015 report indicate that, about 180 million people visited online travel sites in a month, with the total number of bookings of air, hotel, and car rentals totaling $35.1 billion from the previous year (Kiráľová & Pavlíčeka, 2015).

However, ORS comes with its implications on the organizations. There is cost involved in the adoption of the new technology with which some hotels are unable to cope. Again, the cost of employing experts with the technical know-how to service and maintain the technology, the cost of changing from manual to digital systems, and the cost of commissions paid to the online travel agents are of great concerns to some hotels.

Statement of the Problem experiences

The desire for online booking has become very popular in recent times with consumers visiting online sites directly or simply through the search engines to vendor sites for what they require (Napier, Judd, Rivers, & Wagner, 2001). This growing trend has made many online travel agents take advantage by simply providing the consumers with the online reservation facilities, which offer them flexible booking systems (Buhalis, Law & Leung, 2009). The use of ORS provides an ideal system to tourist to plan their tours and book holiday at the comfort of their homes (Buhalis & Law, 2008). This has resulted in a revolution among players in the hospitality industry. This revolution has brought about innovations in travel destination software, and reservation systems (Buhalis, Law& Leung, 2009).

The trend on the use of ORS has attracted a number of researchers on matters pertaining to ORS adoption. Despite the attempts by researchers to study ORS, most studies are largely focused on the customer's perspective. For instance, Hennig-Thurau (2004) investigated Customer orientation of service employees; while Lee, Kim and Kim (2005) studied users' perspective of reservation systems. Relatedly, Elhaj (2012) studied the factors that contribute to consumers' perceptions of online and traditional travel reservation system while, McCarthy, Stock, and Verma (2010) focused on travellers use of online and social media channels for hotel choice. Elhaji (2012) gave insight into the consumers' perception towards online versus traditional flight reservation methods, and Liu, Pu, Guang and Yang (2016) also studied online customer experience and repurchase intension, while Lin, Lee, and Lin (2009) assessed the implication of online reservation systems and

their impact on the hotel business being the only studies on the organization's perspective of ORS adoption. Consequently, little is known on the underlying forces of ORS adoption among hotels.

Further, previous demand side studies on ORS have largely been situated in the context of the developed western societies. As a result, there is inadequate information on ORS adoption from the perspective of developing countries like Ghana. It is therefore imperative to understand the dynamics of ORS adoption and usage among Ghanaian hotels particularly against the backdrop of technological log in Ghana and the hotel industry as acknowledged by (Ayeh, 2008; Boakye, 2011; Issahaku, 2012; Bemile, Achampong & Danquah, 2014; Akaba, 2015).

Research Objectives

The purpose of the study is to assess the adoption of online reservation systems among hotels in the Accra Metropolis, Ghana. Specifically, the study seeks to;

- Identify the forms of ORS used by star rated hotels in the Accra Metropolis.
- Examine the factors that influence the adoption of ORS by star rated hotels in the Accra Metropolis.
- Examine the benefits of adopting ORS among star rated hotels in the Accra
- Analyze the challenges associated with the use of ORS among star rated hotels in the Accra Metropolis.

Research Questions

- What forms of ORS are used by star rated hotels in the Accra Metropolis?
- What factors influence the adoption of ORS among star rated hotels in the Accra Metropolis?
- What are the benefits of adopting ORS among star rated hotels in the Accra Metropolis?
- What are the challenges associated with the use of ORS among star rated hotels in the Accra Metropolis?

Significance of the Study

This study offers a number of contributions to the hoteliers, policy makers and academicians. First and foremost, the study gives insights into ORS adoption and the forms of ORS used by hotels to meet the reservation needs of guests. By developing a holistic view of factors influencing ORS adoption, this study contributes to key considerations surrounding the reasoning and implications of ORS adoption. It also highlights forms of the reservation systems that have been poorly implemented and some under-researched areas of ORS adoption.

This study further provides findings on the benefits and challenges associated with ORS adoption. This is important as hotels are striving to incorporate technologies that will enable them get a better deal to balance the utilization of available resources towards the success of the hotel and meeting the needs of their guests. The internet service providers should upscale their facilities and infrastructure to enable very good internet service to the hotels so

that these hotels will adopt new technologies that will enable them serve their customers better.

Again, this study will enable hospitality policy makers, academicians, and stakeholders in hospitality development with relevant information on ORS adoption among star rated hotels in the Accra Metropolis towards its development. This is vital since ORS adoption impacts the sustainability of the hotel industry and provide information which will serve as a baseline for further studies on ORS adoption in other categories of hotels and location.

Finally, this study will contribute to existing literature in the field of tourism and hospitality, on ORS adoption among star rated hotels in the Ghanaian context. This because literature on ORS adoption by star rated hotels in the country are scanty.

Limitations of the Study

Due to a few limitations, interpretation of the results should be done with caution. The first limitation has to do with the fact that, the study was restricted to only star rated hotels in the Accra Metropolis. As a result, it did not include other categories of hotels such as budget and guest houses due to time and resource constraints. Hence the findings might not be applicable to the hotels in Ghana. Caution must be taken in the generalization of the findings.

Also, another limitation of this study is the inability of cross-sectional studies to predict a phenomenon overtime. Finally, the conclusions drawn in line with the study population should be taken with restraint. This is because not all star rated hotels in the study area have reservations managers, some of the hotels have front office managers whiles hotels owned by individuals are

managed by the owner managers hence reservation managers may not be considered as the sole population of this study hence caution should be taken in the interpretation of the findings.

Organization of the Study

The study is structured into five (5) main chapters; with each chapter having sub-topics. The first chapter introduced the research topic and it deliberates on the background to the study, presented an overview of ORS in Ghana, statement of the problem, research questions, study objectives, significance of the study and the structure of the thesis. Chapter two (2) reviewed relevant literature on ORS. Specific topics discussed include: overview of reservation systems, online reservation systems, adoption of ORS, forms of ORS used in hotels, factors that influence the adoption of ORS, benefits of adopting ORS among hotels, and the challenges associated with the usage of ORS. This chapter further highlighted the theories underpinning the concept of ORS adoption and the conceptual framework for the study.

Chapter three (3) defined the research philosophy and design, study area, sources of data, target population, sampling procedure, and instruments used for data collection, and analysis. It encompassed the challenges faced during the field work as well as the ethical considerations. Chapter (4), fundamentally, looked at the analysis and presentation of results from the study. The presentation is guided by the objectives of the study, and tables are used to present findings. Chapter five (5) is made up of the concluding part of the study and further presents a summary of major findings and conclusions. Recommendations are made where possible and prospective areas for further studies were proposed.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter reviews relevant literature on the topic under study. It looks into reservation systems in tourism and hospitality industry specifically, overview of reservation systems, evolution of ORS and adoption of ORS. In addition, it discusses theoretical and empirical issues relevant to the study. Hence, provides the theoretical, empirical and conceptual foundation on which this research is based.

Overview of Reservation Systems

The travel industry has been using information technology since the 1960's. The trend began in the airline industry where Computer Reservation Systems (CRS's) were installed (Alleweldt, Tonner, & McDonald, 2009). It is a database which enables a tourism organization to manage its inventory and make it accessible to its partners (Mupfiga, 2015). A number of stages were involved. The first stage was the conversion of in-house booking systems to electronic systems. The second stage involved offering intermediaries like travel agencies direct electronic access to the booking systems (Alleweldt, Tonner, & McDonald, 2009). As more CRS's were established, travel agents had to decide which CRS to join. Legislation was required to ensure fair access for everyone and to avoid discrimination in favour of airline owners of CRS's (Ravich, 2004).

At that stage, hotel bookings were typically made by phone or fax. Consumers had no access to CRS's and had to make their bookings directly

with the hotel or through their local travel agents. The traditional reservation channels were based upon a long-winding connection from the customer via the middleman to the hotel (Connell & Reynolds, 1999). First, the reservation goes through to the global distribution system (GDS) and then switches to the Ultra-Switch (a service that provides an interface between reservation providers and hotel reservation systems), which finally links up with a computerized reservation system (CRS). This complex task is performed just to reach the booking system inside each individual hotel to make a reservation (Inkpen, 1998; Short, 2003; De Kay, Yates & Toh, 2004; Gilbert, Beveridge & Lee-Kelley, 2005).

All these changed with the arrival of the Internet. Whereas a CRS was based on complicated and expensive technology, the Internet facilitated the easy and cheap establishment of a website through which bookings could be made. It was now possible for tour operators, hotels or at least hotel chains and smaller airlines, to enter the electronic marketplace and address themselves directly to consumers and, in the process, to circumvent the distribution chain, especially travel agents (Alleweldt, Tonner, & McDonald, 2009).

Furthermore, the cost of selling over the Internet is far lower per transaction than the GDS for connecting with a hotel's CRS. This much simplified procedure of an Online Reservation System (ORS) for any independent and chain hotel can be applied in the same way to spread to the links for other hotels to gain easier access to their individual facilities (Law & Cheung, 2006; Wilson, 2007). Law and Buhalis, (2010) discussed the nature of hotel reservations in the world. According to Law and Buhalis (2010), the lodging industry is the most under automated segment of the international

travel industry. Reservations are often still dealt with by hand. This lack of automation represents a serious point of weakness concerning the competition between hotel chains and hotel industry as a whole (Law & Buhalis, 2010).

A successful reservation system requires a database inventory system which when processed, message is transmitted to the property in question with information that the local guest info database should be updated (Law & Cheung, 2006; Wilson, 2007). The ORS also provides a well-organized and secured database so that it can give guests an easy way to book reservations. The guests will also know about the details beforehand because the system has a real time reservation check that gives the guest exact information about the availability of each types of rooms, amenities and facilities (Anderson & Xie ,2010). This will not only help the guests to save their time and effort but that of the company too.

The ORS, through an electronic distribution of room information, prices, and availability has changed the channels used by people to reserve hotel rooms. The most notable development is that reservations, which used to come through travel agents and hotel chains' call centers, are now being generated online by individual customers and corporate travel planners who are likely to use online intermediaries as they are to contact hotels or chains directly (Buhalis & Law, 2008; Singh & Kasavana, 2005). Because of the rapid evolution in electronic distribution, hotel properties and chains find themselves in an amorphous relationship with intermediaries that seek to distribute hotel rooms, including global distribution systems (GDSs), online travel-distribution intermediaries, wholesalers, travel agents, and travel planners (Carroll & Siguaw, 2003).

Core competences of the online reservation system are the foundation and ability of an organization to outperform their competition or, demonstrably, to provide better value for money (Lee & Lin, 2009). Consequently, the Internet is a useful intermediary for an ORS. The Internet or ORS are well-known public strategic tools. Hence, they still need to match the corporation's product and marketing; otherwise, they are unlikely to provide long-term advantages (Buhalis, 2003; Frew, 2004).

Online Reservation Systems (ORS)

Due to the increasing popularity of the Internet, more and more travelers have moved their information search and travel arrangements activities online (Li & Law, 2007). Despite hotels' initial hesitancy toward adopting new information technologies (Law & Jogaratnam, 2005), in recent years, they have been making great efforts to enhance their electronic distribution (Li & Law, 2007). This strategy has allowed hotels to take advantage of two main directions: first, the internet has offered an opportunity for hotels to sell and advertise online and use a cheaper distribution system (O'Connor & Frew, 2004) and second, the internet has created an opportunity for hotels to reduce their mass advertising and allowed them to concentrate on customized marketing messages (Lau, Lee, Lam & Ho, 2001). Although many hotels perceive electronic distribution as superior to traditional distribution, today's electronic distribution still faces substantial challenges (O'Connor & Murphy, 2004).

Given such challenges, Morosan and Jeong (2008) proposed an ideal marketing plan based on cost minimization, maximization of marketing effectiveness, and tighter control of distribution by establishing direct channels

to targeted potential consumers with customized messages. Identifying the effects of hotels' switching from traditional to electronic distribution and the new types of inter-firm relationships within the electronic distribution has been a continuous preoccupation for the research community (O'Connor & Frew, 2004). However, a complete understanding has not been achieved yet, due to the pace of the development of this domain (Middleton & Clarke, 2001). To some extent, hotels manage their own Web sites to reduce the overall cost of distribution and provide travelers with lower room rates (Li & Law, 2007). Their strategy is to encourage travelers to make reservations on a hotel-owned websites rather than on a third-party Website, as a way to move travelers through a cheaper channel. However, from hotels' perspectives, third-party companies can add significant cost to final products and services and if they do not add sufficient value to the final products or services, eventually they may be eliminated from the channel (Jantan, Ndubisi, & Boon, 2003).

A major aspect of these travel websites is the online lodging reservation system, which offers people the function to retrieve and reserve their lodgings online (Lunn & Suman, 2002). This system is employed not only in lodgings, but also in travel agencies. Some travel agencies own their websites, where they provide information regarding their affiliated lodgings and offer an online lodging reservation system. The people who access these websites can freely view and examine all these lodging information and book their lodgings via the websites (Hannai, Oguchi, Ando &Yamaguchi, 2008).

Online hotel reservations are also helpful for making last minute travel arrangements. Hotels may drop the price of a room if some rooms are still available. Large hotel chains typically have direct connections to the airline

national distribution systems. This in turn provide hotel information directly to the hundreds of thousands of travel agents that align themselves with one of these systems. Individual hotels and small hotel chains often cannot afford the expense of these direct connections and turn to other companies to provide the connections (Delizo & Esguerra, 2013). Several large online travel sites are, in effect, travel agencies. These sites send the hotels' information and rates downstream to literally thousands of online travel sites, most of which act as travel agents. They can then receive commission payments from the hotels for any business booked on their websites. People can book directly on an individual hotel's website (Delizo & Esguerra, 2013).

An increasing number of hotels are building their own websites to allow them to market their hotels directly to consumers (Buhalis & Law, 2008). One advantage of booking with the hotel directly is the use of the hotel's full cancellation policy as well as not needing a deposit in most situations. The content on many hotel reservation systems is becoming increasingly similar as more hotels sign up to all the sites (Murphy, Forrest, Wotring, & Brymer, 1996). Companies thus have to either rely on specially negotiated rates with the hotels and hotel chains or trust in the influence of search engine rankings to draw in customers. The ultimate service provided by these companies to the hotels and the online consumers is that they provide a single database from which all reservation sources draw immediate room availability and rates (Jeong & Lambert, 2001).

Adoption of Online Reservation System (ORS)

The adoption of ORS in the tourism and hospitality industry emerged with the use of internet in the tourism and hospitality industry (Law, Leung, &

Buhalis, 2009). The tourism industry at first focused on utilizing computerized systems (e.g., CRS, GDS) to increase efficiency in processing of internal information and managing distribution (Buhalis & Jun, 2011). Nowadays, the Internet and ICTs are relevant on all operative, structural, strategic and marketing levels to facilitate global interaction among suppliers, intermediaries and consumers around the world (Mupfiga, 2015). From the consumer's perspective, there have been numerous attempts to understand users' adoption of the new electronic distribution channels in the hotel industry. Two main directions have been delineated: online information search as part of the decision making process (Gursoy & Umbreit, 2004; Pan & Fesenmaier, 2006), and online purchase intentions and channel choice (Jeong & Lambert, 2001; Card, Chen & Cole, 2003; Kim, Ma & Kim, 2006).

With the fast growing tourism markets, there is also a rapid growth of industries, which are directly and indirectly associated with tourist expenditures. Several of these industries are also users of the international ICTs such as airlines and travel, hospitality, tour operators, travel agencies, computer reservation and management systems for tourism and destinations (Bojnec & Kribel, 2004).The online tourism and travelers markets, and the destination management system are using intranet-extranet-Internet supported tools, a computer reservation system and a global distribution system for tourism management and marketing as factors for building and maintaining competitive advantage (Buhalis, 2003).

The tourism industry has also moved towards diversification and differentiation of products and development of packages for tourist destinations using ICT in catering, leisure, hotel and other supported activities.

Most of the tourists get first -hand information from the internet. This holds for both transit tourists as well as tourists with overnight stays in a certain tourist destination. Where ICT is an extremely useful tool in management and operation of tourists' activities, most of the tourist's products look different for tourists. This is because the ICT tools are sometimes deeply involved in making the products more marketable and this creates a good feeling and emotions for tourists (Bojnec & Kribel, 2004).

The online travel bookings are more widely used for the purchase of airline tickets, hotel rooms and overnight lodging, car rentals, tickets for museums, festivals, sport events, and packaged tours. The e-Airlines is a typical example of a shift from computer reservation systems to global distribution systems (Buhalis, 2003). Airline carriers implemented the emerging computer technology to manage reservations, schedules, fares, prices, tickets and boarding passes, itineraries, invoices, and others more accurately and efficiently (Bojnec & Kribel, 2004).

With the growing influence of website usage, hoteliers realized that the investment on technology became more and more important. A study by Schmidt, Cantallops and dos Santos (2008), addressed the importance of hotel websites as the heart of digital marketing and selling strategy for hotels; looking keenly at the quality of the information on these websites and its ability to influence buying behavior. According to the study, the most commonly found information on many hotel websites includes the background information about the facility, reservation information, contact information, and information concerning offers and privileges. Despite the availability of such information on the websites, travelers also rely on different information

sources available to support their decision, such as Online Travel Agencies (Bahalis & Law, 2008).

Booking of hotels online from within the hotels' local area or in a different country of continent is possible especially with the everyday technological advancement (Tan, 2015). Customers can book and pay for their stay within minutes of registering as a guest using a hotel website (Graf, 2008). This fast manner of offering services, a type of self-service is what customers are looking for. The method is easier, and safe because all transactions are done by the banks required by depositing the payment. The website must, therefore, have a direct link to their bank accounts as well as the form of payment to suit customers with different currency. Reservations are made by customers and are verified by a notification through email, text or call once payment is made for confirmation. This makes the online reservation process easy for both domestic and international tourists (Tan, 2015).

This system allows the guests to do their booking online by themselves. Some of the tasks that the system can do are providing a query for arriving date and the length of stay, providing information on the number of rooms, view all available rooms and provides the user the ability to choose one or more of them, recording the kind of guests and how many are going to be in a single room, providing the cost of booking, asking the users if they want additional service; such as, dinner or breakfast, storing the guests detail like name, address and telephone, asking the user for confirmation, final confirmation views with the detail of booking and the guests can review or cancel the booking (Zhao, Wang, Guo & Law, 2015).

With the adoption of ORS, organizations are able to distribute their products through various network channels, as well as other direct channels of distribution. Within the tourism and hospitality industry, travel intermediaries (online-travel agencies) and search engines to distribute both dynamic and static information including hotel availability and pricing rates (Tan, 2015). According to Magnini (2011), the major motivation of online reservation for complex services and products for example: accommodation, events, attractions and activities is driven by information factors such as comprehensive information and obtainability, while booking for less complex services and products for instance air tickets are driven by transactional goals such as price and rewards. Consumers will prefer ORS that have low density content, perform at high speed, adapt to behavior, have features for customization and have low memory density (Magnini, 2011).

A consumer's behavioral affinity for online reservation is impacted by individual characteristics including technological preferences, levels of innovation, self-efficiency, inclination to offline service, time of booking, level of involvement, previous internet experience, expected levels of performance, expected levels of determination, online shopping expertise, subjective norm, amount of trust, consumer gender, educational background and age (Sanchez-Franco & Rondan-Cataluña, 2010).

Forms of ORS used in Hotels

Reservation channels are increasingly regarded as one of the most critical elements in marketing, as they determine the competitiveness and profitability of organizations **(**Buhalis, 2000). Since cost limitations obviously prohibit every hotel from being represented personally, apparently the most

economical channel for selling of rooms is to follow the informational flow giving location, price, room availability and reservation verification, and the promotional flow which consists of personal selling by agents, who also provide a platform for distribution of promotional literature (Moriarty et al., 2008). More and more travelers use the internet to find hotel information for their holiday. The most popular online hotel booking channels are hotel website and online travel agent website (Emir et al., 2016). These two channels of online hotel booking have their advantages and disadvantages (Liu & Zhang, 2014).

Various scholars have investigated the forms of distribution channels used by hotels. One of such studies was conducted by Choi and Kimes (2002) on electronic distribution channels' effect on hotel revenue management and it was found that traditional business hotels have three primary distribution channels: hotel direct, central reservation offices, and travel agencies. The study also identified that internet-enabled company web sites and various online travel agencies have become additional channels for hotels. Similarly, in a study by Middleton, Fyall, Morgan and Ranchhod (2009) on marketing in travel and tourism, it was found that traditional travel agencies are still important in specific sectors of the hotel industry but threatened by the new marketing channels (Expedia, Booking.com, Travelocity, Priceline and Orbitz), those channels have become new-age competitors particularly orientated on internet selling. The study further found that because that traditional intermediaries need to offer clear advantages and add value to their products if they want to survive in competition not only with direct marketing alternatives but also with new forms of online intermediaries.

A study carried out by Schegg (2015) on Swiss Hotel Distribution: Are OTAs winning the customer race found that direct bookings (telephone, fax, walk-ins, e-mail, Webform) as well as sales through tourism partners (travel agencies, tourism boards) been steadily decreasing for a couple of years. However, online distribution was found to be an important channel for the Swiss hotel industry. In a research carried out by Law and Hsu (2005), it was found that hotel websites are the major reservation channels used by hotels. On the contrary, a study was conducted by Zafiropoulos and Paschaloudius (2005), on an evaluation of the performance of hotel websites using managers' views about online information services. The findings of the study pointed out that Greek hotels use internet potential only to a very small extent and give little information on the most important features – reservation and prices.

Factors which Influence the Adoption of ORS among Hotels

The use of websites for online reservation may result in an expensive and complex distribution chain due to the number of intermediaries involved (Green & Lomanno, 2012). Online hotel room reservation has gained notice in the academic research for several years. This has called the attention of several researchers to look at the factors that influence the adoption of ORS among hotels. Consequently, a number of factors have been identified including managerial and economic, technological, organizational and environmental factors.

Managerial and Economic Factors

Several researchers have conducted studies on the managerial and economic factors that influence the adoption of ORS. In a study by Bakar and

Hashim (2008), it was found that most hospitality businesses implement an internet based booking system in order to cut down on their distribution costs. Similarly, a study by Sanchez-Franco and Rondan-Cataluña (2010) also identified that more hotels consider using internet marketing and their websites to save cost and maximize profits for their facilities. In line with this, Li-Ming and Wai (2013) explored the factors that influence hotels attitude and behavior towards online hotel room reservations and found that price is one of the factors that influence the adoption of ORS.

A study by Santoma and O'Connor (2006), identifies price as a factor that influences the adoption of online reservation systems by hotels. Haussman (2002) elaborated that online travelers are much more likely to make a reservation if they are offered the lowest price. Similarly, Emmer et al. (1993) state that most of Internet users are searching the web checking the price of tourism products before taking purchasing decision. Hence, online travelers would normally surf multiple web sites to research and compare prices before making their bookings. Another survey on the use of Internet marketing by hotels also reveals that many of the hotel businesses in the year 2009 stated that the use of online marketing was more cost effective in generating returns for their hotels (Sanchez-Franco & Rondan-Cataluña, 2010).

In addition to the managerial and economic factors that are taking into considerations prior to the adoption of ORS, the hotels also consider the capital budget for procuring ICT equipment and the maintenance of technological equipment. Some of the technological equipment need installation and maintenance by experts. The services from such experts come with a fee which is a cost related issues that needs considerations once a hotel

has decided to adopt a particular technology for its facility (Nkosana, 2016). More so, Crnojevac, Gugić and Karlovčan (2010) also acknowledged that through the use of websites by hotels, online customers find the best rates available and hoteliers carry out Internet businesses without having to incur high fees and commissions. It can therefore be seen that ORS is beneficial to hotels by reducing the cost of services rendered and cost of employee labour to execute the services. With this in place, hotels will be able to offer efficient services at a reduced cost.

Apart from cost which was mentioned by some scholars, Bai, Law and Wen (2008) found that hospitality and tourism managers have been and will continue enhancing their competitive advantages by focusing their resources on the virtual business environment to capture the lucrative online business. It is essential to provide well-perceived service quality, satisfy their customers and build loyalty for long-term customer value in the virtual environment. According to Gilbert and Wong (2003), Information and Communications Technology (ICT) is crucial to anticipate and meet customers' expectation and it acts as a prerequisite factor in providing satisfactory services.

Technological Factors

The influence of technological factors on the adoption of ORS was observed by Wang, Li, Li and Zhang (2016), whose study found that technology competence influences the adoption of ORS by hotels. In the same vein, another study on the influence of security and trust related issues were also identified by Tan (2015), that in order to inspire visitors' interest to book hotel accommodation through hotel's website, hoteliers need to ensure safety and privacy issue are given adequate consideration.

Furthermore, Inversini and Masiero (2014), found that the constant tension between visibility and online sales in the web arena, as well as a clear distinction in social media and online travel agencies website influences adoption of technology. Using online management tools and employing personnel with specific skills influence the adoption of ORS by hotels. Another study by Wang and Wang (2006) identified perceived information satisfaction, perceived accessibility, mobile computing self-efficacy, perceived credibility, and perceived innovativeness as factors that influence the adoption of mobile reservation by hotels. Prior computer experience and competence also influences the adoption of ORS hotels. In line with this, Leung and Law (2013) found that nearly any type of computer experience has the ability of increasing the competency and literacy levels of hotel employees using it to some degree. Similarly, Karsten and Roth (1998) found that managers with more prior computer experience will have higher mobile computing self-efficacy.

Infrastructure support is another technological factor that influences the adoption of ORS. With this, Mathieson, Peacock and Chin, (2001) found that hotels perceived facilitating resources, such as time and money, influence perceived behavioral control toward information technology adoption. Similarly, Bhattacherjee (2000) found that facilitating resources are an important predictors of perceived behavioral control. Policies, regulations, and legal environment are therefore all conditions critical to technology acceptance by hotels.

Organizational Factors

The organizational level adoption of technology (Sahadev & Islam, 2005), and Law and Jogaratnam (2005) have found that firm size influences the adoption of technology. Dholakia and Kshetri (2004) also identified the effect of market concentration on the adoption propensity of firms. A study conducted by Inversini and Masiero (2014) among managers in the hotel industry of Ticino Switzerland reveal that firm related factors such as size of the hotel in terms of the number of rooms, the scope of activities in terms of events and services offered by the hotel to its clients', influence ORS adoption proclivity.

In addition to the findings of the previous studies, Nwakanma, Ubani, Asiegbu and Nwokonkwo (2014) also considered the geographical position of a hotel as a significant causal factor of ICT adoption by hotels as this would limit their market size, profile of visitors it targets and competition level. Seyal et al. (2007) in their study on Brunei's small and medium enterprises reported that organizational attributes such as organization's nature and size as well as type of clients targeted are important predictors of the adoption of internet services by hotels. Also linked to this is the capacity of the organization to embrace ICT. Capacity in this context focuses on the competency level of the organization to use the ICTs once adopted and this include management of ICT expertise and skills (Samkange & Crouch, 2008; Seyal et al., 2007), staff ICT skills (Lee & Lee, 2010), the initial capital for acquiring ICT equipment once a hotel has decided to adopt a particular technology (Nkosana, 2016.

Environmental Factors

Various scholars have examined the influence of environmental factors on the adoption of ORS by hotels. In a study by Hoontrakul and Sahadev (2004), it was found that the competition level among hotels in a location can also influence the adoption propensity of a hotel. This is because high levels of competition may prompt the hotels to aggressively use ICT based technologies both for attracting customers as well as to increase the efficiency of their operations. A similar assumption is reported by Yousaf (2011) who found out that, market characteristics and the degree of competition greatly influences the likelihood of hotels adopting a peculiar technology. This supports Baggio (2004) contention that the hospitality industry is sensitive to the ever-increasing competitive pressure, implying that the intensity of competition would be decisive in determining ICTs adopted by hotels.

Buhalis (1998) also attributed the adoption of internet to both the rapid advances in technology as well as the increasing demands of the customers who look forward to flexible, specialized, accessible and interactive products and communication with principals. The ICT based products and processes help the hotels to enhance the operating efficiency, improve the service experience as well as provide a means to access markets on a global basis. In line with this, Sahadev and Islam (2005) asserted that while ICTs were used in the hotel industry from the late 70s in the form of Computerized Reservation systems and Global distribution systems, it was only in the 90s that the ICTs began to make a difference in the hospitality sector.

Another environmental factor that influences the adoption of ORS is privacy and security for customers. In this regards, Tan (2015) posited that one

of the ways hotels can encourage their clients to book hospitality facilities online is to inspire their interest to book hotel accommodation through hotel website, by ensuring that safety and privacy issues are taken care of adequately. Information provided by customers may be exposed to various risks such as online scam, online hacked and so on (Law & Jogaratnam, 2005). Tan (2015) further suggested that hotel website should be created in a way to secure all the customers' personal information, and if possible be accessed by authorized personnel so that customers' privacy could be maintained. When customers have trust on hotel booking website, hotels will have a greater intention to adopt online booking facilities for their hotels.

Benefits of ORS Among Hotels

The role of the Internet within society has become increasingly important. Not only is there a growing frequency in its usage, but also the expanding user base on the Internet is likely to dominate hotel bookings (Lin & Lee, 2009). Within the hotel industry, online hotel reservation is showing a trend that may replace the more traditional methods of booking. One of the benefits of ORS among hotels is reduced cost. Studies by Chiang and Jang (2007), and Hudson and Gilbert (2006), found the Internet to be a low-cost tool for business communication and marketing purposes. According to a survey on the use of Internet marketing by hotels, it was realized that many of the hotel businesses in the year 2009 stated that the use of online marketing was more cost effective in generating returns (Sanchez-Franco & Rondan-Cataluña, 2010).

With the adoption of ORS, the hotels' management will have the opportunity to regulate their operation costs. As opposed to hoteliers using

central reservations systems (CRS), global distribution systems (GDS), and universal switch the use of websites saves on commissions and fees for connection to other intermediaries (Buhalis & Law, 2008). Hoteliers enjoy increased profits by adopting direct distribution channels such as hotels' own websites which allows their clients to their facilities directly resulting in direct sales for them. The use of online reservation systems results in prompt payments (Yang, Flynn & Anderson, 2003). Also the functions that would be done by hotel staff including providing information about location and amenities are provided in the website. This reduces the number of employees in the hotel in relation to reservation and sales and leads to effective management and distribution of the labour force (Buhalis, 2000).

Moreover, online booking or reservation has become a popular alternative for travelers owing to the nature of the travel business. Consumers are now able to access accurate and reliable information on hotels, make reservations in the shortest time, at lower costs with little conveniences encountered (Tan, 2015). The development of information communication technologies particularly the Internet has led to the emergence of new crop of tourists who were less interested in mass tourism packages. They are more sophisticated and independent utilizing different tools to plan their itineraries. With the primary aim of satisfying their needs, these tourists will utilize hotel reservation system, social media platforms such as Twitter and Facebook, search engines including Google and destination managing systems (Hashim, Murphy & Law, 2007). Moreover, portals such as Trip Advisor and Wynn are used to compare services and prices for different hotels.

The use of ORS through online business transactions will bring mutual benefits between hoteliers and their clients (Tan, 2015). This system permits hotel managers to conveniently use hotel websites as a medium for interacting with their clients. This creates an important component to build customer loyalty and trust (Buhalis & Law, 2008). In the same way, questionnaires, enquiries and service mails can be used to collect customer feedback about hotel's services enabling managers to re-evaluate their hotel's operational and management strategies. The clients, through the use of online booking, are able reduce costs since they will not have to call hotels to do their reservations Buhalis(1998). Instead, reservations can conveniently be done with only a few clicks on their computers. Furthermore, Crnojevac, Gugić and Karlovčan (2010) acknowledge that, most customers who plan their travel online claimed to have reduced the number of phone calls and visits to travel agents since they started planning their travel through the Internet. This was the same for individuals who needed to make reservations to hospitality institutions such as hotels, airlines and car rental companies.

ORS serves as a good source of obtaining information about hotels by making it possible for customers to easily make reservations through available online platforms. Moreover, since the web systems are designed to remember consumer's preferences, customers are able to acquire automated customized services through the search function of the website (Law, Leung, Lo, Leung & Fong, 2015). As a consequence, the use of information technologies in the hotel industry has had several effects on both the consumer and the hotels. The increase in the number of travel websites has led to intense competition. This is attributed to the emergence of third-party intermediaries, specifically OTAs

and GDS, selling diverse product and offering faster services to customers at a one stop shopping advantage. In addition to that, customers have become more price sensitive and less inclined to brand oriented purchasing. Lastly, with the strong shift in power from market suppliers to third-party intermediaries and customers, hoteliers have to handle the risks and utilize opportunities presented in capturing consumers' attention.

Challenges Associated with the Use of ORS among Hotels

As the importance of the Internet has grown for the hospitality organizations, researchers have also tried to find the challenges associated with the use of internet for reservation purposes. This is because of the many challenges affecting the use of new technologies such as the ORS. One of the direst challenge to the effective usage of ORS by hotels is the limited information and communication infrastructure in most of the African countries (Akoh, 2001).

Another survey on the use of Internet marketing by hotels, showed that, many of the hotel businesses in the year 2009 stated the use of online marketing was more cost effective in generating returns. However, lack of knowledge and organizational resources were the major challenges facing the use of Internet marketing to its potential (Sanchez-Franco & Rondan-Cataluña, 2010). Furthermore, constraints with the usage of ORS by hotels also have to do with the nuisance by OTAs in their persistence on best price guarantee and rate parity amongst all channels (Treacy, & Wiersema, 2007). These OTAs get into agreements with their partner hotels to ensure that rates offered on OTAs sites are in line with those offered on other channels as well as on hotels websites. This leaves limited space for hotels in order to make their websites

more attractive and more likely to be chosen for bookings their clients (Chan & Guillet, 2011).

In addition, one of the challenges associated with the use of ORS is transactional cost. In line with this, Liang and Huang (1998) tested the ability of a transaction cost model to explain online consumers' purchasing decisions. The researchers included search, comparison, examination, negotiation, order and payment, delivery, and post-service into the online transaction process. Results showed that transaction costs were found to be a challenge associated with the use of ORS.

According to Ezrachi (2015), even though the OTAs offer hotels a range of benefits, their high commission rates is a major worry to most hoteliers. With commissions rates ranging from 15% to as high as 30% depending on the OTAs being used as well as the size of the hotel, whether chain or independent, OTAs are a heavy burden to hotel profit margins. Also, the growing trend of OTAs entering the loyalty program sector seems to put the hotel industries at risk of losing one of their main unique selling points when comparing hotel websites with OTAs (Green & Lomanno, 2012). Loyalty programs were only offered by the hotels themselves to reward their loyal guests for booking their facility directly. Nevertheless, OTAs have now introduced their own loyalty programs to also reward their clients for any booking made via their channels, regardless of the brand or type of property booked.

Theoretical Underpinnings

Online reservation system is a concept that has been extensively studied at the individual-level with less importance placed on understanding

organizational-level adoption. Organizations give approval to the introduction of new technologies when they recognize the current process to replace the one expected to be an enhancement over the existing system (Gallivan, 2001). More so, organizations (hotels) may seek to adopt a new technology due to pressures associated with maintaining a competitive advantage or gaining recognition within an industry. A range of models and list of theories have been used to evaluate the adoption of technology by organizations (Theory of Reasoned Action, Theory of Planned Behavior, Technology Acceptance Model and Technology-Organization-Environment Model). Notable among these theories are the Technology Acceptance Model (TAM) by Davis (1989) and the Technology-Organization-Environment (TOE) model by Fleischer and Tonatzky's (1990), which have been adopted to explain the adoption of ORS in the tourism and hospitality industry.

Technology Acceptance Model (TAM)

One of the well-known models related to technology acceptance and use is the technology acceptance model (TAM), originally proposed by Davis in 1986 (Park, 2009). TAM has proven to be a theoretical model in explaining and predicting user behavior of information technology (Legris, Ingham, & Collerette, 2003). TAM is considered an influential extension of theory of reasoned action (TRA). Davis (1989) and Davis, Bagozzi and Warshaw (1989) proposed TAM to explain why a user accepts or rejects information technology by adapting TRA. TAM provides a basis with which one traces how external variables influence belief, attitude, and intention to use. Two cognitive beliefs are posited by TAM: perceived usefulness and perceived ease of use. According to TAM, one's actual use of a technology system is

influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system. TAM also proposes that external factors affect intention and actual use through mediated effects on perceived usefulness and perceived ease of use (Davis, 1989).

TAM theorizes that an individual's behavioral intention to use a system is determined by two beliefs: perceived usefulness defined as the extent to which a person believes that using the system will enhance his or her job performance and perceived ease of use defined as the extent to which a person believes that using the system will be free of effort (Li, 2010). Behavioural intention to use a technology by organization is determined jointly by the attitude of management towards use and perceived usefulness of Information Technology (IT) or Information Systems (IS), however, attitude to use the technology by an organization is directly influence by perceived usefulness of the technology. TAM also posits that, perceived usefulness is also influenced by perceived ease of use because, other things being equal, the easier the system, the more useful it can be (Venkatesh & Davis, 2000).

TAM has become well-established as a robust and powerful model for predicting user acceptance (Taylor, 2004). Across the many empirical tests of TAM, perceived usefulness has consistently been a strong determinant of usage intentions (Bugembe, 2010). Since perceived usefulness is such a fundamental driver of usage intentions, it is important to understand the determinants of this construct and how their influence changes over time with increasing experience using the system. Perceived ease of use, TAM's other direct determinant of intention, has exhibited a less consistent effect on

intention across studies. Whereas some research has been done to model the determinants of perceived ease of use (Venkatesh & Davis, 1996), the determinants of perceived usefulness have been relatively overlooked.

To address these challenges, Venkatesh and Davis (2000) proposed TAM2 to explain users' mental assessment of the match between important goals at work and the consequences of performing job tasks using the system service as a basis for forming perceptions regarding the usefulness of the system (Venkatesh & Davis, 2000). TAM2 incorporates additional theoretical constructs spanning social influence processes (subjective norm, voluntariness, and image) and cognitive instrumental processes (job relevance, output quality, result demonstrability, and perceived ease of use). TAM2 reflects the impacts of three interrelated social forces impinging on an individual facing the opportunity to adopt or reject a new system: subjective norm, voluntariness and image.

Subjective Norm

Consistent with TRA, which was a key theoretical underpinning for the original development of TAM, the adoption of a technology can be influenced by subjective norm, which is defined as a person's perception of whether significant individuals support a behavior or not (Fishbein & Ajzen, 1975). Subjective norm is included as a direct determinant of behavioral intention in TRA (Fishbein & Ajzen, 1975) and the subsequent TPB (Ajzen, 1991). The rationale for a direct effect of subjective norm on intention is that people may choose to perform a behavior, even if they are not themselves favorable toward the behavior or its consequences, if they believe one or more important

referents think they should, and they are sufficiently motivated to comply with the referents (Venkatesh & Davis, 2000).

User acceptance research examining the direct effect of subjective norm on intention has yielded mixed results. Schepers and Wetzels (2007) found no significant effect of subjective norm on intention, whereas Lam, Cho, and Qu, (2007) did find a significant effect. In their empirical comparison of TAM and TRA, Davis (1989) found that subjective norm had no significant effect on intentions over and above perceived usefulness and ease of use, and they omitted it from the original TAM. In relation to the hospitality and tourism industry, the adoption and use of ORS by hotels will be influenced by whether customers and other stakeholders and top management of the hotel. Where support exists, the hotel will adopt and use ORS and vice versa.

Voluntariness

A contingency underlying the mixed findings regarding subjective norm was identified by Morosan, (2012). After separating their respondents into mandatory and voluntary usage contexts, they found that subjective norm had a significant effect on intention in mandatory settings but not in voluntary settings. The causal mechanism underlying this effect is known as compliance. In general, the direct compliance effect of subjective norm on intention is theorized to operate whenever an individual perceives that a social actor wants him or her to perform a specific behavior, and the social actor has the ability to reward the behavior or punish non behavior (Huh, Kim & Law, 2009; Venkatesh & Davis, 2000; Chen & Tung, 2014). TAM2 theorizes that, in the adoption of a technology, the direct compliance-based effect of subjective norm on intention over and above perceived usefulness and perceived ease of

use will occur in mandatory, but not voluntary, system usage settings. Voluntariness as a moderating variable, is defined as the extent to which potential adopters perceive the adoption decision to be non-mandatory (Jaber, 2012; Asabere, Doku, Kusi-Sarpong & Oppong, 2014)

In relation to the adoption and use of ORS by hotels, voluntariness will mean that employees of the hotels perceive the adoption and use of ORS to be non-mandatory. They are therefore free to adopt and use ORS or not. Where the decision to adopt is influenced by voluntariness, the rate of adoption is likely to be low compared to when the hotel is mandated to adopt and use ORS.

Image

Individuals often respond to social normative influences to establish or maintain a favorable image within a reference group (Wood & Hayes, 2012). Drawing from research on diffusion of innovations, Lam, Cho and Qu (2007), define image as the degree to which use of an innovation is perceived to enhance one's status in one's social system. TAM2 theorizes that subjective norm will positively influence image because, if important members of a person's social group at work believe that he or she should perform a behavior (e.g., using a system), then performing it will tend to elevate his or her standing within the group (López-Nicolás, Molina-Castillo & Bouwman, 2008; Ayeh, Au, & Law, 2013) refers to this source of social influence as identification and distinguishes it from compliance and internalization.

In the typical work environment, with a high degree of interdependence with other social actors in carrying out one's duties, increased status within the group is a basis of power and influence via processes such as

social exchange, coalition formation, and resource allocation (López-Nicolás, Molina-Castillo & Bouwman, 2008). The increased power and influence resulting from elevated status provides a general basis for greater productivity. An individual may thus perceive that using a system will lead to improvements in his or her job performance (which is the definition of perceived usefulness) indirectly due to image enhancement, over and above any performance benefits directly attributable to system use. In relation to the adoption and use of ORS, image will mean that when a hotel adopts and use ORS, its will enhance their status within the tourism and hospitality industry. The absence of ORS will therefore bring about decrease in status of the hotel.

Experience

This element of TAM suggests that the direct effect of subjective norm on intentions may subside over time with increased system experience. (Jaber, 2012) found that, although subjective norm had a significant effect on intentions prior to system development, the effect became non significant three months after system implementation. Their interpretation of this pattern is that, before a system is developed, users' knowledge and beliefs about a system are "vague and ill-formed," and they must therefore rely more on the opinions of others as a basis for their intentions (Jaber, 2012). After implementation, when more about the system's strengths and weaknesses are known through direct experience, the normative influence subsides.

A similar pattern of results was obtained by (Asabere et al., 2014), who found that mandating the use of a system can increase initial system utilization, enabling users to overcome the hurdle of first-time use, but that such pressure seems to erode over time. Therefore, TAM2 theorizes that the

direct effect of subjective norm on intentions for mandatory usage contexts will be strong prior to implementation and during early usage, but will weaken over time as increasing direct experience with a system provides a growing basis for intentions toward ongoing use (Venkatesh, Thong & Xu, 2012). When applied to the adoption and use of ORS by hotels, experience implies that at a point in time when ORS has been adopted and used by the hotel for a long time, the importance of the system will diminish with time and other technologies may come to replace what used to exist.

Job Relevance

Job relevance is one of the key components that influence the adoption of a technology. It is defined as an individual's perception regarding the degree to which the target system is applicable to his or her job (Mathieson, 1991). In other words, job relevance is a function of the importance within one's job of the set of tasks the system is capable of supporting. Research in human-computer interaction (Walther, Gay & Hancock, 2005) has postulated similar goal-hierarchy models, though operating at more micro levels of analysis wherein higher level goals include tasks such as writing a document, and lower-level actions are at the level of keystrokes and mouse clicks. Davis and Venkatesh (2004), argued that users possess distinct knowledge about their job situation, which they can use as a basis for determining what tasks can be performed with a given system.

We regard job relevance as a cognitive judgment that exerts a direct effect on perceived usefulness, distinct from social influence processes. Empirically, user acceptance has been linked in other research to variables similar to job relevance, including job-determined importance (Kim &

Garrison, 2009; Jeong, Lee & Nagesvaran, 2016) involvement (Amoako-Gyampah, 2007). task-technology fit (Klopping & McKinney, 2004) and cognitive fit (Shaft &Vessey, 2006). This in relation to the adoption and use of ORS by hotels on job relevance means that employees understand the importance of ORS in their operations. Where the system is considered to be important, its adoption and use is high compared to when it is seen as not relevant to the hotel operations.

Output Quality

TAM2 posits that, over and above considerations of what tasks a system is capable of performing and the degree to which those tasks match their job goals (job relevance), people will take into consideration how well the system performs those tasks, which were refer to as perceptions of output quality. Empirically, the relationship between perceived output quality and perceived usefulness has been shown (Farrar, 2018). In the context of image theory (Lu, Yao & Yu, 2005) judgments of job relevance are more apt to take the form of a compatibility test whereby systems that are judged not to be job-relevant are eliminated from one's choice set for further consideration.

Judgments of output quality, in contrast, are less likely to be used for excluding options from consideration. Instead, they are more apt to take the form of a profitability test in which, given a choice set containing multiple relevant systems, one would be inclined to choose a system that delivers the highest output quality. Output quality in the TAM model can be applied to the adoption and use of use of ORS by hotels to mean the ability of the system to make it possible for customers to make the bookings they need with ease.

Once the system is in place, it will mean that customers are able to access all the information they need using ORS without any challenges.

Result Demonstrability

Even effective systems can fail to garner user acceptance if people have difficulty attributing gains in their job performance specifically to their use of the system. Therefore, TAM2 posits that result demonstrability, defined by (Liao & Lu, 2008; Moghavvemi, Hakimian, Feissal & Faziharudean, 2012) as the tangibility of the results of using the innovation, will directly influence perceived usefulness. This implies that individuals can be expected to form more positive perceptions of the usefulness of a system if the covariation between usage and positive results is readily discernable. Conversely, if a system produces effective job relevant results desired by a user, but does so in an obscure fashion, users of the system are unlikely to understand how useful such a system really is. Empirically, Jackson, Mun & Park (2013) found a significant correlation between usage intentions and result demonstrability. When applied to the adoption and use of ORS, result demonstrability will mean that hotels which have used ORS will have a positive perception towards the system and will be willing to recommend the system to others. Once they consider the system as beneficial, they will always be willing to use it.

Perceived Ease of Use

Perceived Ease of Use is the degree to which an individual believes that using a particular system would be free of effort Ali and Mat (2018). The above researchers further indicated that Perceive ease of use represents the level of difficulty the user expects to have in applying the ORS factor in his or her job. Perceived ease of use may also be the degree to which one

believes that using the technology will be free of effort (Janda, Trocchia & Gwinner, 2002; Ha & Stoel, 2009). Udo, Bagchi and Kirs (2010), opined that the extent to which an expansion is direct could be considered perceived ease of use. Furthermore, it is proposed that perceived ease of use would influence perceived usefulness. Gefen and Starub (2000) emphasized the importance of the perceived ease of use in ORS adoption. According to Ali and Mat (2018), the setting of ORS influences the adoption in the hotel industry for perceived ease of use denotes the design of the site, ease of access, ease of navigation and ease of understanding. This way, if the right skills and understanding of the technology are in place, the use of an adoption of ORS will be easier for use and the consumers can easily accept the ORS as the new technology that is being implemented.

The ease of usage of ICT needs to be established for adoption of the hotel employees who will be using the system but if it is observed to be difficult to use, and performance benefits of usage are outs weighted, then the adoption process may take longer period than predicted (Kim, Lee & Law, 2008; Kim, Erdem, Byun & Jeong, 2011). For hotels employees, the theory suggests that employees who uses most of the hotels technology are more likely to accept a technology if the technology is perceived to be easy to use, learn, understand, operate and is perceived to have associated benefits and time costs, including maximizing their productivity, efficiency, and customer satisfaction and minimizing the time to complete a task (Wang & Wang, 2010).

In the hospitality and tourism industry, a hand full of prior studies have used TAM and its extended versions to understand and explain user

acceptance and behaviour of IT or IS (Kim,2009). For instance, Morosan and Jeong (2008) examined users' perceptions of hotel reservation websites: hotel-owned and third party through extended TAM. It was revealed that perceived usefulness and attitude towards use were two key predictors of users' behavioural intention to use hotel reservation websites. Kim, Suh, Lee, and Choi (2010), also examined the relationship between hotel information system (HIS) users' personal perceptions and beliefs of the given system and their daily routine usage intention via the technology acceptance model. The results provided empirical support for an extended TAM, and verified its robustness in predicting hotel employees' intention to use a HIS. In addition, Morosan (2012), studied the theoretical and empirical considerations of guests' perceptions of biometric systems in hotels using the extended technology acceptance model. The results revealed that the TAM is a suitable theoretical framework for examining adoption of biometrics in hotels, and hotel guests are ready to adopt biometric systems, especially if they are perceived it as useful.

Despite the importance associated with TAM in relation to the adoption of a technology, it has the disadvantage of focusing on an individual's adoption of a technology and misses the element of group adoption which is related to organizations (Alam & Noor, 2009). Although TAM is important, the study focuses on technology-organization-environment framework, which dwells more on the adoption of a technology at the organizational level.

Technology-Organization-Environment (TOE) Model

To study the adoption of technological innovations in general, Tomatzky and Fleischer (1990) developed the technology-organization-environment (TOE) framework to describe the organizational components that affect an organization's adoption decisions. Tonatzky and Fleischer's (1990) TOE framework asserts that three principal contexts technological, organizational, and environmental - influence the process by which an organization adopts and accepts a new technology. TOE framework was established upon three principal contexts - technological, organizational, and environmental.

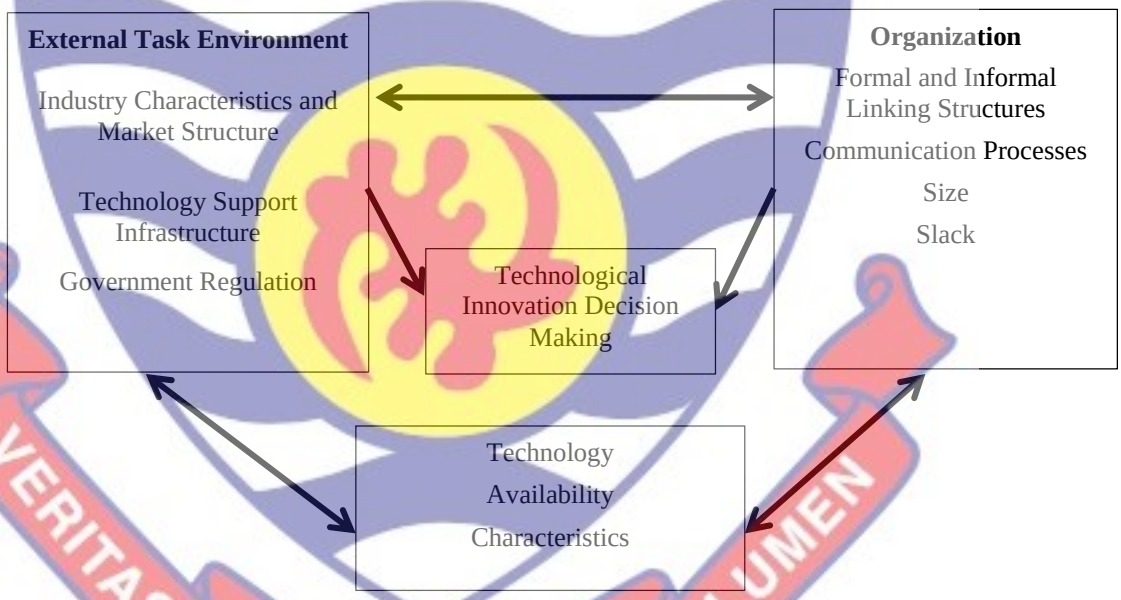

Figure 1: Model of Technology Organization Environment
Source: Fleischer & Tonatzky (1990)

Technological Context

The TOE model has been regarded as one of the adoption theories that works well in terms of organizational level adoption of technologies (Low, Chen & Wu, 2011). Technological context, in general, refers to both of the organization's internal and external technologies or including current systems

or prospective technologies. In the application of new technology adoption. A number of scholars have studied and confirmed the importance of a variety of first- and second- order constructs that affect the technological context. Kwon and Zmud (1987) asserted the importance of the internal technology resources (infrastructure, technical skills, developer, and user time) for successful IT adoption. Their theoretical assertions were supported by a number of empirical studies (Cragg & King, 1993; Crook & Kumar, 1998; Grover, 1993; Kuan & Chau, 2001). Zhu, Kraemer and Xu (2003) conceptualized and studied the technological context by identifying and operationalizing technology competence through three second-order constructs: IT infrastructure, Internet skills, and e-business awareness.

In the hospitality and tourism industry, adoption of technologies by a hotel should be perceived to benefit directly or indirectly to its operations and give it a relative advantage over its competitors in the industry (Tajeddini, 2010). According to Chathoth (2007), for a technology to be perceived to have direct benefit to a hotel, it should be able to improve the internal functioning of everyday operation in achieving operational efficiency, improving data accuracy and reducing clerical errors. Whiles, indirectly an adopted technology such as ORS should be able to bridge the gap between hotels and its customers at the same time ensuring that they have a substantial share of the market to keep them in business (Law & Jogaratnam, 2005; Buhalis & Law, 2008). A technology that is not able to be directly and indirectly beneficial to a hotel's operation is not worth adopting. Since it will affect the Property Management System (PMS), Computer Reservation System (CRS), customer database and various systems which should be

ideally interconnected; hence efficiency of operation will remain low leading to poor customer relation, poor relation with business and the loss of market share (Sigala, 2005; Wang, Chen & Chen, 2012).

In the hospitality context, improving upon the functioning efficiencies and customer satisfaction have long been the key contributing factors for survival and success of the industry (Ottenbacher & Gnoth, 2005). Since ORS offers various tools to improve hotels' performance, enhance business coordination, augment customer satisfaction and increase market share (Karadag, Cobanoglu, & Dickinson, 2009), it can be assumed that the acknowledgement of both direct and indirect benefits offered by ICT is also an important driver of initial and continued adoption of ORS by star rated.

Organizational Context

The organizational context refers to the effect of organizational attributes such as the firm's resources, the linking structures between employees, the firm's size and amount of slack resources on the decision to adopt internet based services. This context is said to have effects on a firm's (hotels') adoption and implementation decisions towards a technology. A number of authors have examined organizational parameters as independent variables to technology adoption. Thong (1999) recognized the importance of considering organizational characteristics in information systems adoption and acceptance. Specifically, the adoption literature proposed that firm scope and size and range of services are important organizational factors for technology adoption Tomatzky & Fleischer, 1990; Rogers,1995; Ventakatesh, 1999). This was also confirmed in the information systems literature.

For example, (Dewan et al.,1998; Hitt, 1999; Zhu et al., 2003), found that the greater the scope of the firm, the greater the demand for IT investment. Likewise, Bharadwaj (2000) found that firm size is strongly associated with investments in information technology. The size of the organization has shown consistency in predicting the adoption of ICTs by organizations (Kuan & Chau, 2001). This is because large firms have more resources, greater economies of scale, and can take greater risks associated with innovation adoptions (Zhu et al., 2003; Gibbs & Kraemer, 2004). On the other hand, smaller organizations are resource constraints and as result do not readily adopt newer technologies. However, smaller firms are more responsive in technology adoption than larger firms (Zhu & Kraemer, 2005).

In the hospitality and tourism sector, a hotel will be willing to adopt a new technology if it is financially and technologically ready (Iacovou, Benbasat, & Dexter,1995). This means that financially hotels should have the monetary or capital resources to induce adoption of relevant technology to boost its operations. As a curvature for ensuring that the adoption of a new technology meant to boost operation does not lead to collapse or inefficiency of other aspect of its operation, management will have to look at the long term relative usefulness as against not having it.

Apart from financial readiness, the hotel needs to have technical competent staffs to use these technologies to improve its operations (Kuan & Chau, 2001). Scarcity of these resources are not new to hotels (Oronsky & Chathoth, 2007) but the vision, support and commitment by top management can play crucial role in tilting the extent to which scarcity can be undermining adoption. Lee and Kim (2007) also argued that the vision, support and

commitment by top management can effectively create a supportive climate for technological innovation. Leung, Lee, and Law (2011) demonstrated the prominent role of management support and attitude in determining a hotel's proclivity towards the initial adoption of Web 2.0 technologies.

The same way, Dipietro and Wang (2010) also reported that the availability of resources is one of the biggest constraints hindering hoteliers' preparedness to embrace and adopt new technology. Drawing on the findings from previous studies, it can be assumed that financial readiness and technical readiness are determinants affecting ICT adoption and usage continuance from the hoteliers' perspective. In addition to organizational readiness, top management support is another facilitator of the organizational adoption of ORS (Racherla & Hu, 2008; Wang et al., 2010). Thong (1999) noted that top management can stimulate change by communicating and reinforcing value and articulating vision for the organization. However, empirical evidence in the hospitality literature on this proposition is limited.

The Environmental Context

Environmental context represents the setting in which an organization conducts its business. This includes factors external to an organization that may present some opportunities and barriers for technological innovations (Tornatzky & Fleischer, 1990). With regard to industry life cycle, it is argued that firms in rapidly growing industries tend to adopt innovations more rapidly. In general, a firm is required to embrace a new technology due to pressure exerted by various external forces. Perceived pressure from industry, denoting the level of technological capability of the firm's industry as well as its entrants, has been identified as the most important technological factor of

technology adoption (Fuchs, Höpken, Föger & Kunz, 2010; Ramdani et al., 2013; Wang et al., 2010). Wang and Qualls (2007) suggested that competitor-oriented firms often feel pressured when they see more rivals in the industry adopting the technology. To maintain their competitive position and avoid lagging behind their contenders, the firm recognizes the need and has a higher intention to adopt new technologies.

A number of empirical studies (Rees et al., 1984; Lacovou et al., 1995; Kuan & Chau, 2001; Zhu et al., 2003; Gibbs & Kraemer, 2004; Zhu & Sarkis 2004; Zhu & Kraemer, 2005) have used the TOE framework as a theoretical foundation for investigating organizational acceptance of new technologies. Zhu & Craemer (2005) used the TOE framework to investigate antecedent influences on e-business use and business value in a multinational study of 624 organizations. Zhu & Sarkis (2004) developed a research model based on the TOE framework to evaluate and test the influence of technological, organizational, and environmental factors on e-business value. Additionally, Zhu, Kraemer and Xu (2003) studied data from 3,100 firms to understand influences of technology competence, organizational factors of firm scope and size, and environmental context influences of consumer readiness, trading partner readiness, and competitive pressure on e-business adoption.

Just like every organization, hotels are confronted with external and internal factors which either present opportunities or constraints to them in their adoption of technological innovations (Gumusluoğlu & Ilsev, 2009; Hjalager, 2010). Internally, management is confronted with making everyday decision to keep the hotel at par with other competitors in the industry (Crook, Ketchen Jr & Snow, 2003). In an industry of competition, hotel managers have

little or no control over external factors like the changing demand of customers, pressure from partners to adopt a particular kind of technology and competitive pressure from other rivals (Rivera, 2004). Competitive pressure from the industry forces hotel to adopt a technology type to keep up with the industry or hence loss market share. Hotels to have an upper hand on external factors to adopting technologies will have to invest in studying market trends (Baker,2014; Le et al., 2006).

In the hospitality context, the major trading partners of hotel firms include offline and online travel intermediaries (e.g. Expedia.com and Travelocity.com) Lee, Denizci Guillet & Law, 2013). Given that hotels are strongly reliant on travel intermediaries to distribute products and services, it is expected that hotels' decisions about ORS adoption and continued usage would be influenced by the technological strategies and systems employed by travel intermediaries (Leung, Lo, Fong & Law, 2015). In addition to the pressure from competitors and trading partners, customers are another source of external force driving technology adoption (Chau & Tam, 1997; Zhu, Kraemer & Xu, 2003; Fuchs et al., 2010). In view of the increasing competition in the business setting, conforming to customer demand and expectation is no longer optional but necessary to survive in the marketplace. It is now believed that, the demand and expectation from customers are facilitating factors that promotes adoption of technologies such as ORS by hospitality firms (Hung et al., 2010).

Conceptual Framework

The conceptual framework governing this study was adapted from Fleischer & Tornatzky (1990) model of Technology -Organization-

Environment. The model conceptualizes the influencers of an organizations' adoption of ORS as being an interaction between four major constructs such as Managerial and Economic, Technological, Organizational and Environmental factors resulting in the adoption of ORS as a booking system. From the (Figure 2) below, Managerial and Economic factors refer to cost and perceived benefits to be derived from the adoption of ORS. The Managerial and Economic factors include the initial cost of adoption and maintenance of the systems, the cost of purchasing technological equipment, cost of commissions paid to the third party intermediaries (OTAs and GDS). Perceived benefits refer to what the hotel anticipates to gain by using the ORS, thus gaining a wider market coverage, the opportunity to collect customer's feedback and also upsell their rooms through a wider coverage, and to improve customer service (Levy, 2015; Rigby et al., 2002).

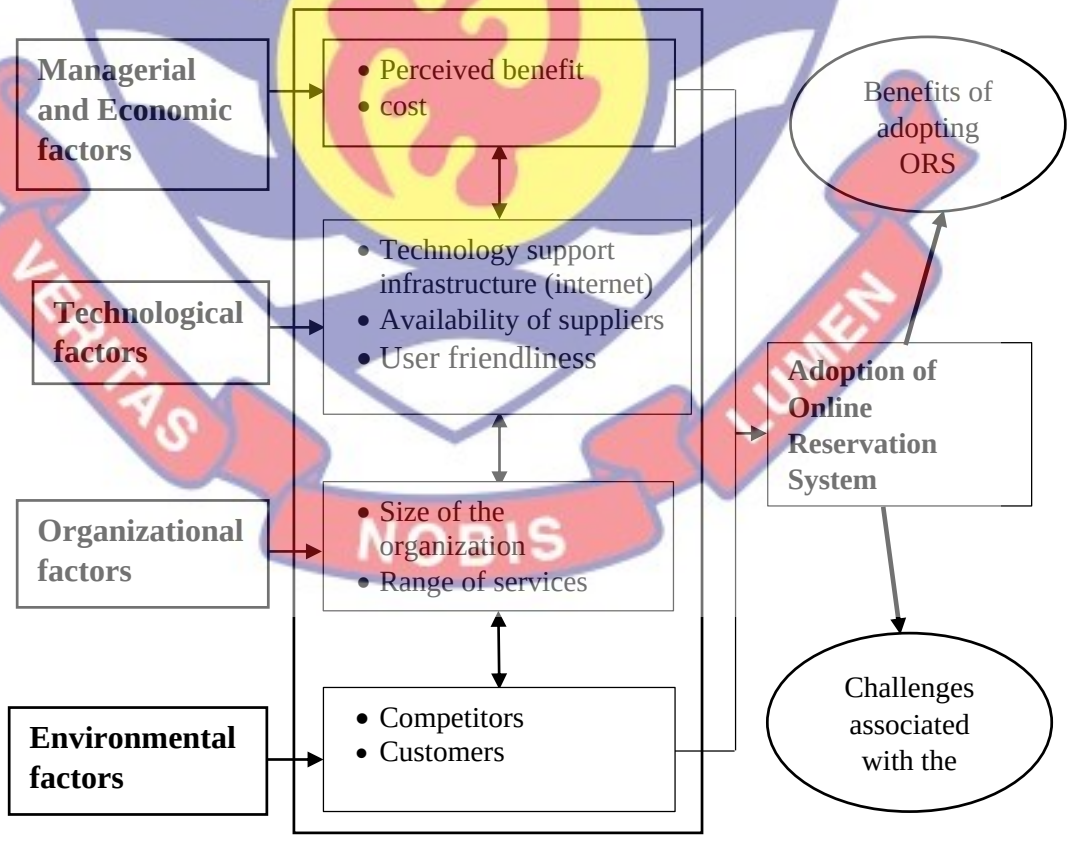

Figure 2: Conceptual Framework of Online Reservation System
Source: Adapted from Fleischer & Tonatzky (1990)

Technological factors per this conceptual framework is concerned with the technological competencies of the hotel, the availability of technology suppliers and technology support infrastructure and cost of installing and maintaining technological equipment available. This factor combines both the preparation of the hotel in terms of knowledge relating to the particular technology adopted (Zhu, Kraemer & Xu, 2006). Under the organizational factors, the size of the organization refers to the number of hotel rooms and the range of services offered and the type of clients targeted. These issues influence hotels' adoption decisions to adopt a technology like ORS. The environmental factors in this study refer to the setting in which the hotel is situated and carries out its business activities. This may include both micro and macro issues (Cetindamar, 2001). Once a hotel adopts the ORS it stands the chance to garner some benefits and at the face some challenges in the usage of the technology as in ORS.

A hotel is compelled to adopt and use new technologies as in the case of ORS as a result of pressure from competitors and customers who may be requesting to use ORS services. According to Wang and Qualls (2007), firms or hotels who have already adopted and using technologies may feel pressured to adopt new technologies in order to gain competitive urge over others to remain in business. The ever increasing competition in the business conforming to customer demand and expectation is no longer optional but a necessity to live on in the market place.

Chapter Summary

This chapter reviewed related literature that is of significance to the study. The chapter brought readers to understand what online reservation

system is. with this, the study discussed the adoption of online reservation systems by hotels, the forms of online reservation systems used by hotels, the benefits associated with the use of online reservation systems as well as the challenges associated with online reservations systems usage. The last part of the chapter considered the theoretical underpinnings and the conceptual framework guiding the study.

CHAPTER THREE

METHODOLOGY

Introduction

This chapter describes the research methodology used to collect and analyze data to achieve the objectives of the study. It specifically describes the study paradigm, study area, the study design, target population, sampling procedure, research instruments used as well as data processing and analysis and ethical considerations.

Research Paradigm

The study employed the pragmatist's philosophical paradigm. According to Morgan (2007), Pragmatism as a philosophical underpinning for mixed methods approach seeks to focus attention on the research problem and uses varied methods to obtain knowledge about a problem. Pragmatism is also seen as a means that allows the researcher to choose approaches, techniques and processes that best suit the purpose of a study (Creswell, 2014). To this end, the pragmatist approach must essentially cover both qualitative and quantitative approaches.

Pragmatism is suitable for the study because the researcher aimed at using the mixed methods approach which is the use of both quantitative and qualitative data (Creswell, 2014). Using a mixed method is more than simply collecting and analyzing quantitative and qualitative data. Pragmatism involves the blend of both approaches so that the overall strength of the study is more than either quantitative or qualitative research. Additionally, mixed method provides a more complete and comprehensive understanding of research problem than prioritizing only one approach. In line with this, the

study utilized the Sequential Explanatory mixed method. In Sequential Explanatory mixed method, the researcher expands on the findings of one method with another. It involves the collection and analysis of quantitative data followed by the collection and analysis of qualitative data so that data is fused together for interpretation (Tashakkori & Teddlie, 2010). This method gives equal priority to the two stages, and the primary focus is to explain quantitative results by exploring certain results in more details or by using follow-up interviews to better understand the results of a quantitative study. The study of hotels' adoption of ORS was grounded and studied from both the objective and subjective viewpoints because this method is best suited to the research problem and aids in evaluating different aspects of a research problem.

Research Design

The study adopted the cross-sectional design. Frankfort-Nachmias and Nachmias (2007) is of the view that this type of design aids researchers to study phenomena using questionnaires or structured interview for data collection with the intent of generalizing the findings to a larger audience based on the findings from the sample. In cross-sectional studies, either the whole population or a sample of the population is selected and data collected at once to answer stated research problems. Being the most common research design for social science research, 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 (Kumar, 2005). This research concentrates on only a cross-section of hotels specifically star rated hotels in the Accra Metropolis.

Study Area

The study was conducted in the Accra Metropolis located in the Greater Accra Region which is the capital city of Ghana. Accra Metropolis is the commercial hub of Ghana and the major activities revolve around the manufacturing industry and the service industry which attracts a lot of skilled labour. Accra has some unique features and characteristics which facilitate the adoption and use of online reservation systems by hotels.

Firstly, the Metropolis is the hub of accommodation facilities playing host to a myriad of hotels ranging from internationally owned (hotel chains) including Holiday Inn, Movermpick, Marriot and Novotel hotel, most of which 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 star to one stars, to non-star rated hotel that compete with the internationally recognised hotels. The mix therefore provides a better avenue for the researcher to analyse the adoption of online reservation by a cross section of hotels.

Secondly, the Metropolis plays host to all the major telecommunication companies that provide internet services critical to support the operation of any business including online reservation system in Ghana. Most of the country's internet broadband infrastructure emanate from Accra therefore ensuring that internet speed is relatively higher than the national average (Ofori-Atta, 2015). This provide a conducive environment for businesses including hotels to rely on in developing and using an online reservation system to sustain their operations.

Furthermore, Accra has been chosen for the study because it is host for many multilateral and bilateral organisations and regional organisations such as the Country office of the United Nations, World Bank, African Development Bank, UNICEF, FAO, and Embassies amongst others which becomes the target clientele who utilize online reservation systems for corporate and individual booking for the hotels. Accra is also the headquarters of many international corporate organisations including financial institutions, consultancy firms, and oil companies among others. These institutions receive international guest mostly from outside Ghana and are predispose to rely on online reservation for their hotel bookings (Osei-Tutu, Badu & Owusu-Manu, 2010).

These considerations largely informed the choice of Accra as the study area since it provides more opportunities not only for the deployment of the online reservations systems by the hotels but also there is the requisite infrastructure to facilitate the use of the reservation systems so deployed by both the hotels and the customers. The study was conducted in areas such as Accra Central, Airport Residential, East Legon, Osu, Dzorwulu and Tesano because these areas have the greatest number of star rated hotels within the Metropolis. Also, some 4 and 5 star rated hotels are situated adjacent Ministries and the Independence square, and opposite the National Theatre which makes it accessible for guests and investors to lodge.

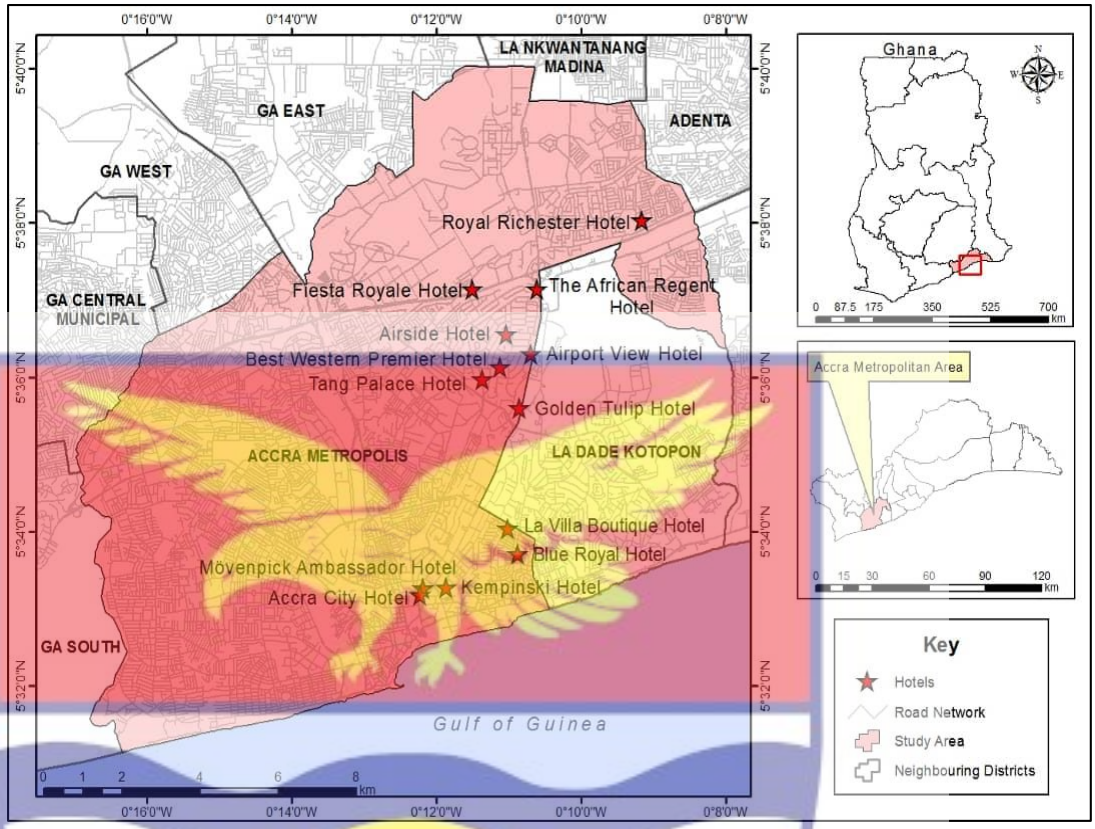

Figure 3 : Map of Accra Metropolis
Source: Cartographic Unit, Department of Geography & Regional Planning, University of Cape Coast (2017).

Data Sources

Both primary data and secondary information were sourced for the study. Primary data were collected using questionnaire and an in-depth interview guide. Secondary information comprised of the list of all-star rated hotels in the Accra Metropolis obtained from the Greater Accra Regional Office of the GTA. Data obtained from the field formed the basis for analysis.

Study Population

The study population comprised all reservation/front office managers of 1 - 5 star rated hotels in the Accra Metropolis at the time of data collection. The reservations /front office managers were targeted for the study because they have a broad overview of how their organization is changing in response

to ICT. They are usually responsible for the strategic development of the hotel, including alignment of ICT with business strategies. The front office /reservations also liase with the front line employees to get daily feedback on guest complains and demand. Additionally, adoption of ORS is a policy related issue that requires the approval and supervision of managers. Finally, the reservations / front office managers also ensure that all decisions are made in the best interest of the hotel and management, and ensure full compliance to hotel operating controls, policies, procedures and service standards.

Sample and Sampling Techniques

Due to the mixed method approach, two sampling techniques were used. For the quantitative data collection on all 1-5 star rated hotels in the Accra Metropolis a Census was employed. Census was employed because of the relatively low number of star rated hotels within the study area to help capture them in the study for the generalization of the findings. The use of census gave every hotel the opportunity to be studied. Data collected through the census method assists in studying about a problem and gives a higher degree of accuracy in data (Kothari, 2004). All one hundred and ninety-three (193) star rated hotels in the Accra Metropolis were targeted for the study out of which, ten hotels did not participate in the survey. This is because those hotels claimed not to be interested in the survey as previous studies by students and institutions did not benefit to them. A total of one hundred and eighty-three (183) hotels were used for the study. However, out of the (183) questionnaire administered, one hundred and seventy-two (172) questionnaires were retrieved from the field indicating a response rate of 89.9% for the study.

In order to reach the managers for the qualitative aspect using in-depth interviews, a purposive sampling technique was employed. This technique allows a sample selection based on in-depth knowledge of the population, its elements and the purpose of the study (Babbie, 2007). The purposive sampling technique helped gleaned vital information from the managers based on certain issues that stemmed out from the quantitative analysis that indicated some patterns and similarities in the responses of 5 and 4 star rated hotels which are upscale hotels, and 2 and 1 star rated hotels which are non- upscale hotels. Six hotels were used for the qualitative study. The criteria for the selection included one (1) hotel from 5star category, one (1) hotel from 4star category, two (2) hotels from 2 star category, and two (2) hotels from 1 star category. These hotels were sampled in order to ascertain the use of ORS from the higher grade and lower categorization.

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

Due to the mixed methods approach adopted, questionnaire and in-depth interview guide were used to collect data. Twumasi (2000) indicates that

questionnaire are very useful in gathering statistically quantifiable data in social science research. Questionnaire allow many respondents to be reached within a short time (Creswell, 2005). The questionnaire was structured into five modules. Module one focused on identifying the forms of ORS (e.g., GDS, OTAs, HOWs) used for booking. Module two examined the factors which influenced the adoption of online reservation systems, while module three examined the benefits of adopting online reservation systems among hotels, and module four analyzed the challenges associated with the usage of online reservation systems. Module five measured the socio-demographic characteristics of respondents.

Module one was made up of a mixed of closed and open ended questions on dichotomous basis with some aspects being multiple responses. However, Modules two, three, and four were measured on a four point (4) likert scale from Strongly Agree =3.5-4.0, Agree=2.5-3.4, Disagree=1.5-2.4, Strongly Disagree= 0-1.4. The test items were adapted from literature based on the objectives of the study. The questionnaire was designed and administered in English language since it is the official language in Ghana and the managers can read, write and understand English.

In addition to the questionnaire, an in-depth interview guide was used to collect information from the front office or reservation managers. The IDI according to Kumar (2000), gives the researcher the opportunity to probe further and clarify issues to the respondents.

Table 2- *Measurement of test items generated from the literature*

Factors which influence the adoption of ORS	Items	Source
Managerial and Economic factors	ORS helps to reduce cost of labour ORS helps to reduce the cost of advertisement Cost of maintenance Cost of commissions paid Management support in adopting ORS I perceive ORS to help improve on customer service I perceive ORS to gain a wider market coverage to the hotel	Emmer et al. (1993); Gilbert and Wong (2003); Santoma and O'Connor (2006); Bakar and Hashim (2008); Sanchez-Franco and Rondan-Cataluña (2010); Nkosana (2016)
Technological factors	Prior availability of a 24/7 internet service facilitated our ability to adopt ORS Integrating ORS with existing systems Ability to use new technology helped us to adopt ORS The availability of OTAs helped us adopt ORS The availability of ICT consultants helped us adopt ORS Employees with adequate skills in using the ORS has helped to adopt the technology	Karsten and Roth (1998); Wang & Wang (2006); Inversini and Masiero (2014); Wang, Li, Li and Zhang (2016)
Organizational factors	The type of client targeted influenced the adoption of ORS The range of services offered by the hotel influenced the adoption of ORS The number of hotel rooms influenced the adoption of ORS	Sahadev and Islam (2005); Law & Jogaratnam (2005); Seyal et al. (2007); (Samkange and Crouch, 2008); Inversini and Masiero (2014), Nwakanma; Ubani, Asiegbu and Nwokonkwo (2014)
Environmental factors	Losing customers to competitors Customers' readiness to use new technology influenced the adoption of ORS Customers' having trust in the new technology influenced our adoption of ORS	Buhalis (1998); Hoontrakul and Sahadev (2004); Baggio (2004), Yousaf (2011);Tan (2015)
Benefits of adopting ORS	ORS assists in getting paid quickly ORS assists in cutting down the number of hotel employees Reservation are maximized using ORS Businesses are open to the public 24/7 using ORS ORS assists in offering faster services	Buhalis (2000); Yang, Flynn and Anderson, 2003); Buhalis and Law (2008); Ezrachi, (2015)
Challenges associated with the usage of ORS	The challenge with internet speed Employees lack of experience to use ORS efficiently Challenge with internet stability Less interaction with guests using ORS Lack of hotel -clients relationship due the use of ORS	Akoh (2001); Baggio (2004) (Treacy and Wiersema, 2007); Mallat (2007)

Source: Field survey, Ankor (2018)

Pre- Testing of Instrument

The field work was preceded with a pre-testing of the research instruments using hotels in the Cape - Coast Metropolis. The pre- testing involved twenty (20) star rated hotels for 4 days in January, 2018. The reason for pre- testing in Cape Coast was the fact that, the Metropolis has gained in the number of star rated hotels and the increased number of hotels brought about competition and in order to withstand the competition, most of the hotels adopted ORS. The purpose of the pretesting was to validate the instrument and to also fine tune the final questionnaire. The questionnaire was revised by checking the wording, deleting or re- writing the items to reduce ambiguity based on reviewed literature.

The pre-testing revealed issues relating to clarity, accuracy and appropriateness. For instance, regarding the benefits of adopting ORS, statement such as "I perceive ORS to give a wider market share was changed to reservations are maximized using ORS", "I perceive ORS to assist in distributing hotels' products through channeled network easily was removed from the list, "what is your maximum rate per night was re -written as what is your maximum room rate per night", and the provision of accommodation as a hotel service was also removed as every hotel offers lodging services to its guests. Providing solution to these issues ensured that final questionnaire was valid, reliable and appropriate for the study.

Field Work and Challenges

An introductory letter was sent to the various hotels for their approval. After obtaining permission to carry out the study, the researcher visited the various hotels to book an appointment with the managers. On the day of data

collection, the purpose of the study was well explained to managers for them to get a clear understanding of the study. The managers were informed and assured that the information given by them was solely to be used for the purpose of the study. The questionnaire was given to managers to fill and collected.

The field work took place between 23rd Jan, 2018 to 26th March, 2018. One field assistant was recruited and trained to help in the data collection. The field assistant was a first degree holder and in a position to read, write and speak English. The field assistant was assigned to some data collection points to collect questionnaire that were not filled immediately by managers and to administer questionnaires as well.

The main challenges encountered during the field work are enumerated here. The first challenge was the refusal and unwillingness on the part of some managers to participate in the study. These managers claimed they were not interested in the research. Some gave excuse as not having enough time while some claimed the research was not going to benefit them. Most of them claimed to be research fatigued as they filled questionnaires throughout December.

Secondly, managers who agreed to fill the questionnaire were hesitant in completing them as they remarked that the questionnaire was too bulky to complete within the shortest possible time. After some few minutes of persuasion, some managers completed the questionnaires. In spite of all these efforts, some managers left their questionnaires half way whiles others misplaced them. The researcher made extra copies available to those who

misplaced theirs and the unfinished ones were dealt with during the data cleaning process.

Thirdly there was a difficulty in conducting the interviews as the managers were not ready to grant the researcher the needed audience. This was so because they had a number of meetings to attend, and reports to submit. The researcher again persuaded them and scheduled time that was suitable for them in spite of this, some hotels were visited more than three times for the interviews to be conducted. All these made the data collection process difficult, money and time consuming.

Ethical Consideration

Before the period of data collection, the entire proposal with the instrument was sent to the Ethical Review Board of the University of Cape Coast for approval. The ethical dimensions of every research are very essential. This research considered the issues of informed consent, anonymity and confidentiality. According to Meyer (2001), researchers must not coerce respondents into participating in researches thus, protecting their rights is key in every study. In other words, participation must be voluntary at all times. Informed consent was therefore sought from respondents before undertaking the research. Provision of adequate information about the study was relevant to enable the participants 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 the consent from the respondents.

Secondly, the issue of anonymity was also ensured. Anonymity protects privacy by not disclosing a participant's identity after information is

gathered (Babbie, 2007). This was to guarantee that information of participants do not appear on the instrument used. The use of questionnaire also guaranteed respondents anonymity since names and other personal details were not to be associated with specific responses given. The purpose of confidentiality which, according to (Babbie, 2007), is to conceal the identity of respondents, was strictly adhered to. This is pertinent in order to protect the rights of all the respondents. The researcher achieved this by not sharing or discussing any information given by the respondents with third party. Moreover, information gathered from respondents were only used for the purpose for which it was collected.

Data Processing and Analysis

The data collected with the questionnaire was checked for completeness, edited, recoded, and the uncompleted questionnaire discarded before use. The data was keyed into the IBM Statistical Product and Service Solutions (SPSS) version 22 for further processing. Descriptive statistics of means, standard deviations, frequencies, percentages and cross tabulation were employed in describing the sample characteristics of the hotels.

Chi- square test of independence was used to analyze the relationship between forms of ORS and the hotel characteristics. Factor analysis was used to identify the structure of factors underlying the adoption of ORS among hotels in the Accra Metropolis. In addition, Binary logistics regression was used to ascertain the factors that influence hotels' adoption of forms of ORS.

Finally, data obtained from respondents through interviews were transcribed manually. This was followed by identifying and categorizing the primary patterns into specific themes using thematic analysis (Berg, Lune, &

Lune, 2004). The thematic analysis was employed because of its flexibility (Braun & Clarke 2006). The basic themes that stemmed from the coded data were grouped into the responses constituting the organizing themes. Finally, the themes were then grouped into concluding themes which became the general themes (Attride-Stirling, 2001).

Chapter Summary

This chapter discussed the methodology used in carrying out the study. It touched on the description of the study area and research design. The study was guided by the pragmatist's paradigm. Hence, the mixed methods approach was adopted using both quantitative and qualitative data. Moreover, the chapter also stated the sources of data, target population, sample and sampling procedure, and research instruments used. Finally, the chapter described the data processing and analytical tools used, challenges encountered on the field, and some ethical issues considered. The next chapter is the presentation of results and discussion of the data collected.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This section of the study presents the findings and interpretations of the processed data from the field. These were blended with the discussions and implications associated with the major findings to suite the set objectives of the study. The main subheadings of this section include the forms of ORS used by hotels, factors influencing hotels' adoption of ORS, benefits of adopting ORS, and challenges associated with the use of ORS. It then ends with a brief summary of the whole chapter.

Hotel Characteristics

This aspect presents the characteristics of hotels in the study area. Hotel category was measured in terms of the number of star ratings of the hotel. The results presented in Table 3 reveal that majority (86.6%) of the hotels were from categories 1 to 2 of star rated accommodation facilities. Only a few were either in 4 or 5 star categories (4.1% and 1.7% respectively). This is in with the report by GTA (2015) on the distribution of hotels in the country, that there were only 3 five star rated hotels, 11 four star hotels, 52 three star hotels, 210 two star hotels, and 380 one star hotels. All the five star rated hotels in Ghana reported in 2015 were found in the study area. Currently, it is only these three accommodation facilities that are still in this category in the country. This presents the indication that there had not been much expansions on the hotel facilities in the country in terms of star ratings.

Table 3 also presents the ages of the hotels used for the study. The findings indicate that less than a quarter (23.3%) of the hotels started their

business less than 5 years ago and about 3 out of every 10 hotels have been in business between six to ten years. About 46 percent of the hotels have been in existence for at least 11 years. This gives indication that there have been new establishments of hotel facilities in recent times in the study area, though these new hotels are in the lower star rating categories.

Table 3– *Hotel Characteristics (N= 172)*

Characteristics	Frequency	Percentage (%)
Hotel category		
1 star	70	40.7
2 star	79	45.9
3 star	13	7.6
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	32.5
21-40	59	34.3
41-60	22	12.9
61-80	15	8.7
> 80	20	11.6

Table 3 cont'd

Room rate(GHC)		
<500	96	56.2
501-1000	45	26.3
1001-1500	13	7.6
>1501	17	9.9
*Hotel Services **		
Food and Beverage	172	100.0
Conferences	153	88.9
Laundry	135	78.4
Airport pickup services	99	57.5
*Facilities**		
Swimming pool	54	31.4
Gym	10	5.8
Convenience Shop	9	5.2
Forex bureau	25	14.5

Frequency exceeds 172 because of multiple responses

Source: Field survey, Ankor (2018)

With majority of the hotels being newly established it is a positive indication of their ability to adopt new ORS technologies. This may be due to the fact that; the age of a hotel serves as a major factor in ORS adoption. As posited by Hoontrakul and Sahadev (2006), that age of a hotel has a very high negative impact on a hotel's proclivity to ICT adoption since new hotels do not have legacy systems that are costly to replace.

With respect to ownership structure, more than 4 out of every 5 hotels were independently owned while 17.4 percent of the hotels were chain hotels. It can be inferred from the finding that, the study area is still in its developmental stage hence chain hotels have not yet found it suitable entering such markets and as a result, hotels available are likely to be locally owned

and managed. In relation to number of rooms, more than a third (34.2%) of the hotels have rooms ranging from 21-40. Those hotels which had at most 20 rooms were 32.4 percent and the hotels with 61 to 80 rooms were only 7.0 percent. This result affirms the fact that most of the hotels were in a lower star ratings, which do not have adequate capital outlays to put up large facilities for accommodation services. There are also a lot of clienteles who will patronize these types of hospitality facility based on their level of socio-economic strata. Inversini and Masiero (2014) stated that the size of a hotel in terms of number of rooms has a significant effect on ORS adoption propensity.

Additionally, more than half (58.5%) of the hotels have rate below GHS500.00 per night, while only 7.6 percent accounts for room rate above GHS1000.00. Those hotels whose room rate is below GHS500.00 are mostly those that have smaller accommodation facilities. Those hotels with higher room rate above GHS1000.00 are upscale hotels ranging from 3 to 5 star facilities, which by regulation are required to have some additional amenities such as forex bureau, and upscale dining areas among others.

Relating to hotel services, food and beverage was dominant (30.8%), followed by conference services (27.4%), with only 17.4 percent constituting airport pickup services of the total services rendered by the hotels. The provision of food and beverages by hotels enables their guests to meet the demands of the basic needs of life (physiological) according to Maslow's hierarchy of needs for sustenance. More so, 31.4 percent of the hotels had swimming pool, 14.5 percent owned forex bureau facilities and a few (5.2%) of the hotels had convenience shop. This is an indication that hotels in the study are improving upon their facilities to serve their clients better.

Adoption of ORS by Hotels in the Accra Metropolis

This study sought to examine hotels' adoption of ORS in the Accra Metropolis. The result obtained is illustrated in Figure 4.

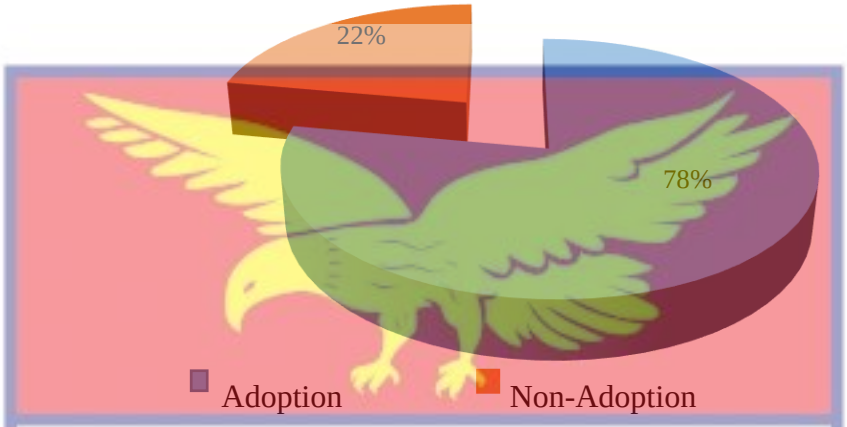

Figure 4 : Adoption of Online Reservation Systems
Source: Field survey, Ankor (2018)

From Figure 4, the results indicate that, more than three-quarters (78%) of the hotels have adopted ORS, while less than a third (22%) of the hotels have not adopted the reservation systems. The adoption of ORS may be attributed to the competition among hotels to have a fair share of the target market and to provide innovative services to their clients. This finding is in line with Berezina et al. (2016) idea that, hotels are making efforts to incorporate new technologies into their service delivery to meet the needs of customers. The implication of this trend on the hospitality and tourism industry is that, all classes of customers will make use of the online booking systems in future because it will become inevitable (Kelly, 2017).

Forms of Online Reservation Systems

To determine the forms of ORS used by hotels, this section explores the various forms of ORS adopted. Table 3 indicates that the use of Online

Travel Agents was 45.1 percent, followed by Hotel's Own Website (44.8%) and Global Distribution System (10.1%). Thus, the most popular forms of ORS hotels adopted in the study area were the HOWs and OTAs.

Table 4 – *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)

This is an indication that, OTAs are the preferred and most used reservation systems adopted by hotels in the study. This result supports the findings of Choi and Kimes (2002), Middleton, Fyall, Morgan and Ranchhod (2009) and Schegg (2015), who identified OTAs, HOWs and GDS as the forms of ORS used by hotels. In addition, the finding which revealed that most hotels in the Accra Metropolis have adopted OTAs and HOWs further confirms the works of Law and Hsu (2005), and Emir et al. (2016), who maintained that OTAs and HOWs are the most popular online hotel booking channels for hotels.

This has implication for the hospitality industry. OTAs bring employment to the travel and tourism industry. With increased flight and hotel bookings come the need for more employees in hotels, restaurants and tourist sites to be able to cater for the growing numbers. This opens the way for more unemployed people to be absorbed into the tourism and hospitality sectors (Horner & Swarbrooke, 2016). Secondly, OTAs come at a fee and their

services are not free. However, their value and benefits are boundless. The impact of OTAs is mostly felt by hoteliers and customers who form the core of hospitality and tourism industry.

Online Reservation Systems usage by Hotel Characteristics

Hotel characteristics are essential in determining the use of ORS (Obonyo, Kambona & Okeyo, 2016). In line with this, the study examined how the use of ORS is related to hotel characteristics. In relation to hotel category and the use of ORS, results in Table 5 indicate that all 3, 4 and 5 star hotels in the Accra Metropolis use ORS (100.0% each). This may be attributed to a number of factors. In the first instance, upscale hotels will be more equipped in terms of resources for adopting new technologies compared to lower grade. Also, the type of client served by the hotel (e.g. international guests, tourists), the intricacy of the hotel operation (i.e., number of rooms), the hotel brand affiliation (chain or independent), and the lodging type (i.e., all suite, motel, or bed-and-breakfast) within these upscale hotels could easily be facilitated by the use of ORS. These observations are similar to are similar to earlier studies conducted in Malaysia, Nigeria and Thailand (Anuar, Musa & Khalid, 2014; Nwakanma, Ubani, Asiegbu, & Nwokonkwo, 2014; and Hoontrakul & Sahadev, 2004 respectively).

Table 5 – *Online Reservation Systems Usage by Hotel Characteristics*

Characteristics	Usage of ORS (%)	
	Yes	No
Hotel category		
1 star	60.0	40.0
2 star	83.8	16.2
3 star	100	0.0
4 star	100	0.0
5 star	100	0.0

Table 5 Cont'd

Age of hotel		
< 5	92.5	7.5
6-10	67.9	32.1
11-15	64.5	35.5
16-20	86.7	13.3
21-25	83.3	16.7
Ownership structure		
Chain	87.0	13.0
Individual	76.1	23.9
Number of rooms		
<20	53.6	46.4
21-40	81.4	18.6
41-60	100	0.0
61-80	100	0.0
>80	95.0	5.0
Room rate		
<500	63.5	36.5
501-1000	93.6	6.4
1001-1500	100	0.0
>1500	100	0.0
Hotel services		
Food and beverage	78.4	21.6
Conferences	82.4	17.6
Laundry	85.9	14.1
Airport pickup services	93.9	6.1
Facilities		
Swimming pool	80.0	20.0
Gym	90.0	10.0
Convenient shop	78.0	22.0
Forex bureau	68.2	31.8

Source: Field survey, Ankor (2018)

With regards to age of hotel, about 65 percent to 93 percent of the hotels within the various age groupings used ORS. The highest age group of hotel that mostly used ORS was those hotels which were less than 5 years (92.5%) whiles about two-thirds (64.5%) of the hotels which were aged between 11-15 years used ORS. The finding where more than 9 out of every 10 hotels within the age groupings of less than 5 years use ORS confirms

earlier discussion in this study that newly established hotels increase their proclivity to adopt ORS technologies. This again concurs with Hoontrakul and Sahadev (2006), who gave reasons that since these newly established hotels do not have legacy systems and reputation amongst its clients, there is the need to adopt technologies that could help them penetrate the market. This observation may also be due to competition between new and existing hotels to market themselves, and for those already in the business to face-lift the existing systems. The result obtained has also confirmed the findings by Nwakanma, Ubani, Asiegbu and Nwokonkwo (2014), that the age of a hotel is a major factor that influences ICT adoption since new hotels find it easier to adopt new technologies that need a complete revamp of the existing system, whereas older hotels have high reached their saturation level and might not want to invest so much into innovations.

Additionally, more than three quarters (76.1%) of independent hotels use ORS while 87.0 percent of the chain hotels used the ORS. This is an indication of the fact that both chain and independently owned hotels have seen the need for the adoption of technologies that will boost their services to better satisfy their clienteles. The slight margin on the use of ORS among chain hotels could be attributed to market positioning, and to allow for the ease of operations, and for the management of a larger client database. More so, internationally owned hotels have advantage over independent hotels through an established brand name and internationally branded image which is attached to these types of facilities (Huang, 2009). This result is similar to the findings of Smith (2011), who posited that adoption of ORS is high among

hotels chains because guests have an idea of what to expect before walking in the door or doing an information search on a particular hotel.

With respect to number of hotel rooms, only about 54.0 percent of the hotels which have less than 20 rooms used ORS. However, 100.0 percent of the hotels which had 41 to 80 rooms used ORS while 95.0 percent of those hotels which have more than 80 rooms use ORS. It could be inferred that those hotels with higher number of rooms tend to adopt ORS more than those with smaller number of rooms. This may be attributed to the fact that, effective adoption of several ICTs require a substantial investment of resources which may not be difficult for the upscale hotels to obtain. In support of the findings of the current study, Hoontrakul and Sahadev (2004), and Nwakanma, Ubani, Asiegbu and Nwokonkwo (2014), found that hotel size can influence adoption propensity and the inclination to change within the organization since large hotels have been found to be more adopters of technologies than small hotels. Similarly, Mupfiga (2015), found that lack of resources may affect the inclination of small hotels to adopt costly ICT facilities and therefore large hotels can be expected to be more inclined to the use of these ICT facilities.

Examining the kind of services rendered by the hotels and the use of ORS, the results indicated that most of the hotels which provide food and beverage, conferences, laundry and airport pickup services use ORS (78.4%, 82.4%, 85.9% and 93.9% respectively). On the other hand, about 70.0 to 90.0 percent of those hotels which have swimming pools, gyms, convenient shops and forex bureau used ORS. This could probably be due to the fact that these hotels are providing these services to augment their services and also to meet the demand of their target clientele. The results reinforced the findings of

Obonyo, Okeyo and Kambona (2016), who maintained that hotels with varied lines of activities would find more use in the adoption of ORS than hotels with relatively lesser span of activities.

Types of Online Travel Agents

To examine the types of OTAs used by hotels in the study, Figure 5 shows that a little less than a third (30.1%) of the hotels use Booking.com, less than a quarter (24.2%) which use Expedia, and a few (6.9%) of the hotels use Orbitz.

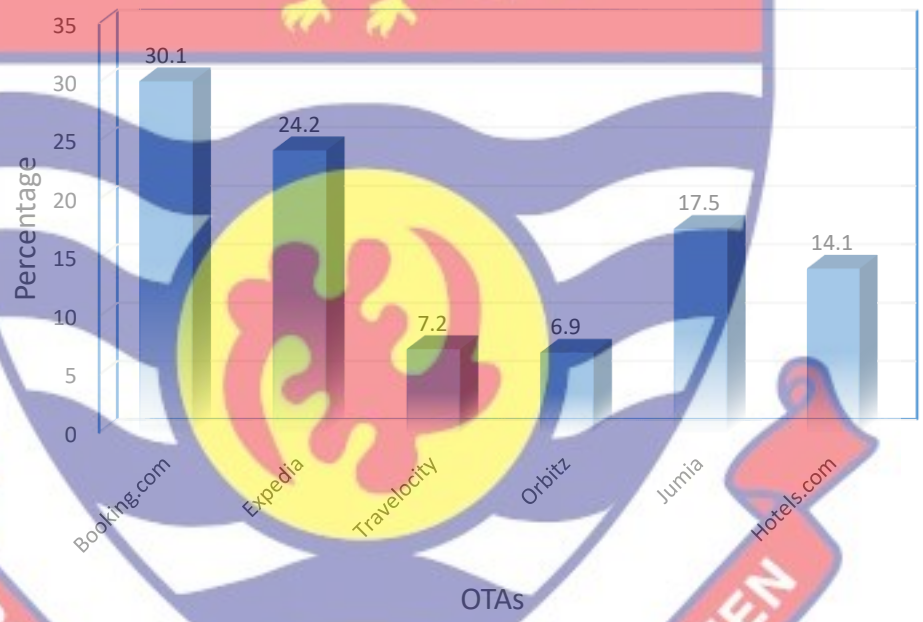

Figure 5: Types of Online Travel Agents (N=121)
Source: Field survey, Ankor (2018)

This is because of the swift changes in the travel industry whereby OTAs such as Booking.com and Expedia are dominating other types of reservation systems. This finding is consistent with the one obtained by Middleton, et al., (2009), who indicated that the most used OTAs by the hotels include Expedia and Booking.com. In view of this findings, the study sought

to ascertain the reasons behind the dominance of the two OTAs by interviewing some managers. In that regard, one of the manageress said they do have Expedia, booking.com, Jumia and Hotels.com. However, their main OTAs are Booking.com and Expedia which mostly generates more bookings. As she puts it:

> *We do have Expedia and Booking.com, we have got Jumia and Hotels.com, but our main OTAs are Booking.com and Expedia. These two generates more bookings for our hotel.* (Respondent 6, Manager of a 5 star Hotel).

Another respondent also opined that they only use booking.com due to its convenience. She said:

> *We only have booking.com because it is convenient for us (*Respondent 1, Manageress of a 1 star hotel).

Yet another respondent said they use three of the OTAs which include Expedia, Booking.com and Jumia. She claimed:

> *We use Expedia, Booking.com and Jumia. These three OTAs are used because of our hotel policy (*Respondent 5, Manageress of a 4 star hotel*).*

From the above quotes, it is evident that hotels in the Accra Metropolis have mostly been using these two OTAs because of convenience, laid down policies of hotels and the fact that these OTAs generate more bookings for their facility. In order to get the most out of OTAs, it is important to keep the information provided to the OTAs accurate and up-to-date to ensure

descriptions of facilities and services offered to meet the standards and expectations of the clienteles. Moreover, hotels should respond to customer reviews and update the OTAs as quickly as possible, in order to limit the impact of any negative feedback. With this, OTAs could give hotels the opportunity to fill rooms that would otherwise remain empty. This could attract the brand loyal customer who is looking for ease of reservation process (Katro, 2011).

Hotel Characteristics by forms of Online Reservation System

To explore the relationship that exists between hotel characteristics and the forms of ORS by hotels in the study, Chi-square statistic was employed. Evidence from Table 6 suggests that there was a statistically significant relationship between hotel category and Hotel's Own Website (χ^2 = 14.291; p = 0.006). This indicate that higher proportion of upscale hotels tend to use HOWs more than their lower category counterparts. For example, whereas all the 4 and 5 star hotels (100.0%) used hotel own website, only about 55.4 percent of the 1 star hotels were using hotel own website. The high usage of HOWs by the upscale facilities is probably because of the fact that this channel of booking is most cost effective and personalized online distribution channel for every hotel.

Table 6- *Hotel Characteristics by Forms of Online Reservation System*

Characteristics	HOWs		x^2	p-value	OTAs		x^2	p-value	GDS			
	% Yes	% No			% Yes	%No			% Yes	%No		
Hotel category			14.291	0.006*			32.683	0.000*				
1 star	55.4	44.6			46.2	53.8			6.2	93.8		
2 star	73.0	27.0			79.7	20.3			6.8	93.2		
3 star	87.0	13.0			95.7	4.3			39.1	60.9		
4 star	100	00			100	00			100	00		
5 star	100	00			100	00			66.7	33.3		
Age of hotel			15.030	0.005*			1.980	0.018*			7.829	0.098
<5	87.5	12.5			90.0	10.0			22.5	77.5		
5-10	56.6	43.4			62.3	37.7			17.0	83.0		
11-15	58.1	41.9			58.1	41.9			3.2	96.8		
16-20	83.8	16.7			66.7	33.3			10.0	90.0		
21-25	66.3	33.3			77.8	22.2			27.8	72.2		
Ownership structure			0.784	0.376			2.959	0.085			7.108	0.008*
Chain	76.7	23.3			86.7	13.3			33.3	66.7		
Individual	68.3	31.7			71.2	28.8			12.5	72.2		
Number of rooms			23.963	0.000*			22.029	0.000*			46.944	0.000*
<20	48.2	51.8			48.2	51.8			1.8	98.2		
21-40	71.2	28.8			76.3	23.7			8.5	91.5		
41-60	86.4	13.6			81.8	18.2			40.0	60.0		
61-80	100	00			80.0	20.0			60.0	40.0		
>80	85.0	15.0			90.0	5.0						
Room rate			17.343	0.002*			34.700	0.000*			69.036	0.000*
<500	58.3	41.7			52.1	47.9			4.2	95.8		
501-1000	83.0	17.0			91.5	8.5			12.8	87.2		
1001-1500	63.6	36.4			90.9	9.1			18.2	81.8		
>1501	100	00			100	00			75.0	25.0		

Source: Field survey, Ankor (2018)

*Significant at p< 0.050

Similar to the relationship between hotel category and HOW, the various hotel categories also have significant association with OTA (χ^2 = 32.683; p = 0.000). Again, the results indicated that, upscale hotels tend to use OTAs more than the lower categorized hotels. This is evident from the fact that whereas all (100%) of the 4 and 5 star hotels were using OTAs, less than half (46.2%) of 1 star hotels were using OTAs. This finding is in line with Daghfous and Barkhi, (2009), who made the assertion that hotels with higher grades tend to adopt and use technologies more than those with lower grades. Finally, Table 6 again shows that there was no significant association between hotel category and adoption of Global distribution systems because its low usage which could not make it appropriate for a Chi-square test. The results further indicate that whereas all (100%) of the 4 star hotels used Global distribution systems, 93.8% and 93.2% of 1 and 2 star hotels were not using Global Distribution Systems. To understand the less usage of GDS among the lower category hotels, in-depth interviews were carried out. A respondent indicated that customers do not ask for their services and they do not book flights with them (hotels) using GDS. This is how he puts it:

> *The most important reason why we have not been using the GDS is that, our customers do not ask for their services* (Respondent 2, Manager of a 2 star hotel).

Another interviewee was of the view that, adopting GDS requires a lot of capital compared to other systems. She further claimed there is inadequate financial capital for adopting the GDS and as such even though they encounter

problems with the current system they are using, it is difficult for them to adopt the GDS. She remarked:

> *There is no money for adopting this system, though we are even having problems with the system we are using currently* (Respondent 1, manageress of a 1 star hotel).

From the study, it was realized that the usage of GDS was low amongst 1 and 2 star hotels and only about 2 out of every 5 three star hotels were using GDS. This could be due to the fact that because their target markets do not patronize GDS services, they do not see the need for the usage of ORS services. Further investigation sought to find out why the lower category hotels were not using the GDS reveals that, there was inadequate financial capital for adopting the GDS by lower star hotels. The results of the study indicate that adoption of GDS requires a substantial amount of capital, as a results, hotels in the lower categories are limited in adopting this type of ORS because of the cost associated with its usage, which serves as deterrent for many hotels (O'Connor & Frew, 2004)

Again, there was a statistically significant association between age of hotel and Hotel's Own Website (χ^2 = 15.030; p = 0.005). The chi-square test further showed that whereas almost 9 out of every 10 (87.5%) of the hotels aged less than 5 years used HOWs, about 2 out of every 5 (41.9%) of those hotels aged 5-10 years were not using HOWs. Also, more than 8 out of every 10 and two-thirds of the hotels aged 16 – 20 and 21 – 25 years were using HOWs. Again, there was a significant association between age of hotel and OTAs (χ^2 = 1.890; p = 0.018). The chi-square assessment further showed that

whereas most (90%) of the hotels aged less than 5 years were using online travel agents, two-third (66.7%) of those aged 16 – 20 years were using OTAs and more than three quarters (77.8%) of those aged 21 – 25 years were using OTAs. Since the usage of GDS is generally low among all the hotels categorized based on age (ranging from 3.2% to 27.8%), there were no significant associations between them.

The findings of the study further reveal that there was no significant association between ownership structure and HOWs (χ^2 = 0.784; p = 0.376), and that of OTAs (χ^2 = 2.959; p = 0.085). However, GDS was found to have a significant association with ownership structure (χ^2 = 7.108; p = 0.008). The frequency distributions show that while more than three quarters (76.6%) of the chain hotels used HOWs, only 68.3 percent of the independent hotels used this type of ORS. Similarly, 86.7 percent of the chain hotels used OTAs while around 7 out of every 10 independent hotels used OTAs. The distribution of the GDS showed that only 33.3 percent and 12.5 percent of chain and independent hotels respectively used it.

A significant relationships also existed between number of hotel rooms and HOWs (χ^2 = 23.963; p = 0.000), OTAs (χ^2 = 22.029; p = 0.000), and GDS (χ^2 = 46.944; p = 0.000). Precisely, usage of hotels' own website was found among all the hotels with rooms ranging from 61-80, whereas only 48.2 percent of hotels with rooms less than 20 were using hotel own website. A similar results revealed that usage of OTAs was high (90%) among hotels with more than 80 rooms, whereas 48.2 percent of hotels with rooms less than 20 were using online travel agents. For the GDS, the distribution of the proportion of those hotels which have more than 80 rooms which used it was 3

out of every 5, while only 1.8 percent of those hotels with rooms less than 20 used GDS. The general observations among these associations of number of rooms and the various forms of ORS indicate that those hotels with more number of rooms tend to use these facilities significantly higher than those with less number rooms.

It was also established that a significant association exists between room rate and HOWs (χ^2 = 17.343; p = 0.002). All the hotels with rates more than GHS1501 were using HOWs compared to 58.3 percent of hotels whose rates were less than Ghc 500. Room rate also showed a statistically significant association with the use of OTAs (χ^2 = 34.700; p = 0.000). Generally, all the hotels with rates more than GHS1501 were using OTAs compared to 52.1 percent of hotels whose rates were less than GHS500. Room rate also showed a statistically significant association with the use of GDS (χ^2 = 69.036; p = 0.000). In specific terms, 75 percent of the hotels with rates more than GHS1501 were using GDS as compared to only 4.2 percent of those whose rates were less than GHS500. This may be probably because the use of GDS is mostly used by corporate travelers and the high economic class for which many hotels use travel agencies to book itineraries through GDS.

Factors Associated with the Adoption of ORS in the Accra Metropolis

To ensure a better understanding of the factors which influenced hotels adoption of ORS in the Accra Metropolis, a blend of issues from the literature were deliberated on and put together as Managerial and Economic, Technological, Organizational and Environmental factors. Details of the results are presented in Table 7. Respondents agreed that, managerial and economic factors significantly influence hotels adoption of ORS (mean =

3.366), with overall proportion of those who affirm this statement being 91.9 percent. In general, at least 80 percent of the all the hotels agreed on the variables used for managerial and economic factors (ranging from 79.9% to 100.0%). Using the mean levels of agreement, the least rated variable was the reduction in labour cost (mean = 3.064) while the highest rate indicator was gaining wider market coverage for the hotels (mean = 3.703).

Table 7- *Factors Associated with the Adoption of ORS*

Factors	% Agreement	Mean	Cronbach's alpha
Managerial and economic			0.807
Labour cost	79.7	3.064	
Cost of advertisement	92.4	3.314	
Cost of maintenance	82.6	3.127	
Cost of commissions paid	92.5	3.422	
Cost of technological equipment	95.4	3.430	
Management support	95.3	3.447	
Get customer feedback	94.7	3.448	
Improves on customer service	94.2	3.302	
Gain wider market coverage	100	3.703	
Overall score	*91.9*	*3.366*	
Technological			0.737
Prior availability of a 24/7 internet	94.4	3.522	
Integrating ORS with existing systems	83.5	3.225	
Ability to use new technology	91.3	3.215	
Employees with ICT skills	90.7	3.093	
Knowledge on ORS	94.2	3.314	
Availability of OTAs	94.2	3.133	
Overall score	*91.4*	*3.250*	
Organizational			0.659

Table *7 Cont'd*

Type of clients targeted	82.6	3.162	
Number of hotel rooms	97.6	3.581	
Range of services offered	98.8	3.000	
Overall score	87.2	3.307	
Environmental			0.717
Losing customers to competitors	83.1	3.267	
Customer readiness to use new technology	94.8	3.505	
Customer having trust in the new technology	96.0	3.436	
Security and trust issues	90.6	3.198	
Overall score	*91.1*	*3.351*	

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

Source: Field survey, Ankor (2018)

Furthermore, Management support in relation to adoption (mean = 3.447), prompt feedback from customers on services (mean = 3.448) as well as improvement on customer service (mean = 3.302) and gaining wider market coverage through ORS (mean = 3.703) were found to be important dimensions that influenced the adoption of ORS. Bakar and Hashim (2008) are of the view that most hospitality businesses implement an internet based booking system in order to cut down on their distribution costs. These further corroborate the findings of Sanchez-Franco and Rondan-Cataluña (2010), who identified that most hotels consider using internet marketing and their websites to save cost.

Again, respondents strongly agreed that technological factors were generally influencing their decision to adopt ORS (mean = 3.250). Precisely the technological issues were prior availability of a 24/7 internet (mean =

3.522), followed by employee's knowledge on ORS (mean = 3.314) and integrating ORS with existing systems (mean = 3.225). Ability on the parts of respondents to use new technology (mean = 3.215), and availability of ORS (mean = 3.133) while employees with adequate ICT skills made the least (mean = 3.093) influence. These are all externally generated changes in technologies and processes which may be used by a hotel or its competitors. In relation to ability to use new technology, employees with ICT skills and experience in using ORS as technological factors, the findings support the technology acceptance model (TAM), which posits that perceived eases of use is a key element in the adoption of a technology (Davies, 1989). The finding of the study further supports the work of Wang, Li, Li and Zhang (2016) who maintained that competence of employees and availability of internet must be considered by hoteliers when adopting ORS. This implies that proper identification of this factors during strategic analysis could lead to a better decision about investments and development of the hotels.

Table 7 further shows that 87.2 percent of the hotels agree that organizational factors have influence on the adoption of ORS. Generally, the mean level of agreement was 3.307. Types of clients targeted (mean = 3.162), number of hotel rooms (mean = 3.000) and the range of services offered (mean = 3.488) were the factors that have influence on the adoption of ORS. In view of the organizational factors that influenced the adoption of ORS the findings of this study is in line with Inversini and Masiero (2014) assertions that, the number of rooms influences the adoption propensity of hotels. Similarly, Pezeshkan (2008), studied the effect of market concentration on the adoption propensity of firms and revealed that the types of clients targeted have

influence the adoption of ORS. These findings further support the technology-organization-environment (TOE) framework used for this study, where firm size was considered a key organizational factor that influences the adoption of a technology (Tomatzky & Fleischer, 1990).

Finally, environmental factors were also reported to contribute to the hotels adoption of ORS (mean = 3.351). Over 9 out of every 10 hotels (91.1%) agreed that environmental factors influence their decision to adopt ORS such as HOW, OTAs and GDS. Particularly, losing customers to competitors (mean = 3.267), readiness of customers to use new technology (mean = 3.505) and customers having trust in the new technology (mean = 3.436) were factors that hotels agreed to be influencing their adoption of ORS. The results from the study reaffirmed the findings by Rivera (2004) that hotels are forced to adopt new technologies to have advantage over their rivals in business

Tomatzky and Fleischer (1990) also indicated in the TOE framework that security is a major environmental factor that influences the adoption of technologies. The finding from this study further supports the assertion of Wong and Law (2005) that since hotel websites are available online and can be accessed by everyone, customers are concerned with the security and privacy of the kind of information they share on the website. The finding on losing customers to competitors also confirms the assertions of Tomatzky and Fleischer (1990), and Sahadev and Islam (2005), Rivera (2004) and Fuchs et al., 2010 that an organization (hotel) will consider the competition from competitors before adopting a new technology. In all, the study revealed that all the hotels have agreed on all the four factors (managerial and economic, technological, organizational and environmental) that must be considered

when adopting ORS. Hotels must therefore tackle these variables into consideration whenever they are adopting new technologies.

Factors Underlying the Adoption of ORS

In determining the main underlying factors contributing to the adoption of ORS by hotels in the Accra Metropolis, an Exploratory Factor Analysis was performed in order to reduce the numerous variables to specific ones that were highly correlated with the major dimensions. Specifically, the Principal Component Analysis (PCA) with varimax rotation (using Kaiser Normalizations) was employed. The suitability of the data for PCA analysis was also checked and the key issues and requirements were met. Preliminary analysis therefore found the Bartlett's test of Sphericity (1654.601) to be significant ($p = 0.000$), supported by the Kaiser-Meyer Olkin (KMO) coefficient of 0.800 confirming the factorability of the correlation matrix. Subsequently, the PCA was performed on the twenty-four (24) explanatory variables, which were reduced to eleven (11) for the four main dimensions (managerial and economic, technological, organisational, and environmental). Table 8 shows the coefficients used to express the standardized variables in terms of the factors. The factor loadings indicate the correlation between the factors and variables. A coefficient with a high value indicates that the factor and the variable are closely related.

Table 8- *Structure of Factors underlying the Adoption of ORS (172)*

Factors	Variables included in the factor	Loadings	Eigenvalues	% of variance explained	Cronbach's alpha
	Managerial and economic				
I	Management support	0.784			
	Cost of technological Equipment	0.772	4.11	22.89	0.807
	Commission rates	0.750			
	Feedback from customers	0.750			
II	*Technological*				
	Failure of systems or Providers	0.751			
	Technological equipment	0.729	4.91	19.59	0.737
	Integrating ORS with existing systems	0.711			
III	*Organizational*				
	Type of clients targeted	0.873	2. 58	21.41	0.659
	Range of services offered	0.781			
IV	*Environmental*				
	Customer readiness to use new technology	0.886	2.71	13.39	0.717
	Customers trust in the new technology	0.804			
	Total		14.31	77.28	

Bartlett's Test of Sphericity =1654.601, Significance = 0.000

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.800

Source: Field survey, Ankor (2018)

The first factor (I) measured issues related to managerial and economic dimensions, which were made up of 4 items. This factor had an eigenvalue of 4.11, which is equivalent to 22.89 percent of the total variance. Among the items under managerial and economic factors, management support recorded the highest loading (0.784) while the items with the lowest (0.750) factor

loadings were commission rate and feedback from customers. The assertions that management support, commission rate and feedback from customers are essential managerial and economic factors that influence the adoption of ORS confirm the findings of Bai, Law and Wen (2008), who stated that hospitality and tourism managers have been and will continue enhancing their competitive advantages by focusing their resources on the virtual business environment to capture the lucrative online business. Out of the nine factors used to measure the managerial and economic factors, only four were found to be significantly contributing to the construct. This is an indicative of the fact that in adopting such a technology at the firm level, these four factors (management support, cost of technological equipment, commission rate and feedback from customers) must be prioritise so that their contribution will have significant impact of the adoption of ORS.

On the other hand, the results could not produce profit as one of the main reasons for adopting ORS. This is contrary to the expectations and other reports from literature that maximization of profit was one of the main reasons why hotels adopt ORS (Guo et al., 2013). In that regard, an in-depth interview was conducted to probe further from the managers if money was an issue. One of the managers remarked that their main aim for adopting ORS is to maximize profits. She remarked:

> *It is about more money, just money, this is what I mean by that. Essentially, would you want to set up a facility, put money into it, interact with people and at the end of the day you make no money? So of course our main target is to*

> *maximise profits. But for us to maximise profit, there is the need for us to incur cost, which mostly comes in a form of commissions and acquisition of ICT equipment. (*Respondent 2, Manageress of a 2 star hotel).

It was revealed from the interviews that; maximization of profit was an issue of consideration to hotels in adopting the ORS. However, most of the hotels in the study area tend to focus on cost reduction rather than revenue maximisation in achieving their goal of positive returns.

The second factor (II), measured technological issues that influence the adoption of ORS. In all, 3 items showed significant contribution to this model. The technological factor accounted for the highest eigenvalue of 4.91, which is equivalent to 19.59 percent of the total variance. Failure of systems or providers was the most (0.751) satisfied item followed by the type of technological equipment (0.729) whiles integrating ORS with existing systems showed the lowest factor loading (0.711). Findings on this factor have a direct link to the work of Zhu, Kraemer and Xu (2003) who reported that IT infrastructure, Internet skills and systems providers are important factors that influence the adoption of ORS.

Factor three (III) captured issues related to organizational factors. Only 2 items made up this particular factor. They accounted for an eigenvalue of 2.58, which contributed 21.41 percent of the total variance. The type of clients targeted recorded the highest factor loading (0.873) whiles the range of services offered recorded lowest (0.781). This shows that the type of clientele (International, Local, Corporate or Individual) a hotel position itself to serve

has a bearing on its propensity to adopt ORS. Contrary to the finding from this study Rogers (1995), Tomatzky and Fleischer (1990), Hitt (1999),and Bharadwaj(2000) found that firm scope and size are important organizational factors for technology adoption.

The last factor (IV) measured variables related to environmental factors, which also constituted 2 items. This factor accounted for 2.71 of the eigenvalue, which is equivalent to 13.39 percent of the total variance. To be precise, customer readiness to use new technology was the highest ranked with a factor loading of (0.886) whiles customers trust in the new technology was the item with the lowest factor loading (0.804). The finding that, customer readiness to use new technology and customers trust in the new technology are the environmental factors that influence the adoption of ORS are in consistent with (Mallat, 2007) assertion that, customers are concerned with their privacy and security when transacting business online.

From these findings, it can be concluded that the factor analysis procedure effectively provided four (4) significant factors representing (77.28%) of the factors that contributed to the adoption of ORS. The results depicted above give evidence to settle that aside the unforeseen factors that were not included in the study, managerial and economic, technological, organizational, and environmental factors were identified to have direct influence on hotels adoption of ORS by hotels in the Accra Metropolis. These findings therefore support the underlying theory that three principal contexts namely technological, organisational and environmental factors influence the process by which an organisation adapt and accept a new technology and the usefulness of the conceptual framework used for this study.

Factors by forms of Online Reservation Systems

This section explores the various factors which influence adoption of ORS among hotels in the Accra Metropolis. In view of this, the binary logistics regression was used to assess the effect of the factors on the adoption of the various forms of ORS (HOWs, OTAs, and GDS). The results obtained is presented in Table 9, with the outputs to include the Wald, Odds, the p-values and the confidence interval. Table 9 shows the extent to which the factors associated with the adoption of ORS influence the forms of ORS.

Table 9– *Logistic Regression of Factors influencing adoption by Forms of ORS.*

Hotels' Own Website Independent Variables (Factors)				95% C.I For EXP (B)	
	Wald	Odds	P-value.	Lower	Upper
Managerial and Economics					
Agree	8.255*	4.308	.004	1.591	11.665
Disagree (RC)	1.0				
Technological					
Agree	6.749*	4.569	.009	1.452	14.374
Disagree	1.0				
Organizational					
Agree	2.027	2.125	.155	.753	5.998
Disagree	1.0				
Environmental					
Agree	10.550*	3.552	.001	1.653	7.632
Disagree	1.0				
Nagelkerke R^2 .702					
Online Travel Agents					
Managerial and Economics					
Agree	12.457*	7.230	.0001	2.410	21.688
Disagree (RC)	1.0				
Technological					
Agree	4.203*	3.259	.040	1.053	10.086

Table *9 Cont'd*

Disagree	1.0				
Organizational					
Agree	8.262*	5.649	.004	1.735	18.399
Disagree	1.0				
Environmental					
Agree	5.102*	2.382	.024	1.122	5.058
Disagree	1.0				
Nagelkerke R^2 .739					
Global Distribution Systems					
	Wald	Odds	Sig.	Lower	Upper
Managerial and Economics					
Agree	.017	1.088	.897	.302	3.923
Disagree (RC)	1.0				
Technological					
Agree	5.677*	5.153	.017	1.338	19.853
Disagree	1.0				
Organizational					
Agree	2.027	1.954	.247	.628	6.079
Disagree	1.0				
Environmental					
Agree	2.696	2.270	.101	.853	6.041
Disagree	1.0				
Nagelkerke R^2 .289					

Source: Field survey, Ankor (2018)

*Significant at $p < 0.050$

The factors that influenced the adoption of ORS were used as predictor variables while the forms of ORS were used as the outcome variables. The responses received were recoded into a binary format with one (1) representing the presence of the forms of ORS, and zero (0) representing the absence of the forms. Three models emerged from the analysis. The first model showed how the factors influenced the adoption of hotel's own website.

The second model shows how the factors influenced the adoption of OTAs and the third model shows how factors the influenced the adoption GDS.

The first model proved to be a good predictor of the adoption of HOWs as indicated by the Hosmer and Lemeshow Test (χ^2 = 7.209; p = 0.514). For a model to be considered a good predictor, the alpha value of Hosmer and Lemeshow Test has to be greater than 0.05 (Pallant, 2005), and in this case the alpha value is 0.514, indicating a strong suitability of the model. The model predicted 70 percent of the use of HOWs as shown by the Nagelkerke R^2 of 0.702. However, despite the significance of the model in predicting the use of hotel's own website, not all the predictors were significant.

Three out of the four factors were found to be significant. Specifically, managerial and economic (Wald = 8.225), technological (Wald = 6.749), and environmental (Wald = 10.550) factors were found to have statistically significant influence on adoption of HOWs. Nonetheless, organisational factors did not have significant influence on adoption of HOWs. The findings revealed from the odds ratio implies that those managers who have agreed on the managerial and economic factors were more than 4 times (Odds = 4.308) likely to adopt HOWs compared to those managers who disagree to managerial and economic factors being an influencing factor on ORS adoption. This is because adoption of HOWs requires management approval based on the cost involved and the perceived benefits to be derived using HOWs.

Again, those respondents who agreed that technological factors will influence ORS, were 4.6 times (Odds = 4.569) more likely to adopt website

for their facility compared to their counterparts who disagree. For those who have agreement on environmental factors, they were 3.6 times (Odds = 3.55) more likely to adopt hotel's own website. The findings further indicate that hotels which identified managerial and economic, technological and environmental factors as being significant predictors of ORS adoption for their facilities are likely to be influenced to adopt and use their own website for reservations (Pielichaty, Els, Reed, & Mawer, 2016)

The second model on adoption of OTAs as evident in Table 9 also proved to be a good predictor as indicated by Hosmer and Lemeshow Test (χ^2 = 11.696; p = 0.165). The model predicted about 74 percent of the variances in the adoption of OTAs by the hotel facilities as shown by the Nagelkerke R^2 of 0.739. All the predictors were found to be significant in predicting the adoption of OTAs. Those respondents who agreed on managerial and economic factors were 7.2 times (Odds = 7.230) more likely to adopt OTAs for their hotel. Again, those who were in agreement that technological factors can influence OTAs were 3.3 times (Odds = 3.259) more likely to adopt it and use than those who did not agree. In the same manner, managers who were in agreement that organisational factors influenced OTAs were 5.6 times (Odds = 5.649) more likely to adopt OTAs for their facility. Finally, managers who agreed on environmental factors were 2.4 times (Odds = 2.382) more likely to adopt OTAs. This indicates that the agreements of the managers on all the factors (managerial and economic, technological, organizations, and environmental) influence their use of OTAs in one way or the other. This significant agreement by all the managers in relation to the adoption of OTAs is attributed to the strong marketing power and the widespread use of

advantageous business models making it easy for hotels to increase their revenues quickly (Green & Lomanno, 2012).

Furthermore, in terms of predicting how the factors influenced the adoption of Global Distribution Systems, variables in the model also proved to be good predictors of adoption of GDS as indicated by the Hosmer and Lemeshow Test (χ^2 = 11.809; p = 0.160). The model predicted only about 29 percent of the variances in the outcome variable as shown by the Nagelkerke R^2 of 0.289. Regarding the predictive power of the model, only technological factors showed significant (Wald = 5.677) influence on the adoption of GDS. Specifically, managers who have agreed that technological factors influenced adoption of GDS were 5 times (Odds = 5.153) more likely to adopt GDS. The rest of the factors (managerial and economic, organizational, and environmental) were not statistically significant in predicting their effects on the GDS adoption. This may be due to changes in GDS traditional role and as a consequence of the changes taking place in the travel industry with the growth of OTAs offering price comparisons (Dube & Renaghan, 2000).

Benefits of using Online Reservation Systems

In examining the benefits of using ORS by hotels in the Accra Metropolis, percentage distribution and mean scores were used in Table 10.

Table 10 - *Benefits of using Online Reservation Systems (N=172)*

Benefits	% Agreement	Mean
Assists in getting paid quickly	90.2	3.785
Cutting down the number of employees	84.9	3.174
Reservations are maximized	97.7	3.639
Businesses are open to the public 24/7	97.1	3.634
Assists in faster services	83.9	3.139
Helps in handling large volume of reservations	94.2	3.529

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

Source: Field survey, Ankor (2018)

As shown in Table 10, there was a general affirmation by respondents that ORS assists in getting paid quickly (mean = 3.785). In view of this benefit, an in-depth interview was conducted and one of the manageress indicated that payments are made quickly by guest who use credit cards directly and indirectly through apstar tours. This enables them to have access to their monies 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 monies 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 make online payments to guarantee their bookings enjoy the benefits of receiving their monies prior to guests' arriving at their facility. Additionally, in the case of a no-show guests, the hotels benefits from

payments made (Law & Hsu, 2006; Huyton & Thomas, 2000). Also, respondents agreed that using ORS helps in cutting down the number of sales employees (mean = 3.174), in the sense that, ORS is used as a tool that helps in marketing the hotels online for which few reservation staffs are hired and this cuts down cost. Other scholars also found that ORS reduces the number of employees in the hotel and leads to effective management and distribution of the labour force (Buhalis, 2000; Lindgaard, Fernandes, Dudek & Brown, 2006).

From Table 10, respondents generally agreed (mean = 3.639) that using ORS helps in maximizing reservations. This is because ORS gives the hotels a good platform to be seen globally thereby having a wider market coverage (Chibili, 2017). In relation to this 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 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, Manageress 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 (Buhali & Law, 2008).

Furthermore, a unanimous affirmation (mean = 3.634) by respondents indicated that by using ORS, businesses are open to the public 24 hours, 7 days a week. This is because many customers surf the internet outside business hours and are more likely to book on the spot due to the availability of internet access, laptops and smart phones. This implies that hotels which have adopted the ORS have the advantage of receiving bookings 24 hours a day thereby increasing the number of hotel bookings (Shah, 2000). About three quarters of the hotels established that, the use of ORS assists in offering faster services to their guests (mean = 3.139). The implications of this finding is that hotels which have the ORS have the potential of serving their guests better, irrespective of the number of guests booking their facility, compared to walk –in guests who might be asked to wait for registrations forms to be issued and filled before checking into their respective rooms (Gössling & Lane 2015).

Generally, almost all the managers agreed that using ORS aids in handling large volume of reservations (mean = 3.529). Given that substantial number affirming to ORS facilitating in handling large volume of sales, it also implies that by making booking online, hotels are able to increase their revenue compared to those hotels without ORS. These results show that the

ORS is playing a very significant role for hotels. The finding supports the works of Buhalis and Law (2008), and Lin and Lee (2009), who indicated that the benefits of ORS are prominent and managers can use hotel websites to maximize reservations and increase their revenues.

Benefits by 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 Chi-square test of independence. Evidence from Table 11 shows that, a significant relationship was observed between the benefits of using ORS and the use of Hotel's Own Website at $p \leq 0.05$. Specifically, Table 11 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 percent of hotels agreed that instant payment was a benefit associated with using HOWs 32.8 percent disagreed. This may be because, those hotels which have their own websites see it as a strategic tool to help their customers book their facilities easily and directly.

Table 11– *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	
	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree	Agree	Disagree
HOWs	67.2	32.8	72.2	26.8	75.9	24.1	76.7	23.3	72.1	27.9	78.5	21.5
	x^2 56.357	p= 0.000*	x^2 37.775	p= 0.000*	x^2 50.466	p= 0.000*	x^2 39.989	p= 0.000*	x^2 48.395	p= 0.000*	x^2 33.818	p= 0.000*
OTAs	x^2 33.672	p= 0.000*	x^2 33.830	p= 0.000*	x^2 40.612	p= 0.000*	x^2 39.502	p= 0.000*	x^2 27.502	p= 0.000*	x^2 23.675	p= 0.000*
GDS	x^2 8.826	p= 0.032*	x^2 6.301	p= 0.098	x^2 9.591	p= 0.022*	x^2 15.734	p= 0.001*	x^2 5.075	p= 0.166	x^2 11.366	p= 0.010*

*Significant at p< 0.050

Source: Field survey, Ankor (2018)

Another significant relationship was observed between reduced staff and Hotel's Own Website (χ^2 = 37.775; p = 0.000). The chi-square test further revealed that majority (72.2%) of the hotels agreed that reduction in number of sales staff is a benefit associated with using HOWs compared to 26.8 percent who disagreed. This observation implies that since hotels may not employ a lot of sales staff, there could be reduction in costs, more especially on 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 labor force (Tan, 2015).

There was also an association between wider coverage and HOWs (χ^2 = 50.466; p = 0.000). Further analysis indicated that about three-quarters (75.9%) of the hotels agreed to wider coverage being a benefit associated with using HOWs compared to a little below a quarter (24.1%) who disagreed. This implies that hotels which have their own website in addition to other forms of reservation systems are aware of the benefits of being more visible online than those who have not yet adopted the system. This finding support the findings of Sanchez-Franco and Rondan-Cataluña (2009), who acknowledged that more hotels consider using their websites to be visible and also save cost.

Additionally, a 24/7 operation and HOWs had a significant relationship (χ^2 = 39.989; p = 0.000). Further analysis also indicates that whereas 76.7 percent of the respondents agreed that a 24 hour, 7 days a week operation is a benefit associated with using HOWs, 23.3 percent of their counterparts disagreed. This implies that hotels who see ORS as a strategic tool to assist

their facility being opened to the public 24 hours, 7 days a week were experiencing the benefits from ORS more than their counterparts who disagree to it. Furthermore, there was a significant relationship between faster service and HOW (χ^2 = 48.395; p = 0.000). The analysis further showed that whereas 72.1 percent of the hotels agreed to faster services being a benefit for using HOWs, 27.9 percent disagreed. 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, (χ^2 = 33.818; p = 0.000). Further analysis showed that almost about 4 out of every 5 hotels (78.5%) established that ORS assists them in maximizing reservations as compared to 21.5 percent who disagreed. This implies that once a hotel is online and is visible to the customers, they stand the chance of getting more bookings as compared to those facilities which are not online.

Table 11 further show a significant association between the benefits of using ORS and Online Travel Agents at p≤0.05. Specifically, a significant relationship was found between instant payment and the use of OTAs (χ^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 whiles 32.8 percent disagreed. This finding supports the general knowledge that those hotels have adopted OTAs receive payments quickly than those who have not because guests who book online through OTAs may be required to guarantee their booking through payment for booking to be confirmed and secured before they arrive at the hotel.

Another statistically significant relationship was also observed between reduced staff and OTAs (χ^2 = 33.830; p = 0.000). Further analysis showed that at least 7 out of every 10 (72.2%) of the hotels agreed to reduction of staff being a benefit derived from using OTAs whiles 26.8 percent disagreed to 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 sales person to market the hotel (Scott, 2015). Moreover, there was a relationship between wider coverage and OTAs (χ^2 = 40.612; p = 0.000). Further analysis indicates that at least three-quarters (75.9%) of the hotels affirmed that a wider coverage is beneficial to hotels using OTAs. This finding is consistent with the findings of Delizo and Esguerra, (2013) 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 (χ^2 = 39.502; p = 0.000). The result revealed that whereas 76.7 percent 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 (χ^2 = 27.502; p = 0.000). The analysis further indicated that whereas 72.1 percent of the hotels agreed to ORS assisting them in offering faster services through OTAs, 27.9 percent disagreed. In addition to the benefits associated with using OTAs, there was a statistically significant relationship between maximized reservations and the use of OTAs (χ^2 = 23.675; p = 0.000). Further analysis revealed that almost about 4 out of every 5 (78.5%)

hotels agreed that maximized 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 significant association. Specifically, a statistically significant relationship was found between instant payment and GDS (χ^2 = 8.826; p = 0.032). Further analysis showed that 67.2 percent 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 requires the guests to make payments online especially when purchasing air tickets.

There was a significant relationship between wider coverage and GDS (χ^2 = 9.591; p = 0.022). Further analysis indicated that 75.9 percent of the hotels agreed that wider coverage is a benefit associated with using Global Distribution Systems whiles 24.1 percent disagreed. 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 (χ^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, 23.3 percent disagreed to this claim. Finally, a significant relationship existed between maximized reservations and GDS (χ^2 = 11.366; p = 0.010). Further examination carried out showed that more than three quarters (78.5%) of the hotels agreed to maximized reservations being a benefit derived from using GDS whereas only 21.5 percent of the hotels disagreed. This finding supports the findings obtained by Beatrice, Cezar and Alexandra (2013) and Sanchez-Franco &

Rondan-Cataluna (2009), 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.

Challenges Associated with the use of Online Reservation Systems

The challenges hotels encounter through the use of ORS were assessed using mean scores. As evident in Table 12, the majority of the hotels agreed that internet speed is a challenge associated with the use of ORS (mean = 2.715). This suggests that most of the hotels are likely to face problems relating to how fast or low the internet works depending on the factors such as: the type of internet access used (Dial-Ups, Cable, FiOS or Wireless), and the state of the computers or ICT gadgets use. The speed of the internet can also be attributed to external sources like traffic jam as more customers may be surfing the internet at the same time, and that might cause more congestions within the internet (Loiacono, Watson, & Goodhue, 2007). It could also be as a result of the type of internet service providers that are operating in the country.

Table 12– *Challenges Associated with the use of Online Reservation Systems (N=172)*

Challenges	% Agreement	Mean
Slow access time of internet	83.2	2.715
Frequent cancellation by guests	63.9	2.203
Employees lack of experience to use ORS	86.6	2.220
Management inability to employ qualified reservation staff	67.6	2.604
Challenge with internet stability	76.1	2.582
Cost of acquiring technological equipment	76.1	2.584

Table 12 *Cont'd*

High commission rates	87.5	2.651
Less interaction with guests	82.7	2.603
Lack of hotel-client relationship	84.2	2.746

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

Source: Field survey, Ankor (2018)

Besides, some of the hotels agreed that management inability to employ competent reservation staff that are conversant with the use of the system is seen as a barrier to effectively serve their customers using the ORS (mean = 2.604). This reflects the situations which are typical to the use of new technologies because staffs who lack the required knowledge on how the systems works may face problem using it. This finding is consistent with the report by Sanchez-Franco and Rondan-Cataluña (2010) who opined that the lack of knowledge and organizational resources were the major challenges facing the use of internet marketing to its potential. Another challenge associated with ORS was the issue with internet stability (mean = 2.582), implying that, for a system like ORS to be functional, the internet must be stable and reliable so as customers can access the facility whenever they search information online.

Moreover, most of the respondents acknowledged that the initial cost of acquiring and sometimes maintaining technological equipment was a challenge to majority of the hotels (mean = 2.584). Since these are ICT facilities which are mostly imported into the country, they tend to be relatively expensive. Besides, getting technical experts is sometimes difficult hence the few that are available tend to charge exorbitant fees, which adds to increasing the cost of installing such gadgets.

The managers also affirmed that the payment of commission rates on the use of ORS are high (mean = 2.651). In their quest to be more visible and to maximise their reservations, hotels tend to spend on ORS, which sometimes becomes a significant proportion of their capital outlay. Thus, being online comes with cost, especially when dealing with OTAs who charge commissions based on the number of bookings made through them. This result is similar to the findings of Christodoulidou, Connolly and Brewer (2010), who identified cost as major challenge associated with the use of ORS. To further buttress the findings from this study, the views of interviewees were sought and it was established that, payments of commissions to the OTAs was a challenge to them. Meanwhile, they (hotels) cannot do away with high commission rates being paid to OTAs. However, having a website in addition to online travel agents, they gain more profits. One of the managers had this to share:

> *... my sister, the first challenge is their high commissions rates, but we cannot do away with them. Sometimes you just have to play it safe with them on this commission saga, it's a necessary evil dear, if you have your website in addition to online travel agents, you gain more.* (Respondent 2, Manager of a1 star hotel).

In general, both the findings from the quantitative survey and the in-depth interview support the idea that rates charged by OTAs are really reducing their profit margin. However, having website in addition to OTAs have been reported to increase profit margin for the hotels. The main reason

attributed to this finding is that combination of OTAs with hotel's own website gives instant access to a large number of potential customers (Buhalis, 2006).

Finally, more than three quarters of the hotels agreed to the lack of hotel-guest relationship (mean = 2.746), and less interaction with guests (mean = 2.603) being a challenge facing them in using ORS. Guests who book rooms through OTAs instead of hotels own website tend to give their information to these third-party companies. This is due to the current method of making a reservation using systems and third- party companies such as the OTAs and GDS rather than humans which limits hotel staff to inadequate interaction and relationship with guests. To further understand this challenge, some of the managers were interviewed and the respondents further reaffirmed the above finding that, hotels do face a challenge due to their inability to make contacts with guests and the inadequate interaction which may affect the future of the industry. One of such views is captured in the quote from one of the managers as she said:

> *It's basically breaking the point of relationship with guests. There is a beauty in the guest calling you or walking to you and doing a reservation. You get to talk to them (guests), and interact with them and know them better to provide service that suit them but nowadays, the online has taken that away. For instance, he (guests) does his own booking, he arrives at the hotel, stands in front of you and he's ready to*

check in. (Respondent 6, Manageress of a 5 star hotel).

Another manageress corroborated the above statement that the online reservation is taking the human touch from the industry. As she puts it:

Honestly, the online reservation is taking that human touch from our industry which may affect the business with time.

(Respondent 5, Manageress of a 4 star hotel).

The general concern of the loss of human touch and social networking that make services with clients beautiful is gradually becoming inconspicuous in the hotel industry. This, as the complained, may have detrimental effects on the industry's sustainability if alternative means are not provided to enable clients feel such a level of social hospitality with the facilities. This implies that, online booking has created a gap among the customers and hotel operators which must be filled in a way. On the other hand, it could also lead to high unemployment rates and staff turnover from the industry since only few people could be needed for the services that the ICT facilities could not handle (Chiang & Jang, 2006).

Challenges by forms of Online Reservation Systems

This section of the analysis evaluates the relationship between challenges and the forms of ORS. Chi-square test of independence was employed to perform this analysis and the output is presented in Table 13. As shown in Table 13, there was a significant relationship between some of the challenges associated with using ORS and HOWs at $p \leq 0.05$. Precisely, there

was a statistically significant relationship between unqualified staff and HOWs (χ^2 = 12.305; p = 0.006).

Further analysis showed that 51.1 percent of hotels agreed that having unqualified personnel is one of the challenges associated with using HOWs while 48.9 percent think otherwise. Having majority of the hotels identifying themselves with this challenge is not surprising because using an online systems require some form of competency in addition to having the technical know-how about the system adopted. Irrespective of the form of reservation system used, the staff inability to use the systems may pose a difficulty to the hotel.

Table 13- *Challenges by forms of Online Reservation Systems*

Forms	Challenges of using Online Reservation Systems																	
	Slow access time of internet		Cancellation of booking		Inexperience		Unqualified staff		Internet Instability		Cost of maintenance		High commission rates		Less interaction with guests		Lack of hotel-client relationship	
Agreement	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
	63.3	36.7	72.1	27.9	71.2	28.8	51.1	48.9	76.1	23.9	75.6	24.4	87.5	12.5	82.7	17.3	84.2	15.8
HOWs	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=
	5.564	0.135	1.305	0.728	8.070	0.045*	12.305	0.006*	16.494	0.001*	16.770	0.001*	29.560	0.068	7.450	0.094	5.897	0.064
OTAs	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=
	10.065	0.018*	5.103	0.164	7.97	0.050	12.798	0.005*	10.239	0.017*	8.805	0.032*	4.895	0.000*	23.895	0.021*	21.655	0.021*
GDS	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=	x^2	p=
	8.826	0.055	1.715	0.634	1.618	0.655	2.564	0.464	3.048	0.348	5.546	0.136	2.598	0.543	3.986	0.475	3.675	0.601

Source: Field survey, Ankor (2018)

*Significant at p< 0.050

A significant relationship also existed between instability of internet and HOWs (χ^2 =16.494; p = 0.001). The results further showed that whereas more than three-quarters (76.1%) of the hotels agreed to facing the challenge of instability of the internet using hotel's own website, 23.9 percent of their counterparts disagreed. This is a generally acceptable fact that because online reservation is an internet based booking system, internet readiness and stability becomes a challenge (Buhalis, 2006). Hotels must ensure measures are in place to curb this menace.

There was also a statistically significant relationship between cost of maintenance and HOWs (χ^2 =16.770; p = 0.001), which further showed that whereas 75.6 percent of hotels agreed that cost of maintenance is a challenge associated with using hotel's own website, less than a quarter (24.4%) of the respondents disagreed. This finding support the findings of Zhou (2004), who identified that hotels having their website have a cost related challenge in terms of creating and maintaining their website.

Table 13 further revealed that, a significant relationship exists between the challenges associated with using ORS and OTAs at $p \leq 0.05$. A specific significant relationship was found between internet speed and the use of OTAs (χ^2 =10.065; p = 0.018). The chi-square test further indicates that whereas 63.3 percent of the hotels agreed that slow access time of internet is a challenge associated with the use of OTAs, 36.7 percent disagreed. Hotels using OTAs are more prone to have difficulties with slow access time because of the numerous guests online searching for information on prices and facilities prior to making a reservation. This finding is consistent with the views of Ekiz, Khoo-Lattimore and Memarzadeh (2012), who stated that,

OTA platforms allow potential guest to search for or compare hotels and their prices before making a decision to book online.

Moreover, there was a significant relationship between unqualified staff and OTAs ($\chi^2 =$ 12.798; p = 0.005). The study further revealed that about 51.1 percent of hotels agreed to have a challenge in terms of unqualified staff use of OTAs compared to 48.9 percent who disagreed. A significant relationship between instability of internet and OTAs ($\chi^2 =$ 10.239; p = 0.017), and the analysis further showed that whereas most (76.1%) of the hotels agreed that instability of internet affects their use of OTAs, 23.9 percent of the respondents disagree to seeing that as a challenge. The result is in line with Flavián, Guinalíu and Gurrea (2006) who found that the use of OTAs is associated with challenges including cost and unstable internet and loss of interaction between hoteliers and their clients in most of the cases.

In support of the finding above, an interaction with one manager during the interview section revealed that their hotel actually had problems with internet stability which sometimes make them lose contact with their guests, but their service providers was putting measures in place to reduce the "slow or no network syndrome". In that regard, one of the respondents remarked:

> *We actually have a problem with internet stability and sometimes we lose contact with our guest, however our internet service provider is putting measures in place to reduce the "slow or no network syndrome"*
>
> (Respondent 1, Manageress of a 1 star hotel).

The issue of internet instability is a challenge for the hotels because it hinders the ability of receiving notification of bookings on time in order to send confirmations to their guest online. Aside that, hotels may also not be able to respond to mails or give feedback to guests who might be making enquires about their facilities or searching for further information about their facility.

More so, there was a significant association between cost of maintenance and the use of OTAs (χ^2 =8.805; p = 0.032). Further analysis revealed that whereas 76.1 percent of hotels agreed that cost of maintenance is a challenge associated with using OTAs, 3.9 percent disagreed that cost of maintenance was a challenge to them. Finally, there was a significant relationship between high commission rate and OTAs (χ^2 = 4.895; p = 0.000). The results further disclosed that whereas a general affirmation (87.5%) was reached by the respondents that using OTAs results in high commission rates, only 12.5 percent disagree to high commission being a challenge to them. The results of the study are in line with the findings obtained by Chiang & Jang (2008), who identified cost, price and poor internet connectivity as challenges associated with the use of OTAs for making reservations.

With regards to the adoption of GDS by hotels, there has not been any statistically significant relationship between the forms of ORS and the variables measured. The results further revealed that, the GDS as a system of reservation online is not well patronized by the hotels in Accra Metropolis hence its inability to have a bearing on the variables. This may be attributed to the huge initial capital required for adopting the ORS which is deterrent to the hotels.

Chapter Summary

This chapter presented the empirical results from the study. Majority of the star-rated hotels in the Accra Metropolis have adopted ORS. The most common form of ORS used are the OTAs, and the HOWs, with Booking .com and Expedia dominating the types of OTAs used. With regards to the factors influencing the adoption of ORS among star-rated hotels, Managerial and Economic, Technological, Organizational, and Environmental factors were seen to have direct influence on the hotels decision to adopt new technologies. This made the theories and the conceptual framework useful to the study.

Generally, hotels agreed that adopting ORS have benefited them by gaining a wider market coverage, handling large volumes of reservations, and receiving prompt payments. However, challenges such as high commissions, slow access time of internet, lack of hotel-guest relationship and less interaction with guests were some of the challenges encountered by hotels using ORS. The next chapter is on the summary, conclusions and recommendations from the findings.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the conclusions and recommendations of the study. It summarizes the thesis, main findings of the study and draws conclusions based on the results obtained. Recommendations are then made towards improving the state of adoption of online reservation systems among hotels in Ghana. Finally, the chapter presents suggestions for future research.

Summary of the Thesis

The main objective of the study was to assess the adoption of online reservation systems among star rated hotels in the Accra Metropolis, Ghana, with the specific objectives include:

1. Identify the forms of ORS used by hotels in Accra
2. Examine the factors that influenced the adoption of ORS
3. Examine the benefits of adopting ORS
4. Analyze the challenges associated with the use of ORS.

A conceptual framework was adapted from TOE model by Fleischer and Tonatzky (1990). The framework formed the basis for which firms (hotels) adopt and use new technology. The framework captured four major factors that influenced hotels adoption of ORS: managerial and economic, technological, organizational, and environmental factors. The researcher adopted the pragmatist's paradigm for the study. A cross-sectional data was collected from 172 reservations/front office managers using questionnaires, and 6 managers were purposively selected using in-depth interview guide. The

data was analyzed using descriptive statistics, chi-square, factor analysis, and binary logistic regression for the quantitative aspects, and thematic analysis for the qualitative aspect.

Main Findings

The study established that 78 percent of the star rated hotels in the Accra Metropolis have adopted ORS in their operation. The forms of ORS being used by the hotels were Hotel's Own Website, Online Travel Agents and Global Distribution Systems with the Online Travel Agents being the most popular (45.1%). Some of the hotel characteristics had a significant relationship with the forms of ORS. For instance, hotel category had a significant relationship with all the forms of ORS (i.e. HOWs, OTAs, GDS). Age of the hotel had a significant association with both HOWs and OTAs. In addition, number of hotel rooms and room rate had significant association with OTAs and GDS while ownership structure had a significant association with only GDS.

The study also revealed that, the major factors which influenced the adoption of ORS were managerial and economic, technological, organizational and environmental factors. On the managerial and economic factors, issues such as cost of commissions paid, cost of technological equipment, management support, customer feedback and gaining wider market coverage were found to influence the adoption of ORS. Relating to technological factors, prior availability of a 24 hours,7 days a week internet, integrating ORS with existing systems, ability to use new technology and inexperience in using ORS were identified as the technological factors that influenced the adoption of ORS. Furthermore, types of clients' targeted, number of hotel

rooms were found to be organizational issues that influenced the adoption of ORS. Finally, environmental factors that were found to have influenced the adoption of ORS were losing customers to competitors, readiness of customers to use new technology and customers having trust in the new technology.

Furthermore, the study also showed that, hotels derive a number of benefits from the adoption and use of ORS. Some of these benefits includes: ORS assists in getting prompt payment, helps in cutting down the number of hotels' sales employees, maximizing reservations, having their businesses to open to the public 24 hours 7 days a week, offering faster services to their guests and handling large volume of reservation at a time.

Challenges that were associated with the usage of ORS were slow access time of internet, management inability to employ qualified reservation staff, internet instability, high cost of maintaining technological equipment and high commission rates paid to the intermediaries. Some of the challenges that had a significant relationship with the HOWs were cost of maintaining technological equipment, instability of internet and low competency of staff in handling the ORS. Those challenges that had significant association with OTAs includes slows access time of internet, instability of internet, cost of maintenance of technological equipment, low competency of staff and high commission rates.

Conclusions

Based on the specific objectives and the results obtained from the analysis, this study offers a number of conclusions that add to the body of knowledge on the use of ORS in Ghana. The study concludes that, the adoption of ORS by hotels in the Accra Metropolis is high. Thus, most hotels

in the Metropolis are making great efforts to enhance their visibility and clientele base through the electronic distribution systems. The availability of very good and functional internet service providers, hotels will be in the position to adopt new technologies that will enable them serve their customers better.

The main influencers of HOWs were managerial and economic, technological and environmental factors. In addition to these factors, organisational factors also influenced the OTAs while only technological factors influenced GDS. This revelation suggests that, for a hotel to choose from any of the forms ORS to boost their service delivery and clientele base, these factors have enormous role to play.

Again, hotels which have adopted the ORS are benefiting from getting prompt payments, reducing the number of employees, maximizing their reservations, having their businesses open to the public 24 hours, 7days a week, offering faster services to their clients and are able to handle large volume of reservations. This has implication for both hotels and customers. For hotels, it implies that the use of ORS will ensure effectiveness and efficiency in the delivery of services and also place the hotels in positions where they would possess competitive advantage over those who do not use ORS. For the customer, the benefits derived by hotels from the use of ORS will make them obtain good services with less stress thereby increasing their satisfaction and deriving the best value for their money.

Finally, this study concludes that, low access time, Management's inability to employ qualified reservation staff, internet instability, cost of maintaining technological equipment, and high commission rates, less

interaction between guests and the hotel staff, and lack of hotel-client's relationship are the main challenges associated with the use of ORS. This implies that more hotels are likely to adopt ORS when measures are put in place to address these challenges. The presence of these challenges will put many hotels at risk of disregarding the use of technology and this is likely to affect the growth of a technology-inclined hospitality and tourism industry.

Recommendations

Based on the main findings of the study and the conclusions drawn, the following recommendations are made:

Since hotels in the Accra Metropolis have adopted ORS, it is recommended that, hotels should consider the relatively low cost forms ORS which can give them wider coverage and efficient feedback with potential customers. Hotels should introduce loyalty programs and promotions which would attract guests to book via hotel's own website to reduce payment of commission to third party intermediaries like the OTAs.

Again, the Management of hotels should be guided by the four major factors that influence the adoption of ORS: managerial and economic, technological, organizational and environmental factors. However, technological infrastructure (availability of internet) should be given a keen consideration prior to choosing the location of hotel facilities to support the deployment of the ORS. To remain competitive, hoteliers should explore the potential opportunities emerging through ORS and be pre-emptive in identifying the capabilities of technology.

Furthermore, since hotels in the Accra Metropolis have benefited from the ORS, the management of the hotels in collaboration with GTA should

create a centralized portal for all star-rated hotels in Ghana to be migrated onto a single platform to enable those hotels which have not adopted the online reservation system to also benefit from using the ORS. When this is done, those hotels which have not adopted the ORS as result of financial difficulty will have the opportunity to also be visible online and maximize reservations.

Finally, the Management of hotels should employ qualified reservation staff and also organize ICT skills development training regularly for staff who deals with operations in the hotel to increase their level of efficiency and ability to promptly respond to customer needs in using the ORS. Internet service providers should improve on their facilities and infrastructure to enable stable internet services to the hotels so that hotels will adopt technologies that will enable them serve their guests better. Management of hotels should put in place strategies that will enable them have access to guest's details from the OTAs, so as to provide services that will meet their demands.

Suggestions for Further Research

This study focused on only star rated hotels in the Accra Metropolis, therefore further study should be conducted to cover all hotels in Ghana. Since this study focused on reservations/front office managers of the hotels, there is the need for further studies on the perception of customer's use of ORS, and the frontline employees should be involved in the study. Finally, further studies can be carried out on the use of GDS as a form of reservation system by star rated hotels to find out why its usage among the hotels in Accra Metropolis is low compared to other forms of ORS.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST

FACULTY OF SOCIAL SCIENCES

DEPARTMENT OF TOURISM AND HOSPITALITY MANAGEMENT

MPHIL HOSPITALITY MANAGEMENT

ADOPTION OF ONLINE RESERVATION SYSTEMS AMONG STAR RATED HOTELS IN THE ACCRA METROPOLIS, GHANA

QUESTIONNAIRE FOR HOTEL MANAGERS

Dear Sir/Madam,

I introduce myself as an M.Phil. Student of the Department of Hospitality and Tourism Management of the University of Cape Coast. I am conducting a research on the topic "Adoption of Online Reservation Systems among hotels in the Accra Metropolis, Ghana". The valuable information provided by you will help in the completion of my thesis. I assure you that information provided by you shall be used only for academic purpose and will be kept confidential.

For questions and any form of consultations, kindly contact the researcher on 0244764017 or email peaceaku.amu@gmail.com

Please tick (√) or provide the appropriate answers to the following questions where applicable.

MODULE 1: Forms of Online Reservation Systems (ORS)

1. Do you have online reservation systems?

a. Yes [ ] b. No

2. If "Yes" what is the rationale for adopting the ORS?

.....

.....

.....

3. If "NO" why?

.....

.....

.....

.....

4. Which of these form(s) of ORS is your hotel using? (Tick all that apply)

a. Hotels' own website [ ]

b. Online travel agents (OTAs eg: Expedia, Booking.com etc.) [ ]

c. Global distribution system (GDS eg: Amadeus, Galileo etc.) [ ]

d. Others (please specify) .....

5. Which specific types of OTAs is your hotel subscribed to for reservation.

Types of OTAs	Response (tick)	Reasons for preference
Booking .com		
Expedia		
Travelocity		
Orbitz		
Jumaia		
Others specify		

MODULE 2: Factors that influence the adoption of online reservation systems (ORS)

6. Please indicate your level of Agreement or Disagreement with the following statements on factors that influence the adoption of ORS in your organization. Tick as appropriate.

Key: 1= strongly Disagree, 2=Disagree, 3= Agree, 4= Strongly Agree.

Factors	SD	D	A	SA
Managerial and Economic Factors:				
Cost				
ORS helps to reduce cost of labour				
ORS helps to reduce the cost of advertisement				
Cost of maintenance				
Cost of commissions paid				
Management support in adopting ORS				
Perceived Benefits				
I perceive ORS to help improve on customer service				
I perceive ORS to gain a wider market coverage for the hotel				
I perceive ORS to help get customer feedback				
Technological Factors:				
Technology support infrastructure				
Prior availability of a 24/7 internet service facilitated our ability to adopt ORS				
Integrating ORS with existing systems				
Security and trust issues				

Employee competence				
Employees knowledge on ORS helped us to adopt the technology				
Employees with adequate skills in using the ORS has helped to adopt the technology				
Ability to use new technology helped us to adopt ORS				
Availability of suppliers				
The availability of OTAs helped us adopt ORS				
The availability of ICT consultants helped us adopt ORS				
Organizational factors:				
Size of the organization				
The type of client targeted influenced the adoption of ORS				
The number of hotel rooms influenced the adoption of ORS				
Scope of activities				
The range of services offered by the hotel influenced the adoption of ORS				
The facilities available influenced the adoption of ORS				
Environmental factors :				
Competitors				
Losing customers to competitors				
Competitors use ORS to provide fast and innovative services to their customers				
Customers				
Customers' readiness to use new technology influenced the				

adoption of ORS				
Customers' having trust in the new technology influenced our adoption of ORS				
Customers' ability to use new technology influenced our adoption of ORS				

MODULE: 3 Benefits of using online reservation systems (ORS)

Please indicate your level of Agreement or Disagreement with the following statements on the benefits using of ORS in your organization? Tick as appropriate.

7. **Key :*1= strongly Disagree, 2=Disagree, 3=Agree, 4= Strongly Agree***

Benefits	**SD**	**D**	**A**	**SA**
ORS assists in getting paid quickly				
ORS assists in cutting down the number of hotel employees				
Reservation are maximized using ORS				
Businesses are open to the public 24/7 using ORS				
ORS helps hotels in handling large volume of reservations				
ORS assists in offering faster services				

MODULE 4: Challenges associated with the use of online reservation systems (ORS)

Please indicate your level of Agreement or Disagreement with the following statements on challenges associated with the use of ORS in your organization?

Tick as appropriate.

8. **Key :1= *strongly Disagree, 2= Disagree, 3= Agree,4= Strongly Agree***

Challenges	**SD**	**D**	**A**	**SA**
The challenge with internet speed				
Frequent cancellation of booking by guests				
Employees lack of experience to use ORS efficiently				
Challenge with internet stability				
Cost of maintaining technological equipment				
Less interaction with guests using ORS				
Lack of hotel -clients relationship due the use of ORS				

MODULE 5: Socio demographic characteristics

9. Please specify physical location of hotel

……

10. Please specify the type of hotel

Hotel chain [ ]

Individual hotel [ ]

Other …….

11. Specify the number of rooms in your hotel

……

12. What is your maximum room rate per night?

……

13. What is your minimum room rate per night?

……

14. What type of services do you offer customers in your facility?

Please tick all that apply.

a. Food & beverage [ ]
b. Conferences [ ]
c. Laundry [ ]
d. Swimming pool [ ]
e. Pickup services [ ]
f. Forex bureau [ ]
g. Entertainment [ ]
h. Internet [ ]
i. Gym [ ]
j. Convenience shop [ ]
k. Business center (printing, photocopy etc.) [ ]

Others specify ……

15. How long has the hotel been in operation?..... (years)

16. How long have you been working in this hotel? Please specify …….. (years)

Please indicate your sex

17. Sex

a. Male [ ] Female [ ]

18. Nationality …….

19. Age in years …….

20. What is your marital status? Tick where applicable

a. Single [ ]

b. Married [ ]

c. Divorced [ ]

d. Widower [ ]

21. Highest formal educational attained

a. Primary [ ]

b. Senior high sch. certificate [ ]

c. Vocational training [ ]

d. Diploma [ ]

e. Bachelor's Degree [ ]

f. Master's degree [ ]

g. PhD [ ]

Thank you.

APPENDIX B

IN- DEPTH INTERVIEW GUIDE

1. Do you have online reservation systems? If yes, which types do you have?
2. Is your hotel subscribed to more than one ORS? If yes, what are the reasons for using more than one?
3. What are the specific use for each of the forms of ORS (HWS, OTAs, and GDS)
4. Which of these forms of ORS fetches more reservation for your hotel in terms of the number of reservations made through that system?
5. What informed your decision to use ORS?
6. Did you (hotel) perceived any specific benefits prior to the adoption?
7. Any cost considerations?
8. Was there any specific managerial reasons?
9. Was your hotels decision to adopt ORS influenced by the existence of any specific technological infrastructure?
10. What are some of the benefits for using the ORS? e.g. Pace of reservation, increase in volume of reservations, increase in occupancy, hotel image, competitive edge etc.)
11. What are some of the challenges in using ORS e.g. internet challenges (cost of internet, reliability of internet, availability of internet service providers, expertise of staff, cost of training of staff, cost of technological infrastructure, cost of maintenance, support of owners, support of management etc.)
12. How will you describe your hotels experience with ORS?

APPENDIX C

INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF HUMANITIES AND LEGAL STUDIES
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF HOSPITALITY AND TOURISM MANAGEMENT

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Homepage: http://ucc.edu.gh/academics/view/3/department/32

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: SS/HMP/16/0006

Your Ref:

17th January, 2018

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER OF INTRODUCTION

The bearer of this note, **Ms. Peace Ankor** is an M.Phil student of this Department who is collecting data for her thesis as part of the requirement for the award of M.Phil (Hospitality Management). Her thesis topic is **"Adoption of online reservation systems among hotels in the Accra Metropolis."**

I shall be most grateful if you give her your utmost assistant and co-operation by providing her any information/data within your means. The data she is collecting is purely for academic purposes and, in any case, your anonymity is assured.

Thank you in advance for your anticipated co-operation.

PROF. KWAKU A. A. BOAKYE
HEAD
UNIVERSITY OF CAPE COAST
DEPARTMENT OF HOSPITALITY
& TOURISM MANAGEMENT