

**IMPACT OF ORGANIZATIONAL, INNOVATION AND
ENVIRONMENTAL ATTRIBUTES IN ICT UPTAKE FOR KWALE
HOTELS, KENYA**

BY

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**A RESEARCH THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
MASTER OF SCIENCE IN HOSPITALITY MANAGEMENT IN THE
SCHOOL OF HOSPITALITY, TOURISM & LEISURE STUDIES OF
KENYATTA UNIVERSITY**

October, 2019

DECLARATION

This thesis is my original work and has not been presented for a degree or any other award in any other University.

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DEDICATION

This thesis is dedicated to my wife Buke Sora and our children: Jillo, Guyo, Rufo and Bonaya

ACKNOWLEDGEMENT

It is my sincere desire to express my utmost gratitude to the following people for their valuable support that they extended towards the completion of this thesis. My supervisors, Dr. Shem Maingi and Dr. Moses Miricho of Kenyatta University for their guidance and encouragement. I also wish to acknowledge the input of my previous supervisor, the Late Dr. Joseph Wadawi of Strathmore University.

I am equally indebted to my research Assistants, Wafula, Baya, Antonella and Monica who tirelessly distributed and collected the questionnaires. Further, special thanks to all the Hotel Managers in Kwale who enabled my data collection. Never to be forgotten is my wife and children for their love and support. Finally and most of all, to God the Almighty who gave me the strength, health and courage to pursue this thesis to the end. May your Mighty name be glorified forever.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION.....	ii
TABLE OF CONTENTS.....	iv
ABBREVIATION AND ACRONYMS	viii
OPERATIONAL DEFINITION OF TERMS	ix
LIST OF FIGURES	x
LIST OF TABLES.....	xii
ABSTRACT.....	xiii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the study.....	1
1.2 Problem statement	3
1.3 Purpose of the study	4
1.4 Objectives of the study	4
1.4.1 Broad objective.....	4
1.4.2 Specific objectives.....	4
1.5 Research questions	4
1.6 Research Hypothesis	5
1.7 Significance of the study	5
1.8 Delimitation of the study	5
1.9 Limitations of the study.....	6
1.10 Conceptual framework	7
1.11 Theoretical Framework.....	8

1.11.1 <i>Diffusion of Innovation (DOI) theory</i>	8
1.11.2 <i>Technology, Organization and Environment Theory</i>	10
CHAPTER TWO	12
LITERATURE REVIEW	12
2.0 Introduction	12
2.1 Information and communication technology	12
2.2 E-commerce in the tourism and hospitality sector	13
2.3 Perceived Benefits as ICT uptake enabler	14
2.4 Environmental factors affecting ICT uptake	15
2.5 Organizational factors affecting ICT uptake	15
2.6 Technological innovation factors affecting ICT uptake	15
2.7 Electronic distribution channels for hotels	16
2.8 Online Marketing	17
2.9 Empirical studies	18
2.10 Conclusion and research gaps	19
CHAPTER THREE	20
METHODOLOGY	20
3.1 Introduction	20
3.2 Research design	20
3.3 Study area	20
3.4 Target population	21
3.5 Sampling techniques	21
3.6 Sample and sampling procedure	22
3.7 Research instruments	22
3.8 Validity and reliability of research instruments	23

3.8.1 Validity of research instrument	23
3.8.2 Reliability of the study.....	23
3.9 Pilot survey.....	24
3.10 Data collection technique	24
3.11 Data analysis.....	25
3.12 Expected output	26
CHAPTER FOUR.....	27
RESULTS AND DISCUSSION	27
4.0 Introduction	27
4.1 Response rate.....	27
4.2 Demographic information of respondents	27
4.3 Background information of hotels.....	29
4.4 Level of ICT uptake of Kwale Hotels	35
4.5 Effect of organizational factors on the uptake of ICT by Kwale Hotels	42
4.6 Effect of environmental factors on the uptake of ICT by Kwale Hotels	50
4.7 Effect of technological innovation factors on the uptake of ICT by Kwale Hotels.....	59
CHAPTER FIVE	69
SUMMARY, CONCLUSION AND RECOMMENDATIONS.....	69
5.0 Introduction	69
5.1 Summary	69
5.1.1 Level of ICT uptake of Kwale Hotels.....	70
5.1.2 Organizational factors and the uptake of ICT by Kwale Hotels.....	70
5.1.3 Environmental factors and the uptake of ICT by Kwale Hotels	71
5.1.4 Technological innovation factors and the uptake of ICT by Kwale Hotels	73

5.2	Conclusion	74
5.3	Recommendations	76
5.3.1	<i>Recommendations for Policy and Practice</i>	76
5.3.1.1	<i>More engagement in online marketing</i>	76
5.3.1.2	<i>Diversifying the types of online marketing</i>	76
5.3.2	<i>Recommendations for Further Research</i>	76
	REFERENCES	78
	APPENDICES	86
	Appendix I: Introductory letter	86
	Appendix II : Questionnaire for hotel employees	86
	Appendix III: Sample frame for survey population	95
	Appendix IV : Sample size distribution.....	96
	Appendix V : Map of Kwale / Diani Beach.....	97
	Appendix VI: NACOSTI Permit	98
	Appendix VII : University Permit.....	99
	Appendix VIII : NACOSTI Research Authorization.....	99

ABBREVIATION AND ACRONYMS

CRS - Computer Reservations

System DMC – Destination

Management Company GDS -

Global Distribution System

ICT – Information and

Communication Technology ITO –

International Tour Operators

KTB – Kenya

Tourist Board

OTA – Online

Travel Agency

SPSS - Statistical Package for Social Sciences

OPERATIONAL DEFINITION OF TERMS

Bed night – It is the measure of how hotel beds are occupied per night per person.

Dichotomous Question – An enquiry which can only be answered ‘yes’ or ‘no’.

E-commerce – Buying and selling through internet.

Globalization – Looking at the world as a single supply source and market.

ICT – Information and Communication Technology involves storage, retrieval, manipulation and transmission or receiving of electronic information in a digital form.

ICT Uptake – The move by an organization to market, sale and use the internet in order to improve operational efficiency and competitiveness.

Intangibility – The inability to assess the value gained from engaging in an activity (usually a service) using any tangible evidence.

Internet Advertising – Advertising on and through websites

Intranet – A computer mediated system for internal communications within an organization.

Online Marketing – It is marketing efforts done electronically.

Online Travel Agency – These are organizations that permit clients to do booking of various services using the internet.

Boutique Hotel - is a small hotel in unique settings with upscale accommodations and individualized unique selling points.

Destination Management Company – Receptive tour Operator who handles the customers at the destination

International Tour Operators – Overseas tour Operator who sales other destinations outside their country of domicile.

LIST OF FIGURES

Figure 1.1 : Factors affecting information and communication technology.....	7
Figure 4.1 : Highest level of education.....	28
Figure 4.2 : Duration worked in the hotel and designation.....	29
Figure 4.3 : Establishment possessing a star-rating.....	30
Figure 4.4 : Type of Star rating.....	31
Figure 4.5 : Type of the non-rated hotel.....	32
Figure 4.6 : Age of hotel.....	33
Figure 4.7 : Number of rooms.....	34
Figure 4.8 : Number of beds	35

LIST OF TABLES

Table 3.1 : Sampling Frame.....	22
Table 3.2 : Data analysis in summary	25
Table 4.1 : Level of ICT uptake in hotel marketing.....	36
Table 4.2 : Engagement in online marketing	37
Table 4.3 : Type of Engagement in online advertising	38
Table 4.4 : Method of computer knowledge acquisition	39
Table 4.5 : Online Travel Agency Multiple Responses Frequencies.....	40
Table 4.6 : Challenges of Online Travel Agencies	41
Table 4.7 : Solutions to the challenges of OTA.....	42
Table 4.8 : Top Management Support	43
Table 4.9 : Organisational readiness in ICT.....	45
Table 4.10 : CEO/Top managers attitude and ICT knowledge.....	47
Table 4.11 : Model Summary of organizational factors	48
Table 4.12 : ANOVA of organizational factors.....	49
Table 4.13 : Coefficients ^a of organizational factors.....	50
Table 4.14 : Competition	51
Table 4.15 : Customer power.....	53
Table 4.16 : Level of government support.....	54
Table 4.17 : Level of technology support	56
Table 4.18 : Model Summary of environmental factors	57
Table 4.19 : ANOVA of environmental factors.....	58

Table 4.20 : Coefficients ^a of environmental factors	58
Table 4.21 : Perceived benefits	60
Table 4.22 : Complexity	61
Table 4.23 : Compatibility	63
Table 4.24 : Perceived barriers	64
Table 4.25 : Image	65
Table 4.26 : Model Summary of technological innovation factors.....	66
Table 4.27 : ANOVA of technological innovation factors	67
Table 4.28 : Coefficients of technological innovation factors	68

ABSTRACT

In Kenya, tourism is considered an important industry that contributes to the economy of the nation. As such, the government carries out regular marketing campaigns to publicize the country to the outside world as an important tourist destination. Further, the fast pace of development in Information and communication technology (ICT) have changed the structures of tourism industry regionally and around the world. New technologies have emerged and the trend is likely to continue in future. While Diani Beach (in Kwale County) was rated as the best beach in Africa five years in a row (2014-2018) by World Travel Award, little is known about its ICT uptake. As a result, there is a need for an evaluation of the factors for the Information and Communication Technology (ICT) uptake by Kwale Hotels and how it deploys ICT resources to attain competitive advantage. The study examined factors that affect ICT uptake of hotels in Kwale County. Based on attributes used by various ICT researchers in tourism industry, the researcher sought to identify the impact of organizational, innovation and environmental factors and how it impacts on the use of information and communication technology by Kwale Hotels. The study sought to answer the following research questions: What was the level of usage of ICT by Kwale Hotels? Secondly, what were the effects of organizational factors on the uptake of ICT for Kwale Hotels? Thirdly, what are the effects of environmental factors in the uptake of ICT? Finally, what are the effects of technological innovation factors on the uptake of ICT for Kwale Hotels? The study covered 3-5 star and Boutique hotels in Kwale County. Further, it was delimited to the variables specified. The target population was 32 hotels but only 26 hotels were accessible. Since the accessible population was small, a census of all the 26 hotels was taken and 4 respondents from each hotel were included where the actual respondents of the study totaled to 104. Descriptive research design was adopted by the study while stratified random sampling was used to stratify the 104 respondents into 4 categories which included: Operations, reservations, Marketing and ICT managers. Questionnaires were used to collect primary data while descriptive statistics were used to analyze the data. The results showed that there was significant uptake of ICT in all categories of the hotels. In addition, organizational, environmental and technological innovation factors significantly influenced ICT uptake of Kwale Hotels. Key recommendations of the study were more engagement in online marketing and diversification of the types of online marketing in order to optimize on visibility, enhance marketing funnel and ultimately increase profitability.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Internationally, tourism is viewed as a fast growing industry not only in developed countries, but also in developing ones (Asmelash, 2015; Leslie, 2015; Xie, 2015). Tourism and hospitality industries have gained importance not only in terms of foreign exchange earnings and employment creation, but also economic growth and increased income for the local people (Kyalo & Katuse, 2013).

According to Sahadev and Islam (2005), the quick commercialization and development of ICTs for the tourism and hospitality industry has impelled organizations to adopt new technology. This is centered on the expectation that new ICT-based processes and technologies will result in operational efficiencies and increased levels of customer service (Sahadev & Islam, 2005). Further, the influence of ICT in hospitality and hotel industries has been broadly acknowledged as one of the main transformation in the last 10 years; new methods of communication, use of ICT to deliver better services to guests and enhance their holiday experiences (Castaneda & Rodriguez, 2007; Nwakanma, Ubani, Asiegbu, & Nwokonkwo, 2014).

Over the years, Kenya has become a preferred destination of choice for tourists from North America, Europe and other first world countries (Akama, 2007). This has been mainly due to its unrivalled wealth of wildlife, bird-life, clean white

sandy beaches, cultural diversity and scenic beauty. Due to its importance, the government carries out regular marketing campaigns to publicize the country to the outside world as an important tourist destination through the Kenya Tourist Board. However it is upon the hoteliers themselves to make an effort to market their resort to the visitors. This is more so necessary because after several years of revenue growth, post-election violence and terrorism negatively affected the coastal tourism resulting in cancellations of charter flights and a persistent decline in tourists' arrivals as international markets wavered (World Bank, 2010).

According to Nwakanma *et al.*, (2014) in order for hotels to break-even, there is a necessity of bed occupancy of 65% for seven months in a year. This occupancy level target is further complicated by business seasonality. The packaged tours sold by overseas tour operators is no longer sustainable as it has limited economic benefits for beach hotels due to leakages (Sinclair, 1990; Dieke, 1991; Akama, 1997). This situation therefore calls for alternative ways of directly selling to the customers by cutting out layers of middlemen.

Obonyo, Kambona and Okeyo (2016) reiterated that ICT has assumed a pivotal role in facilitating business operations. Additionally, as argued by Buhalis and Kaldis (2008), the internet has transformed the manner in which customers make their travel decisions. The new model of distribution has made it possible for new entrants in the market, pushed both for re- intermediation and disintermediation and changed the competitive advantage sources.

ICT enables consumers to check and buy tourism and hospitality products that are customized and benefit from the distribution of products without any geographical or time limit (Ip, Leung, & Law, 2011). As such, hotels must up their game in online visibility, customer interaction, managing inventory, Price updates, confirming bookings and receiving payments via online gateways.

In the advent of the ICT bill in Kenya, there was a drastic growth of electronic commerce (Kemibaro, 2010). However, the level of ICT uptake by beach hotels and its impact on hotels business has not been extensively researched. Understanding the factors for ICT uptake or lack of it and its present performance for Kenya's Kwale hotels could aid researchers and practitioners in understanding the ICT uptake position for Kwale hotels.

The study was based on the Diffusion of Innovation (DOI) and Technology Organization and Environment theories (TOE) that are usually used in studies that focus on ICT uptake for organizations. It is against this backdrop that the research seeks to identify the impact of organizational, innovation and environmental attributes on ICT uptake for Kwale hotels, Kenya.

1.2 Problem statement

The traditional revenue source of packaged tours sold by overseas tour operators is no longer sustainable as it has limited economic benefits for beach hotels due to leakages (Sinclair, 1990). There is an urgent need therefore for alternative ways of directly selling to the customers and improving on the profit margins

which is made possible by ICT. Further, ICT possesses the eminent possibility of change in the daily operations of an organization (Sigala, 2003a).

Earlier study carried out by Abdulrahim (2005) was concerned with the impact of electronic commerce in electronic business development and only concentrated on 5 star hotels in North coast. No similar study was conducted in Kwale. While historically holiday reservations were done through travel agents via telephone and email, e-bookings became the rule rather than the exemption as a main source of income for the travel suppliers over the last few decades. There is need to know the ICT uptake level for Kwale Hotels in order to ascertain how they benefit from the internet and social media which is known to give considerable leverage in marketing and sales. With the ever growing number of tech-savvy customers from European and local source markets, there is a considerable opportunity for the hotels to focus in this direction. Although the use of ICT has been known to have numerous benefits, how organizational, innovation and environmental attributes influence ICT uptake for Kwale hotels have been less researched.

Therefore, this research sought to measure Organizational, innovation and environmental attributes on ICT uptake for Kwale hotels Kenya with a view to explore its ICT Propensity in detail in order to help the sales and marketing team align and focus its sales and marketing strategies in order to benefit from the full potential offered by ICT.

1.3 Purpose of the study

The purpose of the study was to examine factors that affect ICT uptake of hotels in Kwale County.

1.4 Objectives of the study

1.4.1 Broad objective

To examine the factors that affect the uptake of information and communication technology for Kwale hotels.

1.4.2 Specific objectives

- a) To assess the level of ICT uptake for Kwale Hotels.
- b) To establish the effect of organizational factors on the uptake of ICT by Kwale Hotels.
- c) To determine the effect of environmental factors on the uptake of ICT by Kwale Hotels.
- d) To establish the effect of technological innovation factors on the uptake of ICT by Kwale Hotels.

1.5 Research questions

- a) What is the level of usage of ICT by Kwale Hotels?
- b) What are the effects of organizational factors on the uptake of ICT for Kwale Hotels?
- c) What are the effects of environmental factors in the uptake of ICT?
- d) What are the effects of technological innovation factors on the uptake of ICT for Kwale Hotels?

1.6 Research Hypothesis

H⁰¹: There is no significant uptake of Information and communication technology by Kwale Hotels.

H⁰²: There is no significant relationship between organizational factors and ICT uptake for kwale hotels

H⁰³: There is no significant relationship between Environmental factors

and ICT uptake for kwale hotels

H⁰⁴: There is no significant relationship between Innovation factors and ICT uptake for kwale hotels

1.7 Significance of the study

This research will be important in running of hotels in Kwale County as it will offer insight into the barriers of ICT uptake and use of ICT to improve Operations and Marketing. Further, such information will help the hotel managers in Kwale to formulate policies that facilitate ICT growth and integration into their operations. Additionally, the research is of equal benefit to researchers and scholars in hospitality industry in providing additional body of knowledge on information and communication technology uptake. The policy makers, particularly the Kenya Tourist Board will recognize information and communication technology as viable marketing tools for hoteliers and hence include it in future policy plan in line with vision 2030. Further, investors, directors and owners will understand how information and communication technology can enhance the marketing efforts if integrated into the marketing strategies of the hotels and as a consequence, follow up on its recommendation and support budgets for information and communication technology advancement.

1.8 Delimitation of the study

The research focused on 3-5 star and boutique hotels in Kwale County. Further, it was delimited to the variables specified in the objectives, namely: organizational, environmental and innovative factors impacting on the uptake of information and

communication technology.

1.9 Limitations of the study

While it was not difficult to obtain adequate literature of similar studies, very little was obtained on particular studies carried out in Kenyan Coast. The survey was limited to 3,4,5 star and boutique hotels leaving out 1 and 2 star rated categories. This was motivated by an attempt to use hotels with structured management and organized marketing and ICT efforts. Furthermore, the study only dealt with Kwale as a particular study area and this can produce results that might not be the same if the research was to be done in other parts of the country. The study generated results and generalizations that only concerns with ICT uptake. So this generalization can skew the results especially when dealing with a different type of activity that is affected by organizational, innovation and environmental attributes. Therefore the study cannot be a true representation of all the hotels in Kenya.

1.10 Conceptual framework

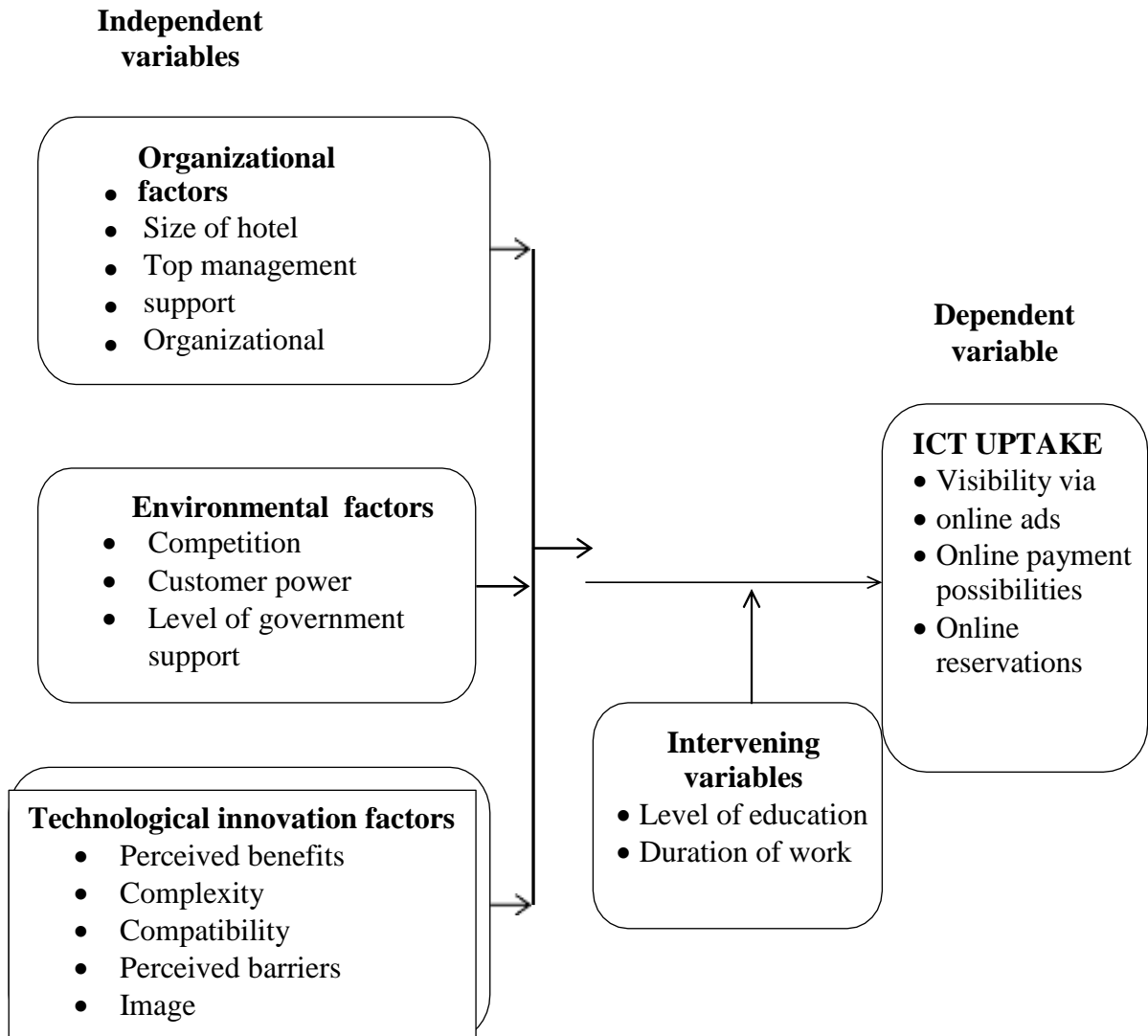


Figure 1.1 : Factors affecting information and communication technology.

Source : Adopted and modified by the researcher from Kemthong et al. (2006)

According to Figure 1.1, the researcher elaborated the factors influencing the uptake of ICT in an organization. The dependent variable was ICT uptake while independent variables included organizational, environmental and technological innovation factors. The organizational factors included size of hotel, top management support, organizational readiness, CEO's attitude and CEO's knowledge. Environmental factors included competition, customer power, level of government support and level of technology support. Technological innovation factors included perceived benefits, complexity, compatibility, perceived barriers and image. The variables intervening between the independent and the dependent variables are level of education and duration of work. The conceptual framework was pegged on the diffusion of innovation theory on the one hand and the Technology, Organization and Environment Theory on the other.

1.11 Theoretical Framework

1.11.1 Diffusion of Innovation (DOI) theory

The research based its foundation on the theory of Diffusion of Innovation. It was coined in communication to clarify how, over time, an idea or product attains momentum and diffuses through a specific population (Rogers, 2003). The theory is usually seen as a valuable model of change for managing innovation of technology where the innovation itself is modified and presented in ways that meet the needs across all levels of adopters. It also stresses the importance of communication and peer networking within the adoption process (Katz, 1957).

Rogers (2003) observed that there are four main factors that influence the dissemination of a concept namely the channels of communication, innovation, time, and the society. Similarly, organizational characteristics have been used in a number of studies as a main element of the adoption of technological innovation. This includes business size (Dholakia & Kshetri, 2004) hotel characteristics for example independent, chain, luxury, upscale, budget and others (Van Hoof, Ruys, & Combrink, 1999). Management support, organizational readiness and CEO positive attitude and IT knowledge has also been found related to impact on adoption (Thong & Yap, 1995; Seyal & Rahman, 2003).

In relation to the study, the new ICT in place is as a result of innovation, hence the theory fits the study. In the twenty first century, organizations succeed or fail on the premise of how they adopt the use of ICT to make their operations effective and efficient. The Diffusion of Innovation (DOI) theory is appropriate for the study because it associates with ICT which is the spine of the study. The theory was preferred for the study because most studies conducted on ICT uptake and adoption have utilized this theory to discuss the characteristics of adoption such as compatibility, complexity, relative advantage, observability and triability (Rogers, 2003).

Rogers (2003) points out that four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system. These elements are identifiable in every diffusion research study and in every

diffusion campaign or program. Diffusion is the process by which (1) an innovation (2) is communicated through certain channels

(3) over time (4) among the members of a social system. First, an innovation is an idea, practice, or object that is perceived as new by an individual or other unit of adoption. It matters little, so far as human behavior is concerned, whether or not an idea is “objectively” new as measured by the lapse of time since its first use or discovery. The perceived newness of the idea for the individual determines his or her reaction to it. If an idea seems new to the individual, it is an innovation.

Secondly, a communication channel is the means by which messages get from one individual to another. The nature of the information exchange between a pair of individuals determines the conditions under which a source will or will not transmit the innovation to the receiver and the effect of such a transfer.

Thirdly, the inclusion of time as a variable in diffusion research is one of its strengths, but the measurement of the time dimension (often by means of the respondents’ recall) can be criticized. The time dimension is involved in diffusion in (1) the innovation-decision process by which an individual passes from initial knowledge of an innovation through its adoption or rejection, (2) the innovativeness of an individual or other unit of adoption (that is, the relatively early or late approach with which an innovation is adopted) compared with other members of a system, and

(3) an innovation’s rate of adoption in a system, usually measured as the number of members of the system who adopt the innovation in a given time period.

Rogers (2003) defines an adopter category as a classification of individuals within a social system on the basis of innovativeness. Five categories of adopters are innovators, early adopters, early majority, late majority, and laggards. Diffusion manifests itself in different ways and is highly subject to the type of adopters and innovation-decision process. The criterion for the adopter categorization is innovativeness, defined as the degree to which an individual adopts a new idea (Rogers, 2003).

1.11.2 Technology, Organization and Environment Theory

TOE framework has been extensively used to study ICT uptake. Developed by Rogers in 1962 with further work on it by Tornatzky and Fleischer (1990), TOE identifies three key constructs that influence ICT uptake namely; Technological innovation, Organizational and environmental factors. According to Tornatzky and Fleischer (1990), TOE are predictors of decision making for ICT uptake in organizations.

Organization advancement through availability of relevant new technologies (for example internet, technological tools and development processes), organizational structures and resources (organization culture, human resource capacity, financial capacity, top management support, organization size, compatibility and collaboration) and the environment context such as market structures, the external support available for new technologies uptake and government regulations (Tornatzky & Fleischer 1990). TOE framework has been validated by

information system researchers in different settings as a technology uptake model at the organizational level.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The chapter constructs a framework within which information and communication technology and the organizational, innovation and environmental attributes affecting its uptake, as a concept, as well as its applicability to the hotel sector may be understood. A literature review on e-commerce, ICT adoption attributes and online marketing in hospitality is vital in the provision of a complete basis of theory. The chapter also has a summary and disclosures of research gaps to be filled by this study.

2.1 Information and communication technology

The effect of ICT on hospitality and tourism industries has been regarded as a main transformation (Nwakanma et al., 2014). ICT has a crucial role in the industry, because it is paramount for the industry to excel (Bethapudi, 2013). Buhalis and Law (2008) reiterated that ICT has become an irreplaceable commercial strategy and tool with a capacity of being used efficiently and effectively within the industry. Therefore, progress and development of ICT have had a colossal effect on hospitality and tourism as well as on other sectors of the economy associated with it (Ilić & Nikolić, 2018).

Further, there is a general agreement on the benefits of ICT utilization for

organizations and hospitality establishments (Buhalis & Law, 2008). To sustain effectiveness, hospitality establishments have quickly adapted to ICT (Velázquez, Blasco, & Saura, 2015). Buhalis and Law (2008) linked changing trend in the hospitality industry to advancement in ICT and increase in the demand by clients for better services. ICT processes and products assist hotels to improve service experience and efficiency (Sahadev & Islam, 2005).

In the world, hotels have improved the services of the internet in order to optimize on its strategic use. ICT users have mainly been keen to checking the teething problems that emerge in the hospitality industry (Law & Jogaratnam, 2005). Before, the hotel industry faced criticism of being unenthusiastic to utilize ICT (Khemthong, 2007).

In Kenya, wildlife and beach tourism products are viewed as the mainstay of the tourism industry of the country (Udoto, 2012). For example, in 2010, the occupancy level in the Coastal beach hotels grew by 7.7% to 3,243,000 bed-nights up from 3,011,400 in 2009 (Economic Survey, 2011). According to World Bank (2016), Kenya as a country received a total of 1,262,000 tourists in the year of 2014. Fillion, Foley and Jacquemot (1994) states that 80% of the tourists who visit the country come to view wildlife and 60% of the bed occupancy is attributed to the coast. However, many authors find the packaged tours sold by overseas tour operators unsustainable as it has limited economic benefits for beach hotels due to leakages (Sinclair, 1990; Dieke, 1991; Akama, 1997). This situation therefore calls for alternative ways of directly selling to the customers which the online

Marketing certainly presents.

2.2 E-commerce in the tourism and hospitality sector

Ecommerce involves purchasing, retailing, conveying or trading services, products and information using the internet (Sobihah, Salleh, & Amin, 2013). Organizations that are involved in e-commerce have been increasing rapidly in the advent of the international consumer in the 1990s (Reid & Bojanic, 2006).

Further, ICT has led to the transformation of the tourism industry and has introduced the concept of e-tourism as a new niche (Buhalis & Spada, 2000). Sobihah *et al.*, (2013) observed that electronic commerce is the finest tactic and means of instruction that has efficiency and flexibility and is an approach that utilizes electronic means to conduct a commercial transaction (Sobihah *et al.*, 2013).

Moreover, the importance of ICT and its implication in the lodging industry is growing exponentially (Banoobhai-Anwar & Keating, 2016). Rajasekaran and Sudarsan (2018) reiterated that the importance of electronic commerce is felt and greatly emphasized in the present business field. Today, all the industries have started adopting e-commerce concepts, where tourism is probably the most affected industry by e-commerce (Rajasekaran & Sudarsan, 2018).

2.3 Perceived Benefits as ICT uptake enabler

According to a number of studies, perceived benefits or advantages affect technology uptake in the hospitality industry (Buhalis & Deimezi, 2004; Garces,

Gorgemans, & Sanchez, 2004). Werthner and Klein (1999) demonstrated how internet transformed the process of producing, distributing and consuming products of tourism, and came to a conclusion that ICT maybe the most influential force of change in the industry and a great contributor to competitive advantage (Werthner & Klein, 1999). Yelkur and Da Costa (2001) argue that the ICT stands for an exceptionally effectual means of the organization, and communication of information. As such, the ICT incorporates communication technology that ranges from the inscribed and verbal word to pictorial images (Yelkur & Da Costa, 2001).

2.4 Environmental factors affecting ICT uptake

Many previous studies highlighted key factors that affect ICT. One of these factors is the environmental characteristics. Tan and Teo (2000) and Wongpinunwatana (2003) found out that the competitive environment encourages ICT uptake. Buhalis and Main (1998) described that demand of customers is also an enabler of ICT uptake.

The government can further encourage ICT adoption by providing regulatory and legal frameworks, supporting infrastructure, and electronic commerce utilization directions (Kuan & Chau, 2001). Further, the level of technological support which includes the support of infrastructures of technology that are readily and easily accessible for example online payment gateway, online Travel agents (OTA's) and hotel booking engines was also found to significantly influence ICT uptake.

2.5 Organizational factors affecting ICT uptake

Many researchers who investigated on the diffusion of ICT in the hospitality Industry and also SMEs, identified several organizational related reasons that facilitated this uptake. This included management structure and chain membership, traits of managers/owners that includes level of educational, expertise, training and age (Sigala, 2003b; Mistilis, Agnes, & Presbury, 2004; Van Hoof, Ruys & Combrink, 1999).

2.6 Technological innovation factors affecting ICT uptake

Rogers (2003) identified a number of attributes of an innovation that can influence ICT uptake. They include relative advantage or perceived benefits, complexity, compatibility and image and are likely to influence ICT uptake (Rogers, 2003). Further, barriers including cost of the use of ICT have also been noted in previous studies to affect adoption of new innovations (Buhalis & Deimezi, 2004). Additionally, Buhalis and Kaldis (2008) argue that various factors that affect ICT adoption of organizations in different locations and industries differ subsequently because the forces of competition and structures of the industry contrast.

Sahadev and Islam (2005) observed that hospitality establishment of an advanced grade are more prone to implement new innovations of ICT compared to establishment of a subordinate grade. Further, establishment with higher inclination to adopt ICT are likely to be more disposed to implement new

innovations (Sahadev & Islam, 2005).

There has been a rapid growth and advancement in technology globally. Buhalis and Deimezi (2004) attributed this tendency to both quick developments in technology and also the growing customers' demands, who expect better services.

2.7 Electronic distribution channels for hotels

According to direct pay online, OTAs were initially intended to retail extra portfolio during low season. Today, they drive majority of bookings and are essential integral marketing resource for hoteliers. According to Minazzi (2015), the emergence of OTA's has transformed the affiliation between travel agents and hotels as they act not only as intermediaries but more as business partners and vendors. The growing demand from consumers looking to book with OTA's does not come as a surprise given the convenience they offer (Ip et al., 2011).

OTA's are establishments that lack outlets, but makes provision of their services exclusively using the internet as the medium (Law & Jogaratnam, 2005). OTA's have varying commission levels, target markets, number of reviews and numbers of users. Consumers trust the leading OTA's as they influence their thinking and opinion about a property. Major brands include: booking.com, Expedia, priceline, Orbitz worldwide, Travelocity, jumia.travel and onlineweg.de. The Popularity of OTA's is gaining momentum because of their customer-centered perspective and customers increasing trust in e-commerce (Law & Jogaratnam, 2005).

According to O'Connor (2009) and Tso and Law (2005), improved application of the internet by customers transformed the distribution of rooms of hotels. Hospitality establishment lacks choice, but to accept room distribution via the internet to reach a large number of clients (Buhalis & Laws, 2001). Studies done in the area of electronic distribution of hotel products (O'Connor 2002, 2003) realized that most hotels with the exclusion of upmarket brands of hotel uphold consistency of price across manifold channels of electronic distribution. However, online marketing can lead to price competition that is extreme, especially if services retailed are analogous (Yelkur & Da Costa, 2001).

2.8 Online Marketing

Online marketing entails the organizational efforts to advertise and retail services and products through internet (Blythe, 2010). Weiler and Black (2015) observed that the advent of technology in both marketing and the delivery of experiences are also having profound impacts throughout the tourism industry. The contemporary guests are inclined to browse the internet and to have viewed high-quality travel documentaries before travel and gained considerable knowledge about destinations and their attractions, product options, reviews and pricing (Burns, 2007).

Online marketing may include various dimensions. First, organizations have underscored the need to link up with their clients through their websites (Brassington & Pettitt, 2007; Kolb, 2008). They utilize the websites to build a strong image in the competitive market (McCabe, 2009; Wirtz & Lovelock,

2018). The second issue is blogging which has episodic publications on a collective webpage (Holloway, 2004; Drummond & Ensor, 2005). A good blog can be pivotal to an organization by ensuring that it reaches its target market (Lamb, Hair, & McDaniel, 2011; Kotler & Keller, 2012). A blog is intended to be a genuine tool where the organization can communicate to both existing and potential clients (Bowie & Buttle, 2004; Blythe, 2006; Ferrell & Hartline, 2014).

Last but not least is the social media which is basically distribution of content of media over social interactions (Lashley, 2008). Using this type of medium, an organization can communicate information concerning its products to the customers and consumers (Dibb & Simkin, 2013). The social media creates the environment where people of similar interests and preferences can chat and discuss over the products and services on offer (Kotler, Bowen, Makens, & Baloglu, 2017). Further Social Media provides hotels the opportunity to attract and retain their customers. It strengthens the hotels online brand reputation, create search engine optimization (SEO) content, engage their guests and provide travel inspiration.

2.9 Empirical studies

Maswera, Dawson and Dawson (2006) conducted a study to determine the level of the uptake of ecommerce by organizations of tourism from Kenya, Uganda, South African and Zimbabwe. The study realized that few organizations had embraced the concept of e-commerce. In other words, most of them had not fully adopted

ICT uptake for their organization.

Huang and Law (2006) explored the perceived benefits of the use of the internet to search for transport and accommodation products. The findings indicated that users indicated that the search engine of Google was regarded as the only important channel. In another study on the impact of e-commerce on business development in 5 star hotels in Mombasa-Kenya, Abdulrahim (2005) realized that e-commerce utilization in North Coast hotels was internet browsing and accessing email. Wanjiku (2011) researched on the role of e-commerce as a tool of marketing and found out that past training, competitor's actions, global markets in which the companies operated were the factors that aided the uptake of e-commerce technology.

As evidenced in the literature reviewed, no research explored the impact of Organizational, Innovation and Environmental attributes in ICT uptake of kwale hotels. This study is therefore positioned to fill this gap.

2.10 Conclusion and research gaps

The literature reviewed highlighted issues on internet and information and communication technology uptake, distribution and online marketing. The factors that impact on internet, information and communication technology and ICT uptake in various countries in Europe and Asia were mentioned. Relevant for the Kenyan context were two studies by Abdulrahim (2005) and Wanjiku (2011) who undertook a study on 5 star hotels in Mombasa and Nairobi respectively and

reported limited adoption of e-commerce. Most studies done in Europe and Asia could not provide relevance for Kenyan context as situations and infrastructures differ. Further, the two Kenyan researchers concentrated only on five star hotels whose findings cannot be generalized for all the hotel categories, particularly, in Kwale County.

The research therefore sought to determine the effects of organizational, technological innovation and environmental factors on the ICT uptake for the hotels in Kwale County. As evidenced in the Literature review, no research has adequately explored these attributes in the 3-5 star hotels of Kwale County and how they can leverage on the digital economy. Therefore this study sought to fill the research gap.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The chapter describes the methods employed to carry out the research process. It comprises of research design, target population, sampling technique, sample size, research instruments, pilot study, reliability, validity and finally techniques of collecting data and data analysis.

3.2 Research design

The study used the descriptive survey research design where the primary data collected was structured and subjected to a formal statistical and numerical analysis and used to describe and understand behavior (Bryman, 2012). The research design was regarded as appropriate and relevant for this study when one wants to collect qualitative data from a large unit of analysis. The design is appropriate for the study because it is a structured and a preplanned design such that the data collected can be inferred statistically to a population (Babbie, 2014).

3.3 Study area

The research was done in 26 hotels in Kwale in a 3-5 star and boutique hotels accommodation category out of 33 targeted, based on the defined cluster and criteria. This hotel category was preferred by the overseas tourists according to the Kenya Tourist Board (Wadawi, 2008). The researcher chose the study area because it was deemed to have respondents who would provide data regarding the ICT uptake in 3-5 star and

boutique hotel accommodation in Kwale County. Additionally, the targeted hotels were selected and chosen because they source for tourists both locally and internationally. Further, Diani Beach (in Kwale county) was voted by the world tourism Awards as the best beach in Africa five times in a row including 2018.

3.4 Target population

The study selected all the 33 hotels based on defined clusters and criteria at Diani Beach area and had a target population of 164. Four Managers in each hotel were selected consisted of marketing, Operations, reservations and ICT Managers who engage in online marketing and information and communication technology as depicted in Appendix 4. The choice of the respondents was strategic since they were active in ICT usage and managerial decision making and therefore were more resourceful in providing the required information.

The hotels in the 3-5 star and Boutique hotels category from the lists compiled in Kenya Gazette (Republic of Kenya, 2003 & 2011) formed the newly combined list for hotel star ratings as per Table 3.1 made the survey population for the research. This research therefore limited its investigation to the hotels in Kwale in a 3-5 star and boutique accommodation category. Since the star rating classification of 2016 was incomplete, the International tour operator ratings were also included in the newly established hotels. This is because the ITO rating guided the international tourist in choosing the hotels at the time of booking. The sample frame for the survey population has been defined and outlined in Table 3.1 which featured 33 hotels in the said category. A further detailed list is also found in Appendix IV.

3.5 Sampling techniques

This section comprised the sampling selection techniques. Given that the number of 3-5 star and boutique hotels in Kwale are small, a census study was conducted to include all the hotels in this category. According to Sigdel (2011), a census takes account of the entire population to bring out accurate results. The study targeted 164 persons as depicted in Table 3.1.

Further, the managers were stratified under operations, reservations, ICT and Marketing and using a stratified random sampling, four managers were selected in each category. So out of the 33 successfully selected hotels, the total number of target respondents were 164. However only 104 were accessible and actually interviewed.

3.6 Sample and sampling procedure

From the Hotel Classification list based on the Republic of Kenya (2011), the author selected all the hotels that were rated 3 star to 5 star and boutique hotels (Table 3.1). The entire population was included in the census study. The sampling frame included managers that were the reservation Managers, marketing managers, operations and ICT managers who are directly involved in any operations of the hotel involving ICT uptake.

Table 3.1: Sampling Frame

Sampling frame	Hotel Star Rating	Total Hotels in the Category	Total respondents	Sampled & interviewed
South Coast cluster	3 Star	4	20	16
	4 Star	1 3	71	48
	5 Star	3	18	12
	Boutique	1 3	55	28
Total		3 3	164	104

Source: Republic of Kenya, 2003, 2011

3.7 Research instruments

The study used structured questionnaire to collected data from the sampled Managers. Questionnaire is a manuscript containing questions appropriate for gathering data (Babbie, 2014). It is a technique of data collection where individuals are supposed to respond to questions in a systematic manner (Saunders, Lewis, & Thornhill, 2007). It involves a situation where the respondents answer questions on paper and then they are returned to the researcher (Creswell, 2012). The questionnaires were divided into three sections: section I Background information; Section II Level information and communications technology usage and section III Measuring Organizational, Innovation and Environmental attributes in ICT uptake. Appointments were secured and the questionnaires that were used in the study was dropped (handed over) to the respondents and picked after two weeks or as agreed by the managers. Telephone numbers of research assistants and myself were given to the respondents to explain any point that needed clarity.

3.8 Validity and reliability of research instruments

3.8.1 Validity of research instrument

In research, validity provides the link between the data and constructs (Spickard, 2017). To ensure validity of the research instruments, the researcher used content and face validities (Devlin, 2018). Validity refers to the bridge between a construct and the data. In research, it refers to the “soundness” or “goodness” of a study. There has been an emergency of a multitude of approaches to and conceptualizations of validity, being differentiated significantly by the research methodologies and paradigms that guide each research. For the data, the researcher consider content validities in the research process. Content validity addresses issues to do with content of a definition and how representative it is in a measure (Neuman, 2014).

3.8.2 Reliability of the study

Reliability is broadly described as the consistency, dependability, and/or repeatability of a research information and data collection, interpretation, and/or analysis (Salkind, 2017). It means that the numerical results produced by an indicator do not vary because of the characteristics of the measurement process or measurement instrument itself. As it relates to the quantitative data, the researcher carried out a test retest method to examine the indicator’s degree of stability reliability. Stability reliability is reliability across time while test retest method involves retesting and re-administering the indicator to the same group of people. If what is measured is stable and the indicator has stability reliability, then the same results will be realized. Subpopulation analysis was used by the researcher to test

for representative reliability. Representative reliability is the reliability across subpopulations or group of people. Subpopulation analysis involves comparing the indicator across different subpopulations or subgroups and the use of independent knowledge about subpopulations.

3.9 Pilot survey

Pilot survey is the preliminary test of the questionnaire (Mugenda & Mugenda, 2003). Therefore, the questionnaires were piloted to eliminate the errors. The questionnaires were tested with two marketing managers and two ICT managers from South coast's Kaskazi beach hotel. The managers of this hotel were later excluded from the final sample.

The research instrument of questionnaire was piloted to check for any ambiguities and inconsistencies and tested using the SPSS Cronbach Alpha technique for reliability. Generally, in order for an instrument of research to be regarded as reliable, it should have a reliability of 17% (0.70) or higher (De Vaus, 2002). The questionnaire was cleaned from 62 items to finally retain 48 items in the SPSS code book. Similarly, questionnaires for the current study had a reliability coefficient alpha of 0.742. The items that were dropped include those that were overlapping, ambiguous, or repetitive.

3.10 Data collection technique

The data was gathered with the assistance of questionnaire as the principle research instrument. It is a collection of questions that are properly prepared and given to respondents so as to collect data concerning a matter of interest (McLean, 2006). The

primary data from respondents was collected through questionnaires. The study relied on both primary and secondary sources of data. This is gathered from documented materials relevant to the study area. This includes books, research papers, economic surveys, statistical abstracts, journals, newsletters and annual reports.

3.11 Data analysis

Data analysis is the process of transforming raw facts into meaningful information (Kothari, 2004). This process was enabled using Statistical Package for Social Sciences (SPSS), which is a statistical software. The study used multiple regression to determine the relationship between the independent and dependent variables. The multiple regression equation utilized in this study assumed the form: $\hat{Y} = a + b_1X_1 + b_2X_2 + b_3X_3$. Where X_1 , X_2 , and X_3 were three independent variables, where X_1 was organizational factors, X_2 was environmental factors and X_3 was technological innovation factors. Y was the dependent variable, which was ICT uptake and the constants were a , b_1 , b_2 and b_3 .

Table 3.2 : Data analysis in summary

Objectives	Research question	Analysis	Justification of the analysis
Assess level of ICT uptake in the hotel	What is the level of ICT Use in your hotel?	Standard Deviation	It is a number used to tell how measurements for a group are spread out from the average (mean), or expected value.
Establish the Effects of organizational factors in ICT uptake	What are the effects of organizational factors on ICT uptake?	Regression analysis	There is a continuous dependent (ICT uptake) variable from a number of independent variables (organizational factors)
Determine the Effects of environmental factors in ICT uptake	What role does environmental factors play in ICT adoption?	Regression analysis	There is a continuous dependent (ICT uptake) variable from a number of independent variables (environmental factors)
Establish the effects of technological innovation factors in ICT uptake	What are the effects of technological innovation factors on ICT uptake?	Regression analysis	There is a continuous dependent (ICT uptake) variable from a number of independent variables (technological innovation factors)

3.12 Expected output

The study's goal was to establish the impact of three groups of factors on ICT uptake, namely organizational, technological innovation and environmental factors.

3.13 Logical and ethical considerations

The study fulfilled the following requirements: First the researcher got a letter of Clearance from the Graduate school of Kenyatta University. Further, the researcher got a research permit from National Commission for Science, Technology & Innovation (NACOSTI) as approval for data collection. Additionally, Research instruments were pre-tested, research assistants trained on data collection using the instruments and

appointments booked. Appointments with hotel managers were booked. Information given by the respondents was treated with the highest degree of confidence and was not made available to any third party. Further, the respondents were not required to indicate their names on the questionnaire. Any recorded information was discarded after the analysis.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

The chapter comprises of background information of findings in the study. It also contains an expose on the level and effect of organizational factors on uptake of ICT by Kwale Hotels. Further, it entails effect of environmental and technological innovation factors on the uptake of ICT by Kwale Hotels.

4.1 Response rate

The sample size for the study which data was to be collected was 164 respondents. However, after the distribution of the questionnaires and the consequent recollection of them, 104 persons responded to the questionnaires. This is a 63.41% response rate which is satisfactory in the collection of data.

4.2 Demographic information of respondents

On the respondents' highest education level, certificate had 11.54%, Kenya Utalii College diploma or similar had 53.85% and bachelor's degree had 34.62%. This meant that most respondents in the study had Kenya Utalii College diploma or similar as their highest education level (Figure 4.1). The implication of a majority of the respondents having this level of education is that it has a direct influence of the level of ICT uptake in the organization. This is because the higher the level of education, the higher the level of ICT uptake for the organization.

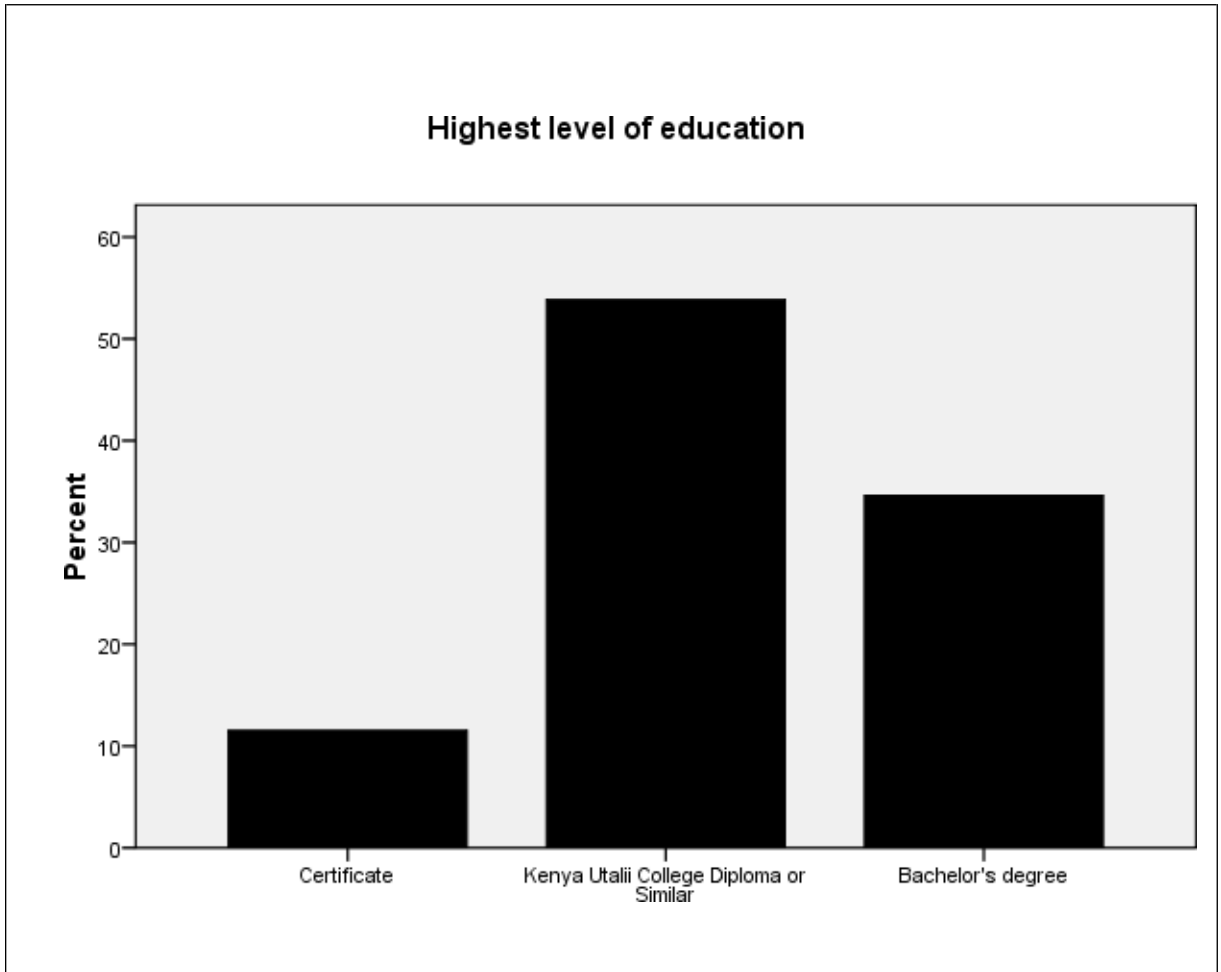


Figure 4.1 : Highest level of education

Source: Field data, 2018

Concerning the duration worked in the hotel and designation as shown in Figure 4.2, most respondents (23.1%) reiterated that they had worked in the hotel and designation for the last 4 years, while a minority of them (3.8%) had worked for the last 10 years. The rest of the information is in Figure 4.2. This implied that most respondents in the hotels have been working there in the recent years, hence the slight lower level of ICT uptake,

characterized by the engagement in online marketing.

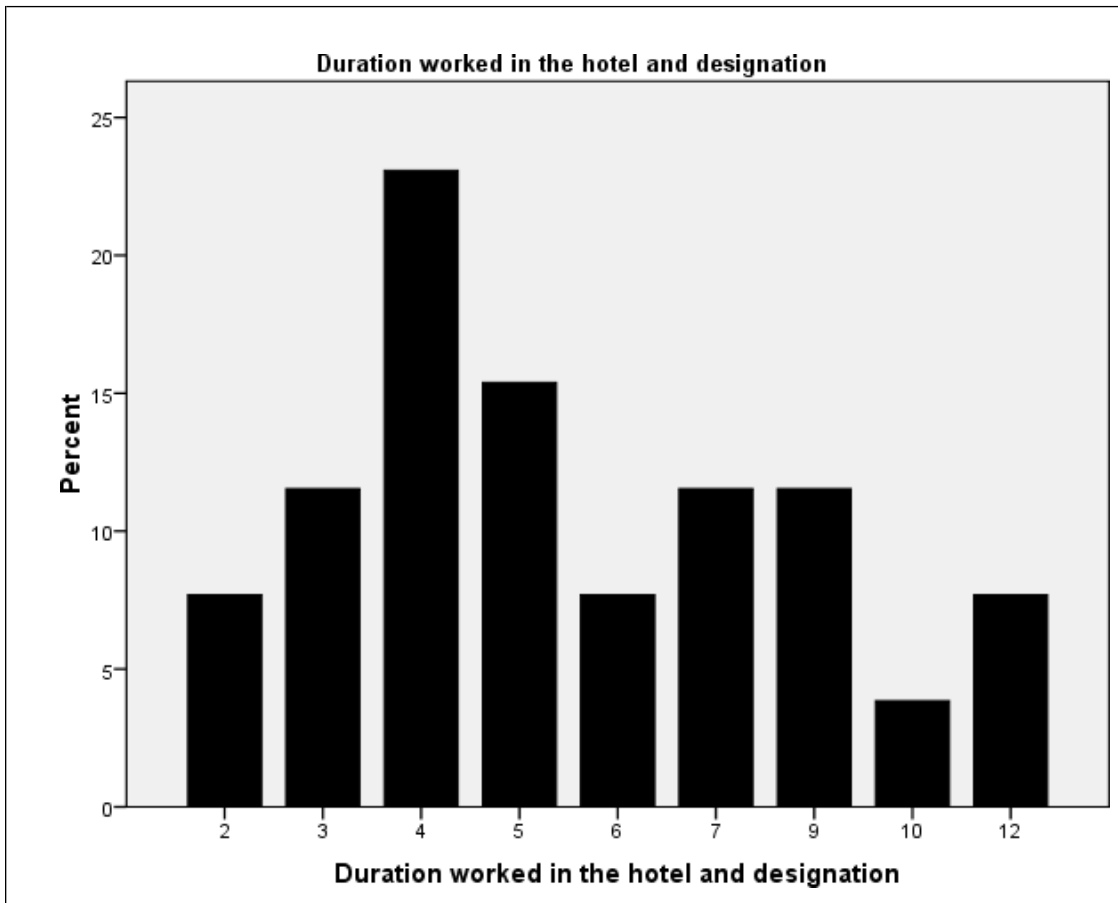


Figure 4.2 : Duration worked in the hotel and designation

Source : Field data, 2018

4.3 Background information of hotels

In the study, the respondents were asked on whether their establishment possessed a star-rating (Figure 4.3). It was realized that 84.6% of the establishments possessed a star-rating and 15.4% of them did not. This meant that a majority of the establishments possessed a star-rating.

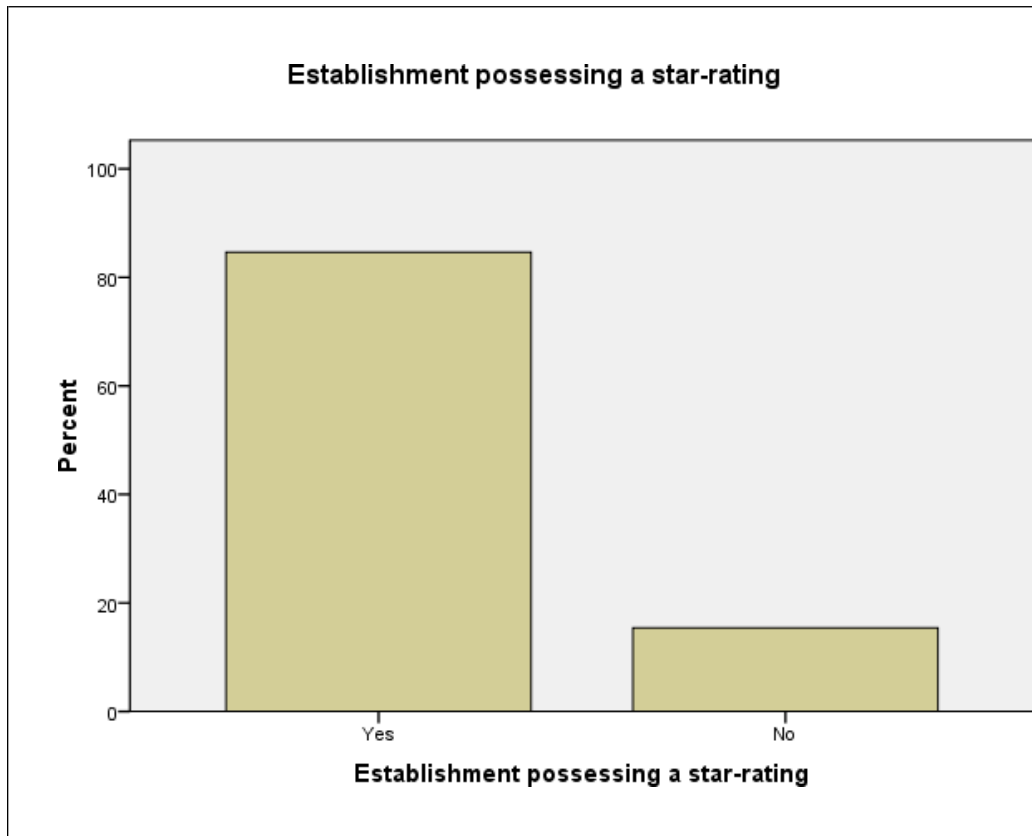


Figure 4.3 : Establishment possessing a star-rating

Source: Field data, 2018

On the type of star-rating as depicted in Figure 4.4, 3 star had 15.4%, 4 star had 50.0% and 5 star had 19.2%. 15.4% of the respondents had no response because they had previously indicated that their establishment had no star-rating. This is to mean that most establishments had a 4 star- rating. A study by Sahadev and Islam (2005) revealed that hotel grade, which specifies the hotel's target clients, may also impact its tendency to implement ICT innovations. High class hotels are inclined to adopt innovations of ICT due to the enhancement of their image and the demand of their clientele (Sahadev & Islam, 2005).

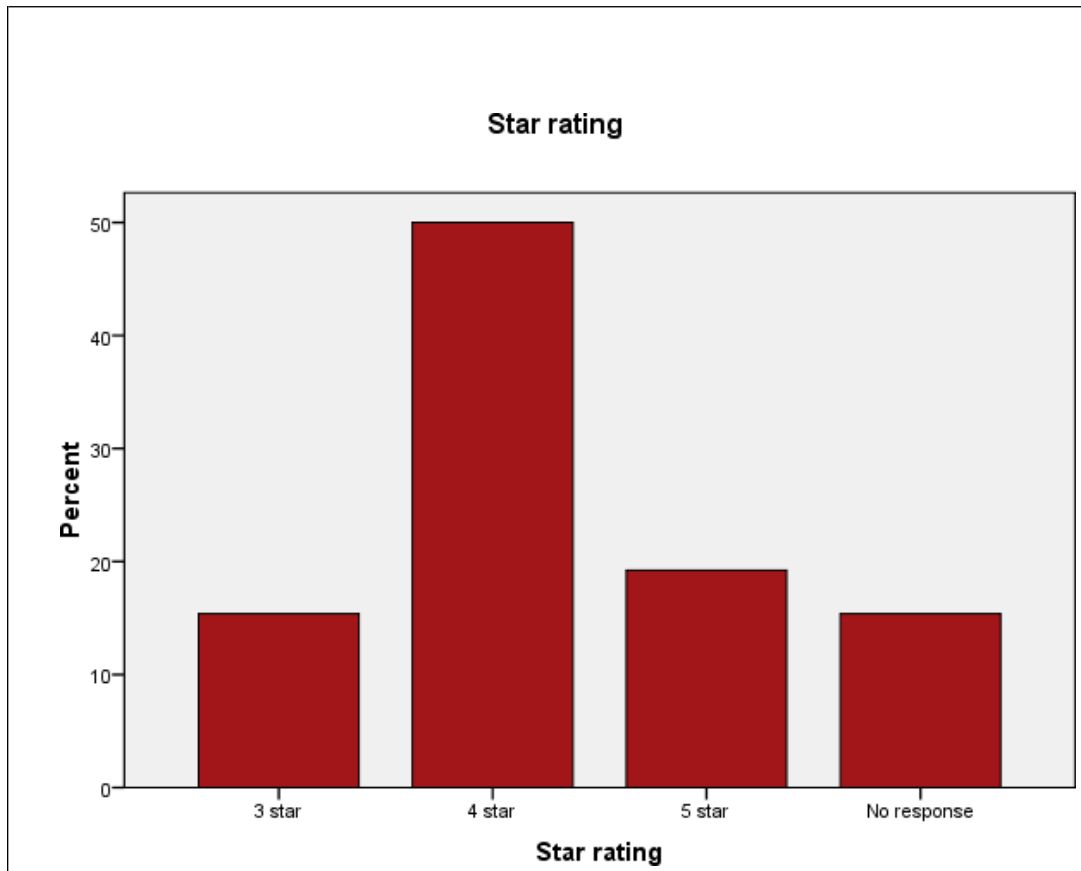


Figure 4.4 : Type of Star rating

Source: Field data, 2018

On the type of the non-rated hotel as depicted in Figure 4.5, boutique had 15.38%. 84.62% of the respondents had no response because they had previously indicated that their establishment had star-rating.

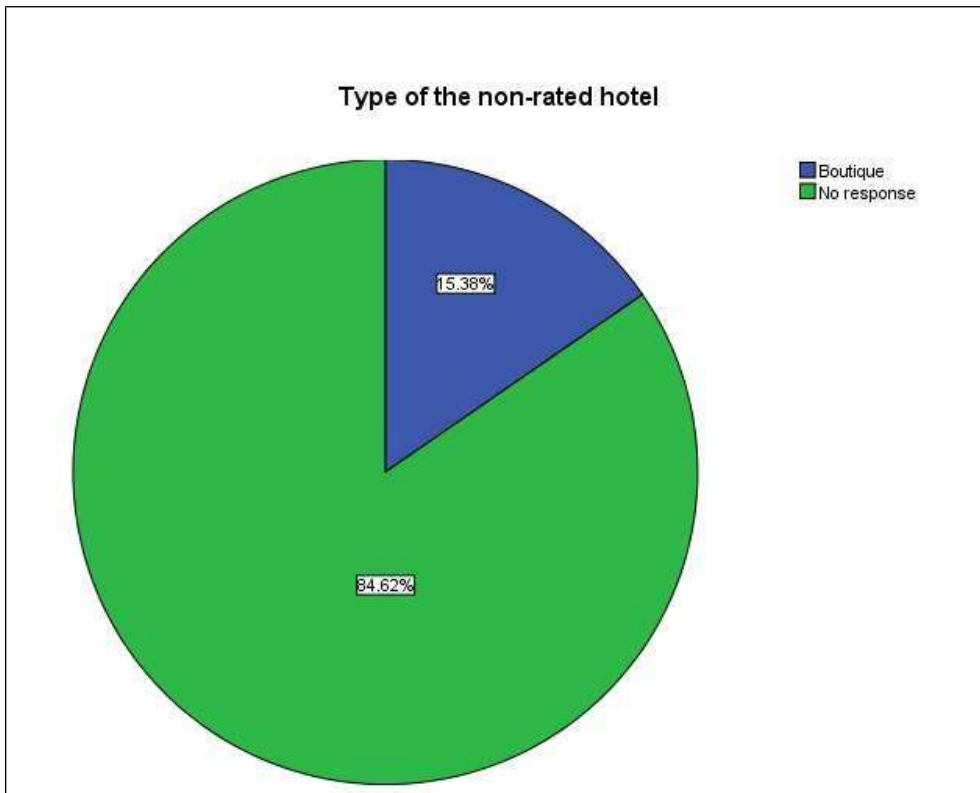


Figure 4.5 : Type of the non-rated hotel

Source: Field data, 2018

The respondents were questioned on the age of the hotel (Figure 4.6). 1-10 years had 11.54%, 11- 20 years had 53.85%, 21-30 years had 30.77% and 31-40 years had 3.85%. This is an indication that a majority of the hotels were of ages between 11-20 years. It has been revealed that the hotel's age is a main issue influencing ICT uptake, because new hotels can easily adopt ICT compared to the old ones (Sahadev & Islam, 2005).

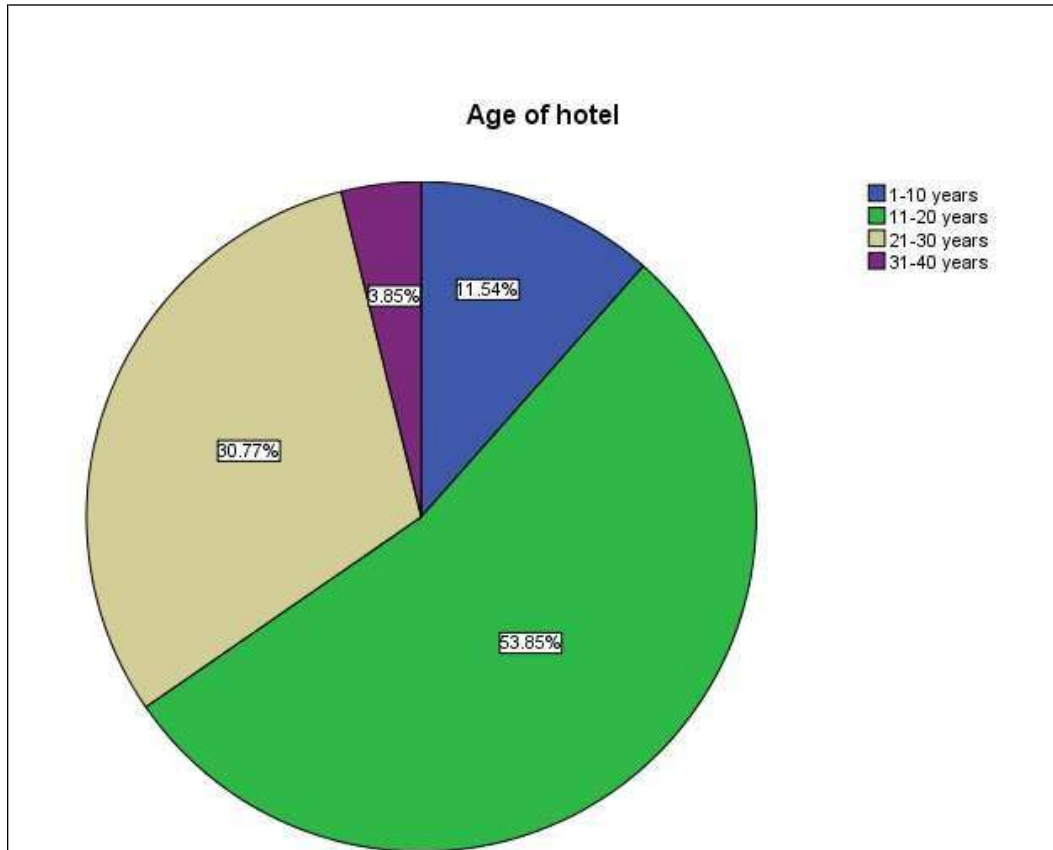


Figure 4.6 : Age of hotel

Source: Field data, 2018

On the number of rooms of the hotel as depicted in Figure 4.7, most respondents reiterated that their hotel rooms were either 10 or 60 (7.69%). The rest of the response concerning the rooms was 3.85%.

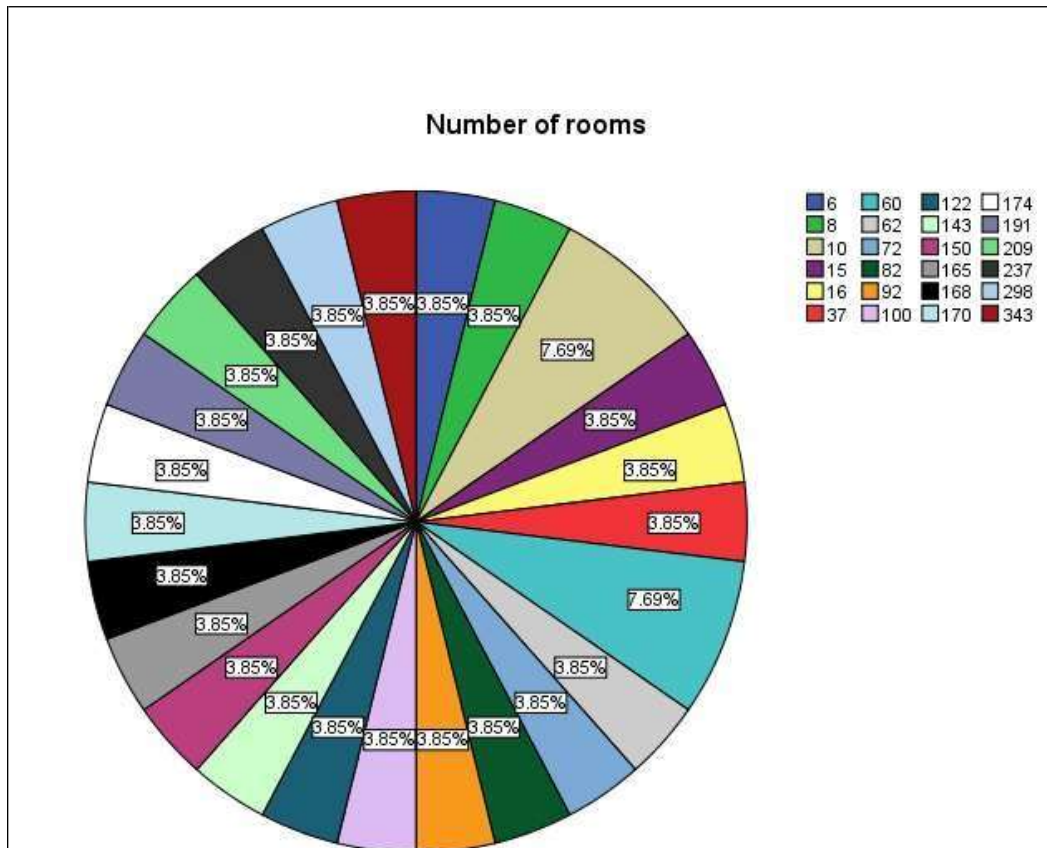


Figure 4.7 : Number of rooms

Source: Field data, 2018

Regarding the number of beds in the rooms of the hotel as depicted in Figure 4.8, most respondents reiterated that their hotel beds were either 20 (7.8%). The rest of the response concerning the beds was 3.8%. 11.54% of the respondents did not respond to the query. This was meant that they did not know on the number of beds the hotel had or think its confidential to reveal at their level.

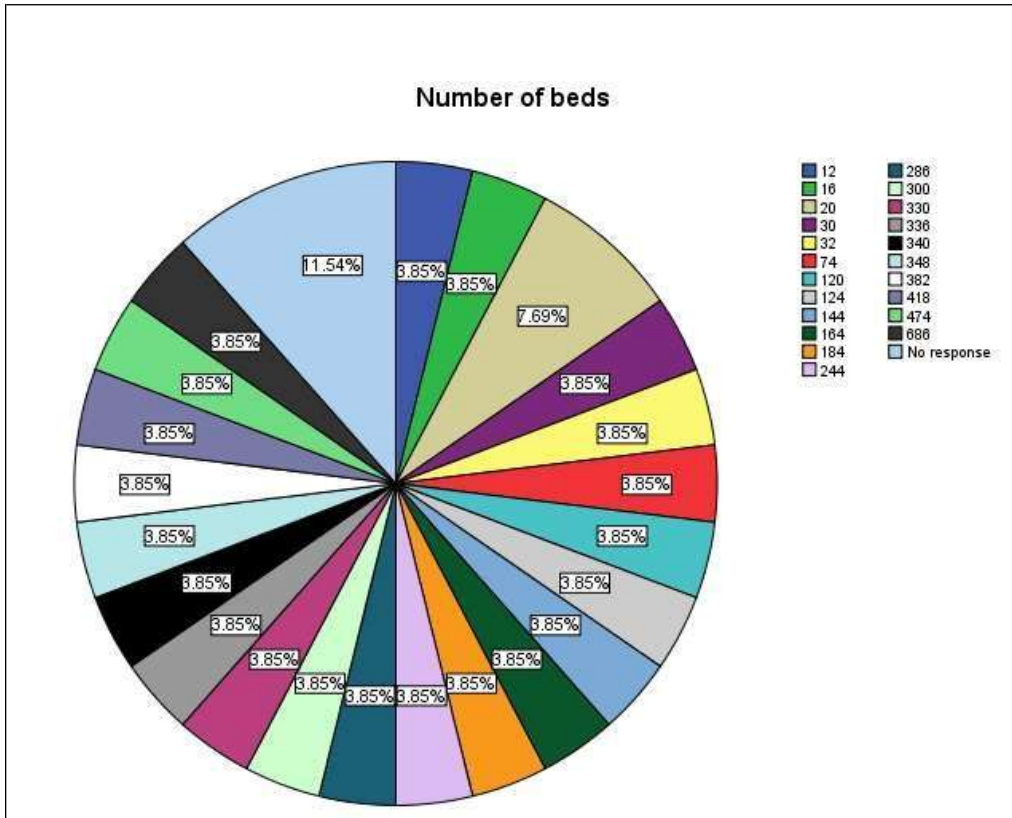


Figure 4.8 : Number of beds

Source: Field data, 2018

4.4 Level of ICT uptake of Kwale Hotels

As depicted in table 4.1, the respondents were asked on the ICT uptake level in hotel marketing. 15.4% of the respondents reiterated that their hotel had email and travel web pages for promotion and adverts. 7.7% of the respondents mentioned that the hotel had an email and website for receiving online requests. 46.2% of the respondents indicated that the hotel had email, a website for receiving online requests and hosted on online booking engines. Finally, 30.8% of them who are the majority indicated that their hotel had email, website for receiving online requests, room availability check, completing, hosted on

hotel booking engines and receiving payment via secure payment system directly to the hotel account. This implied that most of the respondents were of the view that the hotels had embraced ICT uptake in their organization.

Table 4.1 : Level of ICT uptake in hotel marketing

Level of ICT uptake in hotel marketing					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	a) Having email and travel web pages for promotion and adverts	16	15.4	15.4	15.4
	b) Having email, hotel own website for receiving online requests	8	7.7	7.7	23.1
	c) Having email, hotel own website for receiving online requests and hosted on online booking engines	48	46.2	46.2	69.2
	d) Having email, hotel own website for receiving online requests, room availability check, completing, hosted on hotel booking engines and receiving payment via secure payment system directly to the hotel account	32	30.8	30.8	100.0
	Total	104	100.0	100.0	100.0

Source: Field data, 2018

Furthermore, the respondents were questioned on whether their hotel engaged in online marketing (Table 4.2). The findings revealed that 46.2% of the hotels engaged in online marketing, while 53.8% of them did not. This implied that slight majority of the respondents were of the view that the hotels did not engage in online marketing, hence a lower ICT uptake. The finding was in tandem with a study by Nwakanma *et al.*, (2014) that shown that the speed which hotels adopts and utilizes ICT was dependent on the activities they are involved in.

Table 4.2 : Engagement in online marketing

Engagement in online marketing					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	48	46.2	46.2	46.2
	No	56	53.8	53.8	100.0
	Total	104	100.0	100.0	

Source: Field data, 2018

In addition, the respondents were asked on the type of engagement in online advertising by the hotels as shown in Table 4.3. Online advertising on Facebook had 19.2%, pay per click on Google had 3.8%, advertising on online newspapers and magazines had 3.8%, advertisement on trip advisor had 15.4% and others had 3.8%. 53.8% of the respondents did not respond because they had beforehand indicated that their hotel did not engage in online marketing. This implied that Facebook as the social media was mainly used for online marketing.

Table 4.3 : Type of Engagement in online advertising

		Type of Engagement in online advertising			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Online advertising on Facebook	20	19.2	41.7	41.7
	Pay per click on Google	4	3.8	8.3	50.0
	Advertising on online newspapers and magazines	4	3.8	8.3	58.3
	Advertisement on trip advisor	16	15.4	33.3	91.7
	Others	4	3.8	8.3	100.0
	Total	48	46.2	100.0	
Missing	No response	56	53.8		
Total		104	100.0		

Source: Field data, 2018

On the method of computer knowledge acquisition as depicted in Table 4.4, university course had 26.9%, working in a hotel had 19.2%, friends had 15.4% and others had 38.5%. This meant that a majority of the respondents were of the view that the main method of acquiring computer knowledge was through a university/college course. This implied that a majority of the respondents went to school to acquire the computer knowledge that they have.

Table 4.4 : Method of computer knowledge acquisition

Method of computer knowledge acquisition

		Frequenc y	Percen t	Valid Percent	Cumulative Percent
Valid	University/college course	28	26.9	26.9	26.9
	Working in a hotel	20	19.2	19.2	46.2
	Friends	16	15.4	15.4	61.5
	Others	40	38.5	38.5	100.0
	Total	104	100.0	100.0	

Source: Field data, 2018

Concerning multiple responses on the Online Travel Agencies (OTA) as shown in Table 4.5, Expedia.com had 28.2% and 92.3% of all cases, Jumia Travel had 24.1% and 78.8% of all cases, Booking.com had 28.8% and 94.2% of all cases and finally Onlineweg.de had 18.8% and 61.5% of all cases. The findings reveal that the OTA that was frequently used by the hotels sampled in the study was Booking.com which had 28.8% and 94.2% of all cases. As a global booking engine with a huge customer database, booking.com as a travel channel partner for hotels is essential when it comes to filling the rooms, managing reservations, calendars, global visibility and room inventory management.

Table 4.5 : Online Travel Agency Multiple Responses Frequencies

Online Travel Agency Multiple Responses Frequencies				
		Responses		
	Online Travel Agency	N	Percent	Percent of Cases
ota ^a	Expedia.com	96	28.2%	92.3%
	Jumia Travel	82	24.1%	78.8%
	Booking.com	98	28.8%	94.2%
	Onlineweg.de	64	18.8%	61.5%
	Total	340	100.0%	326.9%

a. Dichotomy group tabulated

at value 1. Source: Field data,

2018

As shown in Table 4.6, the respondents were questioned on the challenges of depending on Online Travel Agencies (OTA). Unable to debit the customer cards in advance had 26.0%, customers who book long stay and cancel had 30.8%, percentage allowed for cancellation fees can only compensate for few bed nights had 23.1% and the hotel loses the opportunity for sales had 20.2%. This meant that customers who booked long stay and cancelled their bookings stood out as the main challenge of depending on Online Travel Agencies (OTA).

Table 4.6 : Challenges of Online Travel Agencies

Challenges of Online Travel Agencies				
Valid	Frequency	Percent	Valid %	Cumulative %
Unable to debit the customer cards in advance	27	26.0	26.0	26.0
Customers who book long stay and cancel	32	30.8	30.8	56.7
Percentage allowed for cancellation fees can only compensate for few bed nights	22	23.1	23.1	79.8
Hotel loses the opportunity for sales	21	20.2	20.2	100.0
Total	104	100.0	100.0	

Source: Field data, 2018

In regard to the solutions to the challenges of OTA, reduction of room allocation in peak seasons to OTAs had 27.9%, target conference and business customers had 46.2% and direct sales to customers using hotel database had 26.0% (Table 4.7). This meant that targeting conference and business customers was viewed by most respondents as the main solution to the challenges of OTA. This implied that when the hotel targets conference and business customers, it will cushion the organization against the challenges of OTA. Further, in the peak season or Festive season of Easter and Christmas where the hotel can get guests who pay premium price, the number of rooms allocated to OTA's need to be reduced to mitigate for short notice cancellation period without compensation in terms of cancellation fees.

Table 4.7 : Solutions to the challenges of OTA

Solutions to the challenges of OTA					
		Frequency	Percent	Valid Percent	Cumulative %
Valid	Reduction of room allocation to OTAs in Peak seasons	29	27.9	27.9 %	27.9
	Target Conference & Business customers	48	46.2	46.2	74.0
	Direct sales to customers using hotel customer database	27	26.0	26.0	100.0
	Total	104	100.0	100.0	

Source: Field data, 2018

4.5 Effect of organizational factors on the uptake of ICT by Kwale Hotels

The respondents were asked on how organizational factors affect the uptake of ICT by Kwale Hotels and in particular top management support as shown in Table 4.8. Most of them were of the view that management considers ICT as important with 80.8% strongly agreeing and 19.2% agreeing (Mean= 4.81, Standard Deviation = 0.396). 65.4% of the respondents agreed that management supported and allocated resources for ICT, while 23.1% of them strongly agreed and 11.5% had a neutral opinion (Mean= 4.12, Standard Deviation = 0.580).

In addition, 53.8% of the respondents agreed that the management of their hotel had communicated effectively its support for the ICT uptake and how it is implemented, while strongly agreed and neutral both had 23.1% (Mean= 4.00, Standard Deviation = 0.683). 50.0% of the respondents were in agreement that there was a policy document for ICT use and commitment by the company, while 19.2% of them strongly agreed and 30.8% had a neutral opinion (Mean= 3.88, Standard Deviation = 0.701).

Table 4.8 : Top Management Support

Top Management Support							
	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.D v
a) Management considers ICT as important	80.8(84)	19.2(20)	0.0 (0)	0.0 (0)	0.0 (0)	4.81	0.396
b) Management supports and allocates resources for ICT	23.1(24)	65.4(68)	11.5(12)	0.0 (0)	0.0 (0)	4.12	0.580
c) Management has effectively communicated its support for the ICT uptake and implementation	23.1(24)	53.8(56)	23.1(24)	0.0 (0)	0.0 (0)	4.00	0.683
d) There is a policy document for ICT use and commitment by the company	19.2(20)	50.0(52)	30.8 (32)	0.0 (0)	0.0 (0)	3.88	0.701

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

Further, the respondents were queried on the effect of organizational factors on the uptake of ICT by Kwale Hotels and in specifically organisational readiness in ICT as depicted in Table 4.9. 73.1% of the respondents agreed that the hotel gave its staff formal training in the usage of ICT before adopting it, while 3.8% of them strongly agreed and 23.1% had a neutral opinion (Mean= 3.81, Standard Deviation = 0.484). Moreover, 53.8% of the respondents strongly agreed that the budget was an important factor that the hotel had to deal with before adopting ICT, while 42.3% of them agreed and 3.8% had a neutral opinion (Mean= 4.50, Standard Deviation = 0.575). 57.7% of the the respondents strongly agreed that the hotel had a fully-fledged ICT department/staff, while 11.5% of them agreed, 3.8% had a neutral opinion, while 26.9% of them disagreed (Mean= 4.00, Standard Deviation = 1.307). Finally, 50.0% of the respondents disagreed that the management had procedures/outsources ICT services, while 7.7% of them strongly agreed, 30.8% of them agreed, 7.7% had a neutral opinion, while 3.8% of them strongly disagreed (Mean= 2.88, Standard Deviation = 1.126).

Table 4.9 : Organisational readiness in ICT

Organisational readiness in ICT							
Organisational readiness in ICT	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv
a) The hotel gave its staff formal training in the usage of ICT before adopting it	3.8 (4)	73.1(76)	23.1(24)	0.0 (0)	0.0 (0)	3.81	0.484
b) The budget was an important factor that the hotel had to deal with before adopting ICT	53.8 (56)	42.3 (44)	3.8 (4)	0.0 (0)	0.0 (0)	4.50	0.575
c) Hotel has a fully-fledged ICT department/staff	57.7 (60)	11.5 (12)	3.8 (4)	26.9 (28)	0.0 (0)	4.00	1.307
d) Management has procedures/outsources ICT services	7.7 (8)	30.8 (32)	7.7 (8)	50.0 (52)	3.8 (4)	2.88	1.126

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

Likewise, the respondents were queried on how organizational factors affect the uptake of ICT by Kwale Hotels and in particular the CEO/top managers' attitude and ICT knowledge depicted in Table 4.10. 69.2% of them were in agreement that the management facilitated training of staffs, while 7.7% of them strongly agreed, 19.2% had a neutral opinion and 3.8% of them disagreed with the view (Mean= 3.81, Standard Deviation = 0.624). Gaining the knowledge on ICT is of paramount importance in ensuring its uptake. However, the poor ICT knowledge of managers inexorably makes them hesitate to consent novel technologies because of the fear that it might affect their service delivery (Law & Jogaratnam, 2005).

Additionally, 73.1% of them were in agreement that the managers had good ICT knowledge and use emails to communicate to their staff, while 26.9% of them strongly agreed (Mean= 4.27, Standard Deviation = 0.446). This is also in agreement with Law and Jogaratnam (2005), who acknowledges the significance of ICT in the industry and emphasizes that it is necessary for managers to be ICT compliant and capable so that they may benefit from technology.

Moreover, 50.0% of the respondents strongly agreed that the management decision making structure was easy and faster for ICT, while 26.9% of them agreed and 19.2% had a neutral opinion of the view (Mean= 4.31, Standard Deviation = 0.777). Last but not least, 50.0% of the respondents agreed that the management used computer generated reports for decision making, while 42.3% of them agreed and 7.7% had a neutral opinion of the view (Mean= 4.38, Standard Deviation = 0.628).

Table 4.10 : CEO/Top managers attitude and ICT knowledge

CEO/Top managers attitude and ICT knowledge							
	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.D v
a) Management facilitate training of staffs	7.7 (8)	69.2 (72)	19.2 (20)	3.8 (4)	0.0 (0)	3.81	0.624
b) Managers have good ICT knowledge and use emails to communicate to their staff	26.9 (28)	73.1 (76)	0.0 (0)	0.0 (0)	0.0 (0)	4.27	0.446
c) The management decision making structure is easy and faster for ICT	50.0 (52)	30.8 (32)	19.2 (20)	0.0 (0)	0.0 (0)	4.31	0.777
d) Management uses computer generated reports for decision making	42.3 (44)	50.0 (52)	7.7 (8)	0.0 (0)	0.0 (0)	4.38	0.628

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

In regard to the model summary as shown in Table 4.11 had R of 0.393, R squared of 0.154, adjusted R squared of 0.146 and standard error of the estimate of 0.463. In the case of the study, it meant that 15.4% is insignificant.

Table 4.11 : Model Summary of organizational factors

Model Summary^b of organizational factors				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.393 _a	0.154	0.146	0.463

a. Predictors: (Constant), Organizational factors

b. Dependent Variable:

ICT uptake Source: Field data, 2018

Table 4.12 shows that the organizational factors were independent variables, while ICT uptake was dependent variable, it had an F distribution of 18.584 and a significance of 0.000. The calculated value of F distribution of 18.584 is more than the table or critical value of 2.54. Here, p

< 0.0005, which is less than 0.05, and indicates that, overall, the regression model significantly predicts the outcome variable of ICT uptake (that is it is a good fit for the data). This means that organizational factors have a significant effect on ICT uptake by Kwale Hotels. This result is in tandem with findings by Barzekar and Karami (2014) that showed that there was a substantial link between organizational knowledge and resource, management structure, values, process and implementation of ICT.

Table 4.12 : ANOVA of organizational factors

ANOVA^b of organizational factors

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.983	1	3.983	18.584	0.000 ^a
	Residual	21.863	102	0.214		
	Total	25.846	103			

a. Predictors: (Constant), Organisational factors

b. Dependent Variable:

ICT uptake Source:

Field data, 2018

On the coefficient as shown in Table 4.13, on the issue of organizational factors and ICT uptake, it was -4.311 and significance was 0.000. T value realized in the study is smaller than the assumed value, hence the t-statistic is negative. This meant that organizational factors have a negative but significant effect on ICT uptake by Kwale Hotels. Findings by Barzekar and Karami (2014) revealed that the implementation of ICT is greatly influenced by organisational factors.

Table 4.13 : Coefficients^a of organizational factors

Coefficients ^a of organizational factors						
Standardized Coefficients		Unstandardized Coefficients				
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.671	0.497		7.389	0.000
	Organizational factors	-0.525	0.122	-0.393	-4.311	0.000

a. Dependent Variable: ICT uptake

$$\text{ICT uptake} = 3.671 - 0.525$$

(Organisational factors) Source: Field data, 2018

4.6 Effect of environmental factors on the uptake of ICT by Kwale Hotels

The researcher asked the respondents how environmental factors affected the uptake of ICT by Kwale Hotels and precisely the aspect of competition (Table 4.14). The research revealed that respondents observed that the hotel actively kept abreast of new and innovative uses of ICT by the competitors with 69.2% strongly agreeing, 26.9% agreeing and 3.8% of them were of a neutral view (Mean= 4.23, Standard Deviation = 0.507). Findings revealed that ICT application has a tendency of improving the competitiveness of businesses, because it decreases operational and transaction costs (Buhalis & Kaldis, 2008; Buhalis & Law, 2008). Today, the utilization of ICT is not unique by itself, it is only an efficient and effective application that can assist in attaining a competitive edge (Nwakanma *et al.*, 2014). The competition level in the hotel industry can have an influence on the level of ICT uptake (Sahadev & Islam, 2005).

Nonetheless, most respondents were of the opinion that the hotel monitored ICT based competitor activities very closely with 61.5% strongly agreeing, 26.9% agreeing and 11.5% of them were of a neutral opinion (Mean= 4.50, Standard Deviation = 0.697). This finding mirrored findings by Parsons and Oja (2013) that indicated that ICT is a crucial instrument tool of making an organization competitive in the market. This is because many hotels have turned to ICT to make them stay afloat in the wake of stiff competition in the market (Sigala, 2003b).

In addition, respondents were of the view that the hotel had many competitors with 57.7% agreeing, 23.1% strongly agreeing and 19.2% of them were of a neutral view (Mean= 4.04, Standard Deviation = 0.652). Lastly, they said that the hotel were led by ICT use by competitor hotels with the majority of them 76.9% agreeing, 15.4% strongly agreeing and 7.7% of them were of a neutral view (Mean= 4.08, Standard Deviation = 0.476).

Table 4.14 : Competition

Competition							
Issue	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.D v
a) The hotel actively keeps abreast of new and innovative uses of ICT by the competitors	26.9 (28)	69.2 (72)	3.8 (4)	0.0 (0)	0.0 (0)	4.23	0.507
b) The hotel monitors ICT based competitor activities very closely	61.5 (64)	26.9 (28)	11.5 (12)	0.0 (0)	0.0 (0)	4.50	0.697
c) The hotel has many competitors	23.1 (24)	57.7 (60)	19.2 (20)	0.0 (0)	0.0 (0)	4.04	0.652
d) Information on ICT use by competitors is very important in decision making	15.4 (16)	76.9 (80)	7.7 (8)	0.0 (0)	0.0 (0)	4.08	0.476

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

In the study, the researcher queried from respondents how environmental factors affected the uptake of ICT by Kwale Hotels and in particularly the aspect of customer power (Table 4.15). They reiterated that the customers demand for WIFI and front office related technologies with 84.6% of them strongly agreeing and 15.4% agreeing (Mean= 4.85, Standard Deviation = 0.363).

Moreover, the researcher realized that respondents observed that the hotel used ICT to enhance customer experience with 76.9% of them agreeing, 3.8% strongly agreeing and 19.2% were of a neutral opinion (Mean= 3.85, Standard Deviation = 0.457). The findings are in agreement with a study by Velázquez, Blasco and Saura (2015), whose study results revealed that that visitors' view of the utilization ICT by hotels, positively leads to guest satisfaction and emboldens the consumers to use word of mouth marketing.

Additionally, the study discovered that respondents were of the view that the reservations, check in, check out, room inventory and billing procedures are all computerised with 61.5% of them strongly agreeing, 19.2% agreeing , 11.5% were of a neutral opinion and 7.7% of them disagreeing (Mean= 4.35, Standard Deviation = 0.963). Furthermore, it was realized that respondents observed that the hotel uses ICT to accommodate customer needs with 65.4% of them agreeing, 3.8% strongly agreeing, 26.9% were of a neutral opinion and 3.8% of them disagreeing (Mean= 3.69, Standard Deviation = 0.609). Last but not least, the study realized that customers were considered a main factor for hotel to adopt ICT with 57.7% of them strongly agreeing, 30.8% agreeing and 11.5% were of a neutral opinion (Mean= 4.46, Standard Deviation

= 0.696).

Table 4.15 : Customer power

Customer power							
	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv
a) The customers demand for WIFI and front office related technologies	84.6 (88)	15.4 (16)	0.0 (0)	0.0 (0)	0.0 (0)	4.85	0.363
b) The hotel uses ICT to enhance customer experience	3.8 (4)	76.9 (80)	19.2 (20)	0.0 (0)	0.0 (0)	3.85	0.457
c) The reservations, check in, check out, room inventory and billing procedures are all computerised	61.5 (64)	19.2 (20)	11.5 (12)	7.7 (8)	0.0 (0)	4.35	0.963
d) The hotel uses ICT to accommodate customer needs	3.8 (4)	65.4 (68)	26.9 (28)	3.8 (4)	0.0 (0)	3.69	0.609
e) Customers are considered an important factor for the hotel to adopt ICT	57.7 (60)	30.8 (32)	11.5 (12)	0.0 (0)	0.0 (0)	4.46	0.696

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

In the study, the researcher questioned the respondents how environmental factors affected the uptake of ICT by Kwale Hotels and in particularly the level of government

support as shown in Table 4.16. The research realized that respondents were of the opinion that the government was active in setting up ICT infrastructure with 80.8% which is a majority of them agreeing, 11.5% strongly agreeing and 7.7% with a neutral opinion (Mean= 4.04, Standard Deviation = 0.439). The respondents reiterated that the government promoted ICT and e-commerce usage with 73.1% which is a majority of them agreeing, 15.4% strongly agreeing and 11.5% with a neutral opinion (Mean= 4.14, Standard Deviation = 0.520). Finally, the respondents observed that the government ICT policy was good for the hotel sector with 80.8% of them agreeing, 7.7% strongly agreeing and 11.5% with a neutral opinion (Mean= 4.08, Standard Deviation = 0.426).

Table 4.16 : Level of government support

Level of government support							
	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.D v
a) Government is active in setting up ICT infrastructure	11.5 (12)	80.8 (84)	7.7 (8)	0.0 (0)	0.0 (0)	4.04	0.439
b) Government promotes ICT and e- commerce usage	15.4 (16)	73.1 (76)	11.5 (12)	0.0 (0)	0.0 (0)	4.14	0.520
c) Government ICT policy is good for the hotel sector	7.7 (8)	80.8 (84)	11.5 (12)	0.0 (0)	0.0 (0)	4.08	0.426

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

Likewise, the researcher asked the respondents on how environmental factors affected the uptake of ICT by Kwale Hotels and specifically the level of technology support as depicted in Table

4.17. It was realized that the property management system improved efficiency and productivity for the hotel with 53.8% which is a majority of them strongly agreeing, 15.4% agreeing, 23.1% with a neutral opinion and 7.7% of them disagreeing with the matter (Mean= 4.15, Standard Deviation = 1.031). Additionally, It was discovered that the advanced internet security technologies help in safe and secure online transactions with 53.8% which is a majority of them having a neutral opinion, 11.5% strongly agreeing, 26.9% agreeing and 7.7% of them disagreeing with the view (Mean= 3.42, Standard Deviation = 0.797).

Furthermore, it was realized that the faster internet speeds was important for ICT uptake with 65.4% which is most of the respondents agreeing, 30.8% strongly agreeing and 3.8% having a neutral view (Mean= 4.27, Standard Deviation = 0.526). Similarly, it was realized that the CCTV camera technology enhances hotel security with 69.2% which is the majority of the respondents agreeing, 19.2% strongly agreeing and 11.5% having a neutral view (Mean= 4.08, Standard Deviation = 0.552).

Nonetheless, it was realized that the online travel agents generate more bookings for the hotel with 92.3% which is most of the respondents strongly agreeing and 7.7% agreeing (Mean= 4.92, Standard Deviation = 0.268). In addition, it was realized that the more the hotel appeared in various online travel agencies, the more room sales it made with 92.3%

which is most of the respondents agreeing and 7.7% strongly agreeing (Mean= 4.81, Standard Deviation = 0.311). Lastly, it was discovered that integrating the various department through ICT network made the work easier with 84.6% which is most of the respondents agreeing, 3.8% strongly agreeing and 11.5% of a neutral view (Mean= 3.92, Standard Deviation = 0.386).

Table 4.17 : Level of technology support

Level of technology support							
	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv
a) Property management system improves efficiency and productivity for the hotel	53.8 (56)	15.4 (16)	23.1 (24)	7.7 (8)	0.0 (0)	4.15	1.031
b) Advanced internet security technologies help in safe and secure online transactions	11.5 (12)	26.9 (28)	53.8 (56)	7.7 (8)	0.0 (0)	3.42	0.797
c) Faster internet speeds is important for ICT uptake	30.8 (32)	65.4 (68)	3.8 (4)	0.0 (0)	0.0 (0)	4.27	0.526
d) CCTV camera technology enhances hotel security	19.2 (20)	69.2 (72)	11.5 (12)	0.0 (0)	0.0 (0)	4.08	0.552
e) The online travel agents generate more bookings for the hotel	92.3 (96)	7.7 (8)	0.0 (0)	0.0 (0)	0.0 (0)	4.92	0.268
f) The more the hotel appears in various online travel agencies, the more room sales it makes	7.7 (8)	92.3 (96)	0.0 (0)	0.0 (0)	0.0 (0)	4.81	0.311
g) Integrating the various department through ICT network makes the work easier	3.8 (4)	84.6 (88)	11.5 (12)	0.0 (0)	0.0 (0)	3.92	0.386

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

Concerning the model summary as shown in Table 4.18 had R of 0.415, R squared of 0.172, adjusted R squared of 0.164 and standard error of the estimate of 0.458. It can be construed that the 17.2% is insignificant.

Table 4.18 : Model Summary of environmental factors

Model Summary^b of environmental factors				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.415 _a	0.172	0.164	0.458

a. Predictors: (Constant), Environmental factors

b. Dependent Variable:

ICT uptake Source: Field

data, 2018

In relation to ANOVA results as shown in Table 4.19, where the environmental factors were the independent variables and ICT uptake was the dependent variable, it had an F distribution of

21.193 and a significance of 0.000. The calculated value of F distribution of 0.000 is less than the table or critical value of 2.54. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically and significantly predicts the outcome variable of ICT uptake. This meant that environmental factors have a significant effect on ICT uptake for Kwale Hotels.

Table 4.19 : ANOVA of environmental factors

ANOVA^b of environmental factors						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4.446	1	4.446	21.193	0.000 ^a
	Residual	21.400	102	0.210		
	Total	25.846	103			

a. Predictors: (Constant), Environmental factors

b. Dependent Variable:

ICT uptake Source:

Field data, 2018

On the coefficient as shown in Table 4.20, on the issue of environmental factors and ICT uptake, it was -4.311 and significance was 0.000. The T value is smaller than the theorized value, hence the t-statistic is negative. This meant that environmental factors have a negative but significant effect on ICT uptake by Kwale Hotels. However, research by Macharia and Pelser (2014) realized that environmental factors positively and significantly influenced ICT uptake.

Table 4.20 : Coefficients^a of environmental factors

Coefficients^a of environmental factors						
Unstandardized Coefficients						
Standardized Coefficients						
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	4.512	0.648		6.968	0.000
	Environmental factors	-0.708	0.154	-0.415	-4.604	0.000

a. Dependent Variable: ICT uptake

ICT uptake = 4.512 - 0.708 (Environmental factors) Source: Field data, 2018.

4.7 Effect of technological innovation factors on the uptake of ICT by Kwale Hotels

In the research study, the researcher queried the respondents on how technological innovation factors affected the uptake of ICT by Kwale Hotels and more precisely the issue of perceived benefits (Table 4.21). They were of the opinion that ICT enhanced the operational efficiency of the hotel with 73.1% agreeing, 15.4% strongly agreeing and 11.5% of them were of a neutral view (Mean= 4.04, Standard Deviation = 0.520). This finding is in agreement with Karadag and Dumanoglu (2009) who observed that ICT influences the capacity and capability of hotels to provide sustenance to its employees, improve quality of service, increase efficiencies, achieve competitive advantage, sustain good communication with clientele and be more profitable.

Additionally, it was realized that ICT helped in improving the productivity of the hotel with 46.2% agreeing, 42.3% strongly agreeing and 11.5% of them were of a neutral opinion (Mean= 4.31, Standard Deviation = 0.669). The level of agreement on the matter is in tandem with a study by Sahadev and Islam (2005) who reiterated that the implementation of ICT increases productivity and service quality in the hospitality industry.

Nevertheless, the study showed that ICT enhanced the competitiveness of the hotel with 69.2% strongly agreeing and 30.8% agreeing (Mean= 4.22, Standard Deviation = 0.464). Further, the study revealed that ICT helped the hotels in customer relationship management with 76.9% agreeing, 3.8% strongly agreeing and 19.2% with the respondents having a neutral opinion (Mean= 3.85, Standard Deviation = 0.457). Finally, the study realized that ICT helped the hotel to extend its market reach with 88.5% strongly agreeing and 11.5% agreeing (Mean= 4.88, Standard Deviation = 0.321).

Table 4.21 : Perceived benefits

Perceived benefits								
Issue	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv	
a) ICT enhances the operational efficiency of the hotel	15.4 (16)	73.1 (76)	11.5 (12)	0.0 (0)	0.0 (0)	4.04	0.520	
b) ICT helps in improving the productivity of the hotel	42.3 (44)	46.2 (48)	11.5 (12)	0.0 (0)	0.0 (0)	4.31	0.669	
c) ICT enhances the competitiveness of the hotel	30.8 (32)	69.2 (72)	0.0 (0)	0.0 (0)	0.0 (0)	4.22	0.464	
d) ICT helps in the hotel in customer relationship management	3.8 (4)	76.9 (80)	19.2 (20)	0.0 (0)	0.0 (0)	3.85	0.457	
e) ICT helps the hotel to extend its market reach	88.5 (92)	11.5 (12)	0.0 (0)	0.0 (0)	0.0 (0)	4.88	0.321	

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD –

Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

In the study, the researcher queried the respondents on how technological innovation factors affect the uptake of ICT by Kwale Hotels and more precisely the aspect of complexity as shown in Table 4.22. It was realized that the respondents were of the view that ICT was easy for the hotel employees to use with 84.6% agreeing, with both strongly

agree and neutral having 7.7% (Mean= 4.00, Standard Deviation = 0.394). Moreover, it was discovered that the respondents were of the view that ICT was easy for the hotel customers to use with 73.1% agreeing, 15.4% strongly agreed and 11.5% with a neutral view (Mean= 4.04, Standard Deviation = 0.520).

Likewise, it was realized that the respondents were of the view that ICT was clear and understandable to the hotel employees with 57.7% agreeing, 38.5% strongly agreed and 3.8% with a neutral view (Mean= 4.35, Standard Deviation = 0.553). Lastly, it was realized that ICT was clear and understandable to the hotel customers with 84.6% agreeing, 11.5% strongly agreed and 3.8% with a neutral view (Mean= 4.08, Standard Deviation = 0.386).

Table 4.22 : Complexity

Complexity							
Issue	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv
a) ICT is easy for the hotel employees to use	7.7 (8)	84.6 (88)	7.7 (8)	0.0 (0)	0.0 (0)	4.00	0.394
b) ICT is easy for the hotel customers to use	15.4 (16)	73.1 (76)	11.5 (12)	0.0 (0)	0.0 (0)	4.04	0.520
c) ICT is clear and understandable to the hotel employees	38.5 (40)	57.7 (60)	3.8 (4)	0.0 (0)	0.0 (0)	4.35	0.553
d) ICT is clear and understandable to the hotel customers	11.5 (12)	84.6 (88)	3.8 (4)	0.0 (0)	0.0 (0)	4.08	0.386

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

In the findings, the researcher queried the respondents on how technological innovation factors affect the uptake of ICT by Kwale Hotels and more precisely the aspect of compatibility as shown in Table 4.23. It was realized that the respondents were of the view that ICT was easy for the hotel employees to use with 84.6% of them agreeing, while both strongly agree and neutral having 7.7% (Mean= 4.00, Standard Deviation = 0.394). In addition, 50.0% of the respondents had a neutral opinion that online booking was available to the customers with 26.9% strongly agreeing, 15.4% agreeing and 7.7% disagreeing (Mean= 3.62, Standard Deviation = 0.969).

Furthermore, 46.2% of the respondents disagreed that off-shore online payment gateway was available to the hotel customers, with 26.9% strongly agreeing, 15.4% agreeing and 7.7% disagreeing (Mean= 3.08, Standard Deviation = 1.244). Last but not least, 80.8% of the respondents were in agreement that using ICT fitted well with the way the hotel employees like to work, with 19.2% having a neutral view of the opinion (Mean= 3.81, Standard Deviation = 0.369).

Table 4.23 : Compatibility

Compatibility							
Issue	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv
a) Using ICT is compatible with the way the hotel does business	19.2 (20)	69.2 (72)	11.5 (12)	0.0 (0)	0.0 (0)	4.09	0.552
b) Online booking is available to the customers	26.9 (28)	15.4 (16)	50.0 (52)	7.7 (8)	0.0 (0)	3.62	0.969
c) Off-shore online payment gateway is available to the hotel customers	26.9 (28)	0.0 (0)	26.9 (28)	46.2 (48)	0.0 (0)	3.08	1.244
d) Using ICT fits well with the way the hotel employees like to work	0.0 (0)	80.8 (84)	19.2 (20)	0.0 (0)	0.0 (0)	3.81	0.396

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

From the study results, the respondents were questioned on how technological innovation factors affect the uptake of ICT by Kwale Hotels and in particular the perceived barriers as shown in Table 4.24. It was realized that 98.2% of the respondents disagreed that using ICT did not amount to increased productivity and 3.8% had a neutral opinion (Mean= 2.04, Standard Deviation = 0.193). Moreover, the findings showed that 80.8% of the respondents disagreed that most of the hotel customers were not familiar with conducting online bookings, while 11.5% strongly disagreed and 3.8% of them had a neutral view (Mean= 2.00, Standard Deviation = 0.557).

Further, the study showed that 73.1% of them disagreed that most of the hotel customers were not familiar with conducting online payment transactions, while strongly disagreed and neutral both had 11.5% (Mean= 2.08, Standard Deviation = 0.618). Last but not least, the results revealed that 53.8% of the respondents disagreed that ICT use could not reduce the costs of providing products and services to their customers, while 38.5% strongly disagreed and 7.7% of them were of a neutral perspective (Mean= 1.69, Standard Deviation = 0.609).

Table 4.24 : Perceived barriers

Perceived barriers							
Issue	SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.D v
a) Using ICT does not amount to increased productivity	0.0 (0)	0.0 (0)	3.8 (4)	96.2 (100)	0.0 (0)	2.04	0.193
b) Most of the hotel customers are not familiar with conducting online bookings	0.0 (0)	3.8 (4)	3.8 (4)	80.8 (84)	11.5 (12)	2.00	0.557
c) Most of the hotel customers are not familiar with conducting online payment transactions	0.0 (0)	3.8 (4)	11.5 (12)	73.1 (76)	11.5 (12)	2.08	0.618
d) ICT use cannot reduce the costs of providing products and services to our customers	0.0 (0)	0.0 (0)	7.7 (8)	53.8 (56)	38.5 (40)	1.69	0.609

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

From the results, the respondents were queried on how technological innovation factors affect the uptake of ICT by Kwale Hotels and more precise image as shown in Table 4.25. 69.2% of the respondents strongly agreed that hotels that use ICT technologies were more sophisticated than those that did not, while 26.9% agreeing and 3.8% were of a neutral opinion (Mean= 4.65, Standard Deviation = 0.553). In addition, 65.4% of the respondents strongly agreed that hotels that use ICT had higher standards than those that did not, while

30.8% agreeing and 3.8% were of a neutral view (Mean= 4.62, Standard Deviation = 0.563). The findings are contrary to study results by Tichaawa, Mhlanga and Sicwebu (2017), where ICT was perceived to have relative low impact on company image improvement.

Table 4.25 : Image

		Image						
		SA%(F)	A%(F)	N%(F)	D%(F)	SD%(F)	M	Std.Dv
a)	Hotels that use ICT technologies are more sophisticated than those that do not	69.2 (72)	26.9 (28)	3.8 (4)	0.0 (0)	0.0 (0)	4.65	0.553
				3.8 (4)	0.0 (0)	0.0 (0)	4.62	0.563
b)	Hotels that use ICT have higher standards than those that do not	65.4 (68)	30.8 (32)					

Source: Field data, 2018

Key : SA – Strongly agree, A – Agree, N – Neutral, D – Disagree, SD – Strongly disagree, F – Frequency, M – Mean, Std. Dv – Standard Deviation.

In regard to the model summary as shown in Table 4.26 had R of 0.406, R squared of 0.165, adjusted R squared of 0.157 and standard error of the estimate of 0.460. This meant that 16.5% is a small percentage.

Table 4.26 : Model Summary of technological innovation factors

Model Summary^b of technological innovation factors

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.406 _a	0.165	0.157	0.460

a. Predictors: (Constant), Technological innovation factors

b. Dependent Variable:

ICT uptake Source:

Field data, 2018

With regard to ANOVA results as shown in Table 4.27, where the technological innovation factors were the independent variables and ICT uptake was the dependent variable, it had an F distribution of 20.163 and a significance of 0.000. The calculated value of F distribution of 0.000 is less than the table or critical value of 2.54. This meant that technological innovation factors have a significant effect on ICT uptake by Kwale Hotels. However, a study by Macharia and Pelsler (2014) also showed that technological innovation factors influenced ICT uptake positively.

Table 4.27: ANOVA of technological innovation factors

ANOVA ^b of technological innovation factors						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.266	1	4.266	20.163	0.000 ^a
	Residual	21.580	102	0.212		
	Total	25.846	103			

a. Predictors: (Constant), Technological innovation factors

b. Dependent Variable:

ICT uptake Source:

Field data, 2018

On the coefficient as shown in Table 4.28, on the issue of technological innovation factors and ICT uptake, it was -4.490 and significance was 0.000. The T value is smaller than the theorized value, hence the t-statistic is negative. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model significantly predicts the outcome variable of ICT uptake. This meant that technological innovation factors have a negative but significant effect on ICT uptake by Kwale Hotels.

Table 4.28 : Coefficients of technological innovation factors

Coefficients^a of technological innovation factors					
Unstandardized Coefficients					
Standardized Coefficients					
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	5.439	0.870		6.253	0.000
Technological innovation factors	-1.066	0.238	-0.406	-4.490	0.000

a. Dependent Variable: ICT uptake

ICT uptake = 5.439 – 1.066 (Technological innovation factors) Source: Field data, 2018

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter comprises of the summary, conclusions and recommendations for the study both for policy and practice and areas for further research.

5.1 Summary

In summary, the study conducted a research on the impact of organizational, technological innovation and environmental factors as attributes in ICT uptake for Kwale hotels, Kenya. ICT uptake can be very pivotal in the advancement of the hotel activities in the dimensions of organization, technological innovation and environmental. The research examined the level of ICT uptake for Kwale Hotels. The study basically evaluated the factors that affect uptake of information and communication technology in Kwale hotels. The study attributes were organizational, environmental and technological innovation factors and how they influence the uptake of ICT in hotels.

Despite the tremendous benefits of the uptake of ICT for hotels, the findings realized that there are some hotels that are yet to realize these benefits because of not engaging in the ICT uptake. The study sought to examine the level of ICT uptake for Kwale Hotels. It also sought to identify the effect of organizational, environmental and technological innovation factors on the uptake of information and communication technology. On demographic

information, most respondents in the study had Kenya Utalii College diploma or similar as their highest education level (53.85%). Concerning work duration worked in the hotel and designation, most respondents (23.1%) reiterated that they had worked in the hotel for the last 4 years.

5.1.1 Level of ICT uptake of Kwale Hotels

On the level of ICT uptake of Kwale hotels, a majority of the respondents (46.2%) indicated that the hotel had email, a website for receiving online requests and hosted on online booking engines. In addition, a slight majority of the hotels did not engage in online marketing (53.8%). For those who engaged in online marketing, most of them did it on Facebook (19.2%). On the method of gaining computer knowledge, most of them acquired the knowledge using other ways rather than university course, working in a hotel and friends (38.5%). Concerning multiple responses on the Online Travel Agencies (OTA), the findings reveal that the OTA that was frequently used by the hotels sampled in the study was booking.com (28.8%). Moreover, customers who book long stay and cancel (30.8%) was regarded as the main challenge of depending on Online Travel Agencies (OTA) as the cancellation fees was not enough compensation in relation to the lost opportunity of selling the room through other channels. Targeting the conference and business customers (46.2%) was regarded as the solution to avoid overreliance on OTAs by most respondents.

5.1.2 Organizational factors and the uptake of ICT by Kwale Hotels

In the study, the respondents were asked on the effect of organizational factors on the uptake of ICT by Kwale Hotels and specifically top management support. Majority of the

respondents (80.8%) strongly agreed that management considers ICT as important and most of them (65.4%) agreed that management supports and allocates resources for ICT. Additionally, most respondents (53.8%) were in agreement that the management of their hotel had effectively communicated its support for the ICT adoption and implementation and agreed (50.0%) that there was a policy document for ICT use and commitment by the hotel. Further, the respondents were also queried on organisational readiness in ICT and most respondents (73.1%) were in agreement that the hotel gave its staff formal training in the usage of ICT before adopting it and the budget was an important factor that the hotel had to deal with before adopting ICT (53.8%). Likewise, a majority of the respondents (57.7%) strongly agreed that the hotel had a fully-fledged ICT department/staff. However, a majority of the respondents (50.0%) disagreed that the management had procured/outsources ICT services.

Consequently, the respondents were queried on the CEO/Top managers attitude and ICT knowledge and most of them agreed that the management facilitate training of staffs (69.2%), managers had good ICT knowledge and use emails to communicate to their staff (73.1%) and the management uses computer generated reports for decision making (50.0%). Further, most respondents (50.0%) strongly agreed that the management decision making structure is easy and faster for ICT. The findings of the regression analysis (F distribution of 18.584 and $p=0.000$) indicated that organizational factors have a significant effect on ICT uptake by Kwale Hotels.

5.1.3 Environmental factors and the uptake of ICT by Kwale Hotels

The study sought to establish how environmental factors affected the uptake of ICT by Kwale Hotels and precisely the aspect of competition. The research revealed that respondents felt that the hotel actively kept abreast of new and innovative uses of ICT by the competitors with most respondents strongly agreeing (69.2%). Nonetheless, most respondents were of the opinion that the hotel monitored ICT based competitor activities very closely with a majority of the respondents strongly agreeing (61.5%). Additionally, respondents were of the view that the hotel had many competitors with most of them agreeing (57.7%). In the study, the researcher queried from respondents how the environmental factors affected the uptake of ICT by Kwale Hotels and in particularly the aspect of customer power. The respondents felt that the customers demand for WIFI and front office related technologies with 84.6% of the respondents strongly agreeing. Moreover, the researcher realized that respondents felt that the hotel used ICT to enhance customer experience with most of them agreeing (76.9%).

Further, the respondents felt that the reservations, check in, check out, room inventory and billing procedures are all computerised with most of them strongly agreeing (61.5%). Likewise, the respondents stated that the hotel uses ICT to accommodate customer needs with a majority of the respondents agreeing (65.4%). Finally, the study realized that customers were considered a main factor for hotel to adopt ICT with most of them strongly agreeing (57.7%).

In the study, the respondents were asked on how environmental factors affected the uptake of ICT by Kwale Hotels and in particularly the level of government support. The

research realized that respondents felt that the government was active in setting up ICT infrastructure with a majority of them agreeing (80.8%). Equally, the respondents felt that the government promoted ICT and e-commerce usage with a majority of them agreeing (73.1%). Finally, the respondents felt that the government ICT policy was good for the hotel sector with most of them agreeing (80.8%).

Further, the researcher questioned the respondents on the effect of environmental factors on the uptake of ICT and in particular to level of technological support. A majority of them (53.8%) strongly agreed that the property management system improved efficiency and productivity for the hotel. Further, most respondents (53.8%) were of a neutral opinion that advanced internet security technologies help in safe and secure online transactions. Most of the respondents were in agreement that the faster internet speeds was important for ICT uptake (65.4%) and the CCTV camera technology enhanced hotel security (69.2%).

Additionally, most respondents (92.3%) strongly agreed that the online travel agents generate more bookings for the hotel. Also, a majority of the respondents agreed that the more the hotel appeared in various online travel agencies, the more room sales it made (92.3%) and integrating the various departments through ICT network made the work easier (84.6%). Additionally, the regression analysis results indicated that environmental factors had a significant effect on ICT uptake by Kwale Hotels (F distribution of 21.193 and $p=0.000$).

5.1.4 Technological innovation factors and the uptake of ICT by Kwale Hotels

Also in summary, the respondents were queried on the effect of technological innovation factors on the uptake of ICT by Kwale Hotels on perceived benefits. Most respondents were in agreement that ICT enhanced the operational efficiency of the hotel (73.1%), ICT helped in improving the productivity of the hotel (46.2 %), ICT helped the hotel in customer relationship management (76.9%) and ICT enhanced the competitiveness of the hotel (69.2%). Further, a majority of the respondents strongly agreed that ICT helped the hotel to extend its market reach (88.5%).

In the study, the researcher queried the respondents on the effect of technological innovation factors on the uptake of ICT and the issue of complexity. Most respondents agreed that ICT was easy for the hotel employees to use (84.6%), easy for the hotel customers to use (73.1%), clear and understandable to the hotel employees (57.7 %) and clear and understandable to the hotel customers (84.6%).

In the findings, the respondents were asked on the effect of technological innovation factors on the uptake of ICT and more particularly the aspect of compatibility. Most respondents agreed that ICT was easy for the hotel employees to use (69.2 %) and using ICT fitted well with the way the hotel employees like to work (80.8%). Furthermore, most respondents disagreed that off-shore online payment gateway was available to the hotel customers (46.2%). However, a majority of them had a neutral opinion that online booking was available to the customers (50.0%).

In addition, the respondents were questioned on the effect of technological innovation factors on the uptake of ICT and in particular the perceived barriers. The results indicated that most respondents disagreed that using ICT did not amount to increased productivity (96.2%), most of the hotel customers were not familiar with conducting online bookings (80.8%), most of the hotel customers were not familiar with conducting online payment transactions (73.1 %) and ICT use could not reduce the costs of providing products and services to their customers (53.8%).

Consequently, the respondents were asked on the effect of technological innovation factors on the uptake of ICT and in particular image. The results revealed that a majority of the respondents (69.2 %) strongly agreed that hotels that use ICT technologies were more sophisticated than those that did not. Finally, most respondents strongly agreed that hotels that use ICT had higher standards than those that did not (65.4%). From the regression analysis results, it was realised that technological innovation factors have a significant effect on ICT uptake by Kwale Hotels (F distribution of 20.163 and $p=0.000$).

52 Conclusion

In conclusion, the study sought to evaluate the factors that affect uptake of information and communication technology at Kwale hotels. First, the study endeavored to evaluate the level of ICT uptake of the Kwale Hotels. From the findings, it was realized that most hotels made the effort of embracing ICT for effectiveness and efficiency. However, it can be concluded that although most hotels had email, a website for receiving online requests

and hosted on online booking engines, they did not engage in online marketing intensely. Most did not have online payment gateway except through OTA's. As such, they could not receive payment via customers credit card directly on their website. Additionally, the study concluded that Facebook was the most popular social media for those who engaged in online marketing. In regards to computer knowledge acquisition, most respondents acquired computer knowledge using other ways rather than university course, working in a hotel and friends.

Secondly, the study also sought to determine the effect of organizational factors on the uptake of information and communication technology. It was realized that organizational factors were pivotal issues that determined whether there would be ICT uptake or not. The organizational culture will determine the rate of ICT uptake for the organization. Firms that have the culture and habit of accepting new technologies also uptake ICT more effectively and efficiently compared to organizations that do not.

Thirdly, the research sought to establish the effect of environmental factors on the uptake of information and communication technology. Environmental factors were regarded as an important ingredient capable of providing the impetus that can ensure ICT uptake. It can be concluded that the environment especially the competition within which an organization operates is a determinant in ICT uptake.

Finally, the study sought to determine the effect of technological innovation factors on the uptake of information and communication technology. This is an important issue because the concept of ICT is pegged on the premise of technological innovation. The ICT uptake

by hotels and other organization is as a result of technological innovation and from the study, they offer a significant influence on ICT uptake and further enhance the hotels business processes.

5.3 Recommendations

5.3.1 Recommendations for Policy and Practice

5.3.1.1 More engagement in online marketing

Based on the conclusion above, it was realized that the findings revealed that 46.2% of the hotels engaged in online marketing, while 53.8% of them did not. This meant that a sizeable majority of the respondents did not engage in online marketing despite the admittance of ICT uptake. The study recommends more engagement in online marketing that would increase the hotels online visibility. This will eventually boost hotel products and service delivery and assist in leveraging in the digital economy. Further engagements in social media will not only promote the hotel but also enhance customer care and guest experiences which will further help re-enforce brand reputation.

5.3.1.2 Diversifying the types of online marketing

From the study, it was realized that the main online advertising was done on facebook and OTA's. It is recommended that the hotels diversify more to other platforms of pay per click on google which will directly link customers to their web page, cutting out layers of middle men. Also advertising on online newspapers and magazines and advertisement on tripadvisor as well as additional Online travel agencies will boost their visibility. This will increase more sales and widen the hotels visibility and business opportunity by being

available on multiple platforms.

5.3.2 Recommendations for Further Research

The current study focused on hotels in Kwale county. There is need for other comparative studies especially in the North Coast of Mombasa.

Secondly, the study established that all the hotels in Kwale county engaged in one or the other form of online distribution strategies. However, there is need to further investigate the efficacy of online distribution channels vis-à-vis Traditional intermediaries of selling via Tour Operators and travel agencies.

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APPENDICES

Appendix I: Introductory letter

Dear Sir/Madam,

I am a student in the department of tourism management, Kenyatta University, Rongo, carrying out a research on “**Impact of Organizational, Innovation and Environmental Attributes on ICT Uptake for Kwale Hotels, Kenya**”. I wish to kindly request your voluntary participation in the study by providing information requested below. I appreciate your participation and your responses will be confidential and will be used only for the purposes of this study

Thanks

Appendix II : Questionnaire for hotel employees

Name of the HotelQuestionnaire No.....

I. Background information

The information asked in this section will be used for classification purposes only. The information gathered will be kept confidential.

- a. How many rooms does this hotel have?.....
- b. What is the URL (Website address) of this hotel c. What is your designation in this hotel?.....
- d. For how many years have you been working in this hotel..... and in the current position.....?
- e. Does your establishment have a star rating? Yes (**1**) No (**2**)
- f. If yes, what is its star rating? 3 Star (**1**) 4 Star (**2**) 5 Star (**3**) Boutique (**4**)
- g. How old is this hotel? 1- 10 yrs (**1**) 11 – 20 yrs (**2**) 21 – 30 yrs (**3**) 31-40 yrs (**4**) 41-50 yrs (**5**) over 50 yrs
- h. How many rooms and beds do you have in this hotel?rooms.....beds.
- j. Please indicate your highest level of Education by using a checkmark (x) (**1**)

Certificate

(2)Kenya Utalii College Diploma or Similar (3) Bachelor's degree

(4) Master's (5) PhD

II. Level of Information and Communications Technology uptake

1. When did your hotel began using Computers and Internet facilities? Month (_____) and year (_____)

2. Please rate the level of information and communication technology uptake in your hotel marketing: (please place a checkmark (X) in the one bracket that is closest to your situation)

(1) There is only email, no website

(2) Have email, and travel web pages for promotion and adverts (Basic web page) (3) Have email, hotel own website for receiving online requests.

(4) Have email, hotel own website for receiving online requests and hosted on online booking engines.

(5) Have email, hotel own website for receiving online requests, room availability check, completing, hosted on hotel booking engines and receiving payment via secure payment system directly to the hotel account

3. Do you engage in online advertising? If yes, please place a checkmark (X) in bracket that represents your type of online adverts.

(1) Online advertisement on face book (2) Pay per click on Google.

(3) Pay per click on Yahoo!

(4) online advertisement on twitter

(5) Advertisement on online newspapers and Magazines. (6) Advertisement on Tripadvisor

(7) Others (please specify)_____

4. How did you gain your computer knowledge ?

(Please refer to the range of sources that you have learnt from).

1. University course,

2. working in a hotel,

3. friends,

4. media

5. others (specify)

5. Which of the following OTA’s (online travel agency) are used by your hotel
 (1) Expedia.com (2) booking.com (3) Jumia travel (4) onlineweg.de (5) Expedia,
 booking.com, Jumia & onlineweg { multiple OTAs)
 (6) others (pls state)

III. Organizational factors and ICT uptake

6. Please use the following measures of the rating scale, to rate the below statements that are aligned to the above topic. **Strongly Agree-5,4,3,2,1-Strongly Disagree**

Impact of Organizational Factors in ICT uptake of your Hotel 1. Top Management support	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
Management considers ICT as important	5	4	3	2	1
Management supports & allocates resources for ICT	5	4	3	2	1
Management has effectively communicated its support for the ICT uptake and Implementation	5	4	3	2	1
There is a Policy document on ICT use and commitment by the company	5	4	3	2	1

Impact of Organizational Factors in ICT uptake of your Hotel 2. Organizational readiness in ICT	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
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My hotel gave its staff formal training in the usage of ICT before adopting it.	5	4	3	2	1
The budget was an important factor that my hotel had to deal with before adopting	5	4	3	2	1

ICT					
Hotel has fully fledged ICT Department/ ICT Staff	5	4	3	2	1
Management procures/outsources ICT services	5	4	3	2	1

Impact of Organizational Factors in ICT uptake of your Hotel	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
1. CEO/Top Managers Attitude & ICT Knowledge					
Management uses email to communicate to customers and employees	5	4	3	2	1
Managements facilitates training for staffs	5	4	3	2	1
Managers have good ICT knowledge and use emails to communicate to their staff	5	4	3	2	1
The managements decision making structure is easy and faster for ICT	5	4	3	2	1
Management uses computer generated reports for decision making	5	4	3	2	1

IV. Environmental factors and ICT uptake

Impact of Environmental Factors in ICT uptake of your Hotel 1. Competition	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
My hotel actively keeps abreast of new and innovative uses of ICT by my competitors	5	4	3	2	1
My hotel monitors ICT based competitor activities very closely	5	4	3	2	1
My hotel has many competitors	5	4	3	2	1
Information on ICT use by competitors is very important when my hotel was making a decision to use those technologies	5	4	3	2	1

Impact of Environmental Factors in ICT uptake of your Hotel 2. Customer power	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
Our Customers demand for Wifi and Front office related technologies	5	4	3	2	1
Our hotel uses ICT to enhance customer experience	5	4	3	2	1
Our reservations, check in, check out, room inventory and Billing procedures are all computerised	5	4	3	2	1
Our hotel uses ICT to accommodate customer needs	5	4	3	2	1

Customers are considered an important factor for our hotel to adopt ICT	5	4	3	2	1
--	---	---	---	---	---

Impact of Environmental Factors in ICT uptake of your Hotel 3. Level of government support	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
Government is active in setting up the ICT infrastructure e.g. fiber optic cable	5	4	3	2	1
Government promotes ICT and e-commerce usage	5	4	3	2	1
Government ICT policy is good for the hotel sector	5	4	3	2	1

Impact of Environmental Factors in ICT uptake of your Hotel 4. Level of technology support	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
Property Management system improves efficiency and productivity for our hotel	5	4	3	2	1
Advanced internet security technologies help in safe and secure online transactions.	5	4	3	2	1
Faster internet speeds is important for ICT uptake	5	4	3	2	1
CCTV cameras technology advances enhance hotel security	5	4	3	2	1

The online travel agents generate more bookings for our hotel	5	4	3	2	1
The more we appear in various online travel agencies, the more rooms sales we make	5	4	3	2	1
Integrating our various departments through ICT network makes our work easier	5	4	3	2	1

V. Technological innovation and ICT uptake

Impact of Technological innovation in ICT uptake of your Hotel	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
1. Perceived benefits					
ICT enhances our Operational efficiency	5	4	3	2	1
ICT helps us improve our productivity	5	4	3	2	1
ICT enhances our competitiveness	5	4	3	2	1
ICT helps us in customer relationship management	5	4	3	2	1
ICT helps us to extend our Market reach	5	4	3	2	1

Impact of Technological innovation in ICT uptake of your Hotel 2. Complexity	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
ICT is easy for my employees to use	5	4	3	2	1
ICT is easy for my customers to use	5	4	3	2	1
ICT is clear and understandable to my employees	5	4	3	2	1
ICT is clear and understandable to my customers	5	4	3	2	1

Impact of Technological innovation in ICT uptake of your Hotel 3. Compatibility	5- Strongly Agree	4- Agree	3-Neither Agree nor Disagree	2 Disagree	1- Strongly Disagree
Using ICT is compatible with the way my hotel hotel does business	5	4	3	2	1
Online booking is available to my customers	5	4	3	2	1
Off-shore online payment gateway is available to my	5	4	3	2	1

3 2 1

Impact of Technological innovation in ICT uptake of your Hotel 4. Perceived Barriers	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
Using ICT does not amount to increased productivity	5	4	3	2	1
Most of my customers are not familiar with conducting online bookings	5	4	3	2	1
Most of my customers are not familiar with conducting online payment transactions	5	4	3	2	1
ICT use cannot reduce the costs of providing products and services to our customers	5	4	3	2	1

Impact of Technological innovation in ICT uptake of your Hotel 5. Image	5- Strongly Agree	4- Agree	3- Neither Agree nor Disagree	2- Disagree	1- Strongly Disagree
Hotel that uses ICT Technologies are more sophisticated than those that do not		4	3	2	1
Hotel that use ICT have higher standards than those that do not		4	3	2	1

7. Challenges faced from Online

Travel agencies () Unable to debit

the customer cards in advance ()

Customers who book long stay and
cancel

() Percentage allowed for cancellation fees can only compensate for
few bed nights () Hotel loses the opportunity for sales

8. Solutions to the challenges face from Online Travel agencies

() Reduction of room allocation to OTAs in

Peak seasons () Target Conference &

Business customers

() Direct sales to customers using hotel customer database

**Thank you for your Time and
co-operation.**

Abraham Guyo (Researcher)

Appendix III: Sample frame for survey population

5 star	4 star	3 star
Leopard Beach	Baobab Beach resort & Spa	Indian ocean Beach resort
Swahili Beach	Leisure Lodge, Beach and Golf resort	Diani Sea resort
	Msambweni Beach House and Private Villa	
	Diani reef Beach resort and Spa	

Source : Republic of Kenya (2003)

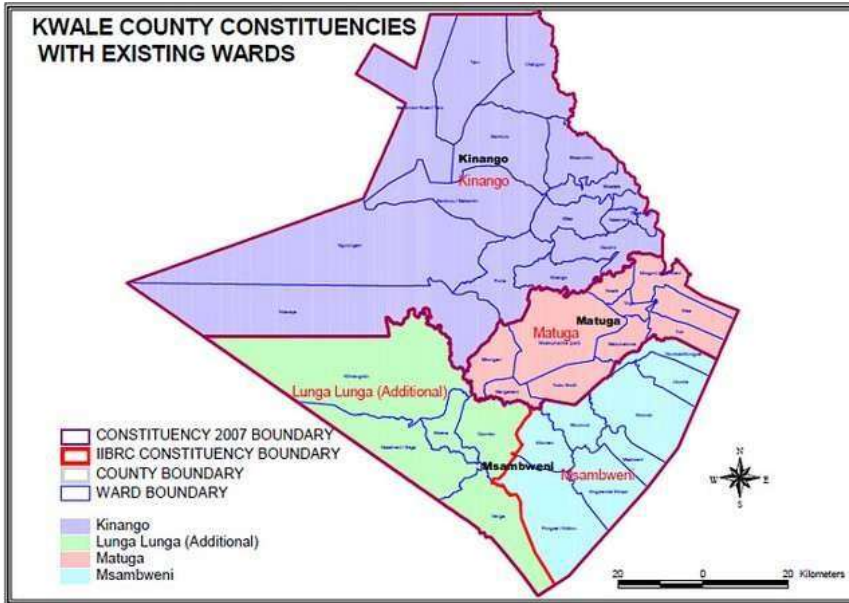
International Tour Operators (ITO) star rating for Hotels Located in Kwale County. Based on The Largest European Travel agency on the portal onlineweg.de and booking.com. *The list below excludes the TRA rated hotels as above.*

5 star	4 star	3 star	Boutique Hotels
The sands at Nomad	Amani Tiwi Beach Resort	Diani sea lodge	Pinewood Beach resort and spa
	Neptune Village Beach resort & Spa	Bahari dhow villas	Elewana Afrochic
	Neptune Paradise Beach resort & Spa		The maji Beach Boutique
	Neptune Palm Beach resort & Spa		Kinondo Poa
	The sands at Chale		Kinondo Kwetu
	Diani House		Almanara Luxury villas
	Southern Palms Beach resort		Lantana Galu Beach
	Ocean village Club		Lotfah resort
			Bluemarlin Beach hotel
			Sunset villa
			Diani Bay resort
			Galu Inn
			Waterlovers Beach resort
			Morning star resort

Appendix IV : Sample size distribution

Name of Hotel	Managers operat ions	manag ers reservations	mana ge rs mark eti ng	man ag ers ICT	total targ et ed	interv ie wed
Leopard Beach	3	1	1	1	6	4
Swahili beach	4	1	1	1	7	4
the sands at nomad	2	1	1	1	5	4
Baobab Beach resort & Spa	3	2	1	1	7	4
Leisure Lodge, Beach and Golf	4	2	1	1	8	4
Msambweni Beach House	1	1	1	1	4	4
Diani reef Beach resort and Spa	3	1	1	1	6	4
Amani Tiwi Beach Resort	4	1	1	1	7	4
Neptune Village Beach resort	2	1	1	1	5	4
Neptune Paradise Beach resort	1	1	1	1	4	4
Neptune Palm Beach resort & Spa	2	2	1	1	6	4
The sands at Chale	1	1	1	1	4	4
Diani House	1	1	1	1	4	4
Southern Palms Beach resort	3	2	1	1	7	4
Ocean village Club	2	1	1	1	5	4
Indian ocean Beach resort	3	1	1	1	6	4
Diani Sea resort	2	1	1	1	5	4
Diani sea lodge	2	1	1	1	5	4
Bahari dhow villas	1	1	1	1	4	4
Pinewood Beach resort and spa	1	1	1	1	4	4
Elewana Afrochic	1	1	1	1	4	4
The maji Beach Boutique	2	1	1	1	5	4
Kinondo Poa	1	1	1	1	4	4
Kinondo Kwetu	1	1	1	1	4	4
Almanara Luxury villas	1	1	1	1	4	4
Lantana Galu Beach	2	1	1	1	5	4
Lotfah resort	2	1	1	1	5	0
Bluemarlin Beach hotel	1	1	1	1	4	0
Sunset villa	1	1	1	1	4	0
Diani Bay resort	1	1	1	1	4	0
Galu Inn	1	1	1	1	4	0
Waterlovers Beach resort	1	1	1	1	4	0
Morning star resort	1	1	1	1	4	0
	61	37	33	33	164	104

Appendix V : Map of Kwale / Diani Beach



Appendix VI: University Permit



**KENYATTA UNIVERSITY
GRADUATE SCHOOL**

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: T129/OL/15699/2008

DATE: 12th May, 2017

Director General,
National Commission for Science, Technology
& Innovation
P.O. Box 30623-00100,
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR GUYO ABRAHAM GALGALLO – REG. NO. T129/OL/15699/2008

I write to introduce Mr. Guyo Abraham Galgallo who is a Postgraduate Student of this University. He is registered for M.Sc degree programme in the Department of Hospitality Management.

Mr. Guyo intends to conduct research for an M.Sc Proposal entitled, "The Impact of Organizational, Innovation and Environmental Attributes in ICT Uptake for Kwale Hotels, Kenya".

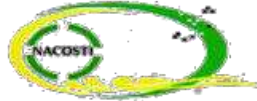
Any assistance given will be highly appreciated.

Yours faithfully,


MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

OL/mva

Appendix VII: University Permit



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: 020 400 7000,
0713 788787,0735404248
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KEN

Ref. No. **NACOSTI/P/17/43813/19467**

Date: **13th October, 2017**

Abraham Galgalo Guyo
Kenyatta University
P.O Box 43844-00100
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*The impact of organizational, innovation and environmental attributes in ICT uptake for Kwale Hostels, Kenya*" I am pleased to inform you that you have been authorized to undertake research in Kwale County for the period ending **12th October, 2018**.

You are advised to report to **the County Commissioner and the County Director of Education, Kwale County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.



GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Kwale County.

Appendix VIII: NACOSTI Research Authorization
Kwale County.


Appendix VIII: NACOSTI Permit

THIS IS TO CERTIFY THAT:
MR. ABRAHAM GALGALLO GUYO
of KENYATTA UNIVERSITY, 83446-80100
MOMBASA, has been permitted to
conduct research in Kwale County

on the topic: THE IMPACT OF
ORGANIZATIONAL, INNOVATION AND
ENVIRONMENTAL ATTRIBUTES IN ICT
UPTAKE FOR KWALE HOTELS, KENYA

for the period ending:
12th October, 2018

Permit No : NACOSTI/P/17/43813/19467
Date Of Issue : 13th October, 2017
Fee Received : Ksh 1000



Applicant's
Signature

Director General
National Commission for Science,
Technology & Innovation