IMPACT OF EXPLOITATION OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN THE MALAWI HOTEL SECTOR

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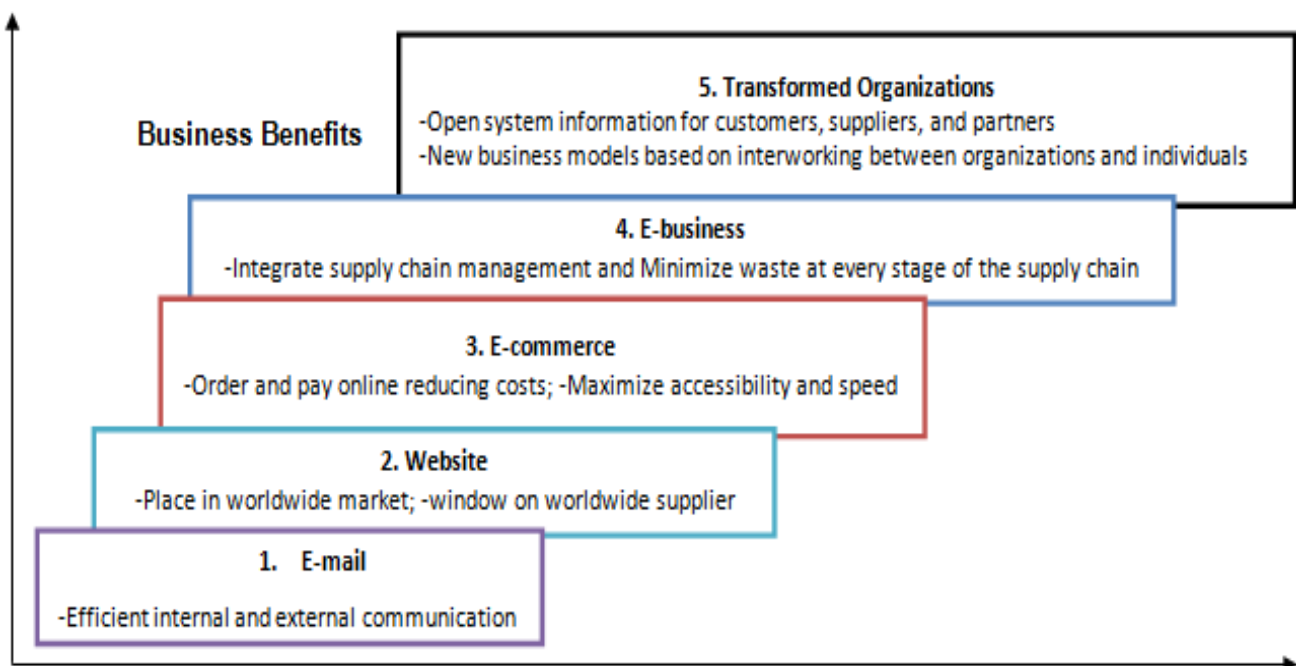m.shafaghi@bolton.ac.uk

Abstract

The tourism industry is an information-based sector and relies heavily on information and communication technologies to communicate across various players in the value chain. However, there hasn't been a systematic analysis and empirical research on the hotel industry in Malawi and the impact of Information and Communication Technology (ICT) exploitation on its competitiveness, enhancing competitive advantage, and upgrading of internal business processes. This paper presents partial results of a study into PHD on the Impact of ICT exploitation in the Tourism Value Chain and focuses on the exploitation of ICT in the Malawi hotel sector. The research involved a self-administered questionnaire survey of 96 hotels in Malawi. The findings from the empirical study suggest that the majority of hotels have some form ICT strategy, are using basic ICT hardware such as personal computer and laptop as an entry point into the virtual world, and using ICT for functional areas of business including human resources management, financial management and marketing their services and products. In addition, there are a number of challenges faced by hotels in Malawi including expensive ICT infrastructure, lack of expertise and technical knowhow in ICT, limited investments in ICT applications and software, and limited telecommunications infrastructure.

Keywords: ICT exploitation, Tourism value chain, Competitive advantage, Hotel Sector, Competitiveness

INTRODUCTION

There is clear evidence that ICT has revolutionized the way business is conducted and is critical to the interface between a business and its Customers, Markets, Suppliers, Partners and other stakeholders. In addition, business processes have fundamentally been enhanced due to the exploitation of ICT. It is therefore a requirement for businesses to reposition themselves through usage of ICT in order for them to migrate to the next level in the value chain that they are operating to improve their business performance, market performance, and ability to interact with various chain partners, as depicted in figure 1.

Figure 1: Model of ICT Adoption by Organization

Business Benefits

5. Transformed Organizations
-Open system information for customers, suppliers, and partners
-New business models based on interworking between organizations and individuals

4. E-business
-Integrate supply chain management and Minimize waste at every stage of the supply chain

3. E-commerce
-Order and pay online reducing costs; -Maximize accessibility and speed

2. Website
-Place in worldwide market; -window on worldwide supplier

1. E-mail
-Efficient internal and external communication

Source: Taylor and Murphy, 2004

Viewed from a purely technological perspective, engagement with ICT is sequential and progressive as can be noted in Figure above. Taylor and Murphy (2004) have put forth this model for ICT adoption where the sequence for adoption begins with the use of E-mail and progresses through website development to the buying, selling and payment mechanisms of e-commerce, to the supply chain management of e-business and the new business models built on full immersion in the technology.

The model implies that business benefits derive directly from the organizational change and increasing ICT sophistication that the Internet facilitates. That change is progressive and the greater sophistication derived, in turn, from the supposed unique qualities of the Internet,

including ubiquity of use, interactivity that permits collaboration, speed that allows businesses to build quickly, and intelligence – endowing the ability to retrieve, store and process information, the greater increased benefits accruing to the organisation. These qualities offer new ways of organizing value chains (especially disintermediation and reintermediation) and allow new forms of market place to emerge.

The tourism industry is an information-based sector and the use of ICT is ubiquitous to the industry. The tourism industry has certainly been one of the first to make large-scale use of the new information technologies (European Commission, 2003).   All players in the tourism value chain become users of ICT in order to ensure their own survival and competitiveness. Gratzer et al. (2004) argues that competitive advantage is gained by tourism value chain players who utilize digital electronic methods and tools to gather, process, share and distribute information.

Among the tourism value chain players, probably the hotel sector is the major user of ICT mainly because tourists expect accommodation that is affordable yet of high standard. To this end, most hotels utilize ICT to communicate with various players across the tourism value chain. This paper examines empirical evidence of the impact of ICT exploitation on the hotel industry in Malawi and provides insight on how ICT has contributed significantly to the competitiveness of the industry and how it has created comparative advantage for the industry to compete globally.

LITERATURE REVIEW

Tourism Trends and Significance

Tourism is usually defined as services for people travelling to and staying outside their usual environment for less than one consecutive year for leisure or business purposes (European Commission, 2003; UNWTO, 1995), and it is a powerful vehicle for economic growth and job creation all over the world. The tourism sector is directly or indirectly responsible for 8.8 percent of the world's jobs (258million); 9.1 percent of the world's GDP (US$6 trillion); 5.8 percent of the world's exports (US$1.1 trillion); and 4.5 percent of the world's investment (US$652 billion) (Christie et al, 2013). Tourism also generates a demand for transport, telecommunications and financial services. Its revenues support a significant proportion of the economies of many nations and it is one of the largest employers worldwide (Farkhondehzaden, et al, 2013) and, unlike many other sectors, it is forecasted to grow in the coming decades as leisure time increases.

According to Tourism Towards 2030 by United Nations World Tourism Organization's (UNWTO, 2015) updated long-term outlook and assessment of future tourism trends from 2010

to 2030, suggests that the number of tourist arrivals worldwide is expected to increase by 3.3 percent a year on average. This represents some 43 million more international tourist arrivals every year. By 2015, over 1.1 billion international tourist arrivals were recorded worldwide and, at this pace of growth, it is projected to surpass 1.4 billion by 2020 and reaching almost 2 billion by 2030. The trajectory for growth is therefore enormous.

Tourism in Sub-Saharan Africa (SSA)

According to the World Bank (2015) tourism is one of the key industries driving the current change in sub-Saharan African (SSA) economies and tourism could be a transformative tool within this takeoff.

One of the key findings of the African Tourism Monitor (2015) report is that the tourism sector in Africa is growing. According to the report, Global international tourist arrivals into SSA have been growing steadily at 4-5 percent per year since the 1950s. Between 2008 and 2009, tourist arrivals to SSA increased by 4.4 percent while arrivals worldwide dropped by 3.8 percent. Between 2009 and 2010, tourist arrivals in SSA increased by 8 percent; the world average was 6.6 percent. Africa was the only region where tourism sector grew during the world economic crisis. The sector is expected to keep growing (UNWTO, 2010). From a small base of just 17.4 million visitors in 1990, SSA attracted 33.8 million visitors in 2012 (African Tourism Monitor, 2015). Receipts from tourism in 2012 amounted to over US$36 billion and directly contributed 2.8% to the region's GDP (total contribution, including direct, indirect and induced, stood at 7.3% of GDP (World Travel and Tourism Council, 2013). According to the African Tourism Monitor (2015) report, in 2014, a total of 65.3 million international tourists visited the continent – around 200,000 more than in 2013. The sector has therefore quadrupled in size in less than 15 years.

The World Tourism Organization (UNWTO, 2015) posits that Africa's strong performance in 2014 (up 4%) makes it one of the world's fastest-growing tourist destinations, second only to Southeast Asia (up 6%). Figure 2 depicts a trend in the increase in tourist arrival over the past fifty years. Africa's share of world arrivals, though still small, is growing. Longer-term forecasts provided by UNWTO predict the region will receive 77 million arrivals by 2020 (compared with just over 30 million in 2010), 50 million of which will be intra-regional visitors.

Figure 2: Trend Analysis of Global Tourist from 1950 to 2020
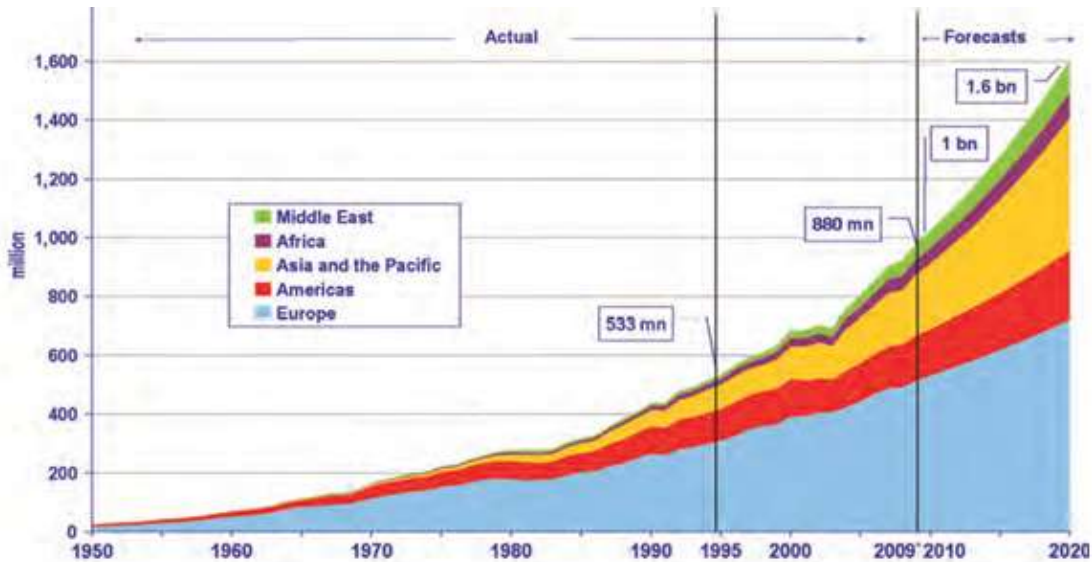
In SSA, tourism destination performance varies considerably by region and within the regions. East and Southern Africa attract more tourists and contribute more to GDP than West and Central Africa (Table 1).

Table 1: International Tourism to Africa: Arrivals and Receipts by Region

Region	Total tourist arrivals	Total long hauls	Receipts (US$, million)	Average contribution to GDP (%)
Southern Africa	10,626,127	2,509,893	8,599	3.4
East Africa	11,905,651	3,944,858	6,332	5.5
West Africa	4,419,061	1,748,555	2,676	2.0
Central Africa	1,075,408	654,168	631	1.7
Total	28,026,247	8,857,474	18,238	2.6

On a sub-regional level, tourism contributes most to East Africa's GDP (5.5 percent), followed by Southern Africa (3.4 percent) and West Africa (2 percent), and just 1.7 percent to Central Africa's GDP. In each region, certain countries predominate in attracting tourists: in East Africa, Zimbabwe receives 16 percent of international arrivals, Mozambique 15 percent, and Kenya 15 percent; in Southern Africa, South Africa is the leading destination, receiving 66 percent of all tourist arrivals to the region, compared to Namibia's 9 percent; in West Africa, Senegal and

Nigeria are the dominant destinations, together accounting for 78 percent of visitors to the region, mainly because they are the main economic hubs and major tourist attractions in the region.

With the full knowledge that tourism is a complex sector with tentacles into a myriad of other economic activities, all of which require careful management, countries with tourism assets are fully justified in deciding to prioritize tourism as a development strategy. The potential for tourism growth in SSA is significant. Tourism can be a powerful economic development tool for Africa. Tourism contributed US$33.5 billion to the economies of SSA, accounting for 2.7 percent of the region's GDP (World Travel and Tourism Council, 2012). In 2014, Africa recorded US $43.6 billion in revenue. According to the UK's World Travel and Tourism Council (2015), the international tourism sector now accounts for 8.1% of Africa's total GDP. More tourists also mean more jobs. Already, one in every 20 jobs in Africa involves tourism and the travel industry (World Bank, 2013). The World Travel and Tourism Council (2015) estimates that 3.8 million jobs (including 2.4 million indirect jobs) could be created by the tourism industry in Sub-Saharan Africa (SSA) over the next 10 years (by 2025). Across the continent, there are around 20 million people working directly or indirectly for the tourism industry (Africa Tourism Monitor, 2015). This means that the sector accounts for 7.1% of all jobs in Africa. Jobs supported by the sector include guides, hotel staff, interpreters, aviation staff and small businesses. New analysis indicates that women manage about 50 percent of hospitality businesses in Africa (UNWTO, 2011).

Tourism provides multiple opportunities for economic growth and improved livelihoods. The region has abundant assets, with expansive beaches, plentiful wildlife, extensive natural and cultural attractions, and adventure opportunities. Considerable opportunities for expansion exist in safari, beach, business, and diaspora tourism, including in regions of destination countries that have not yet benefited from tourism. Furthermore, SSA has great potential to expand products and services that are more recently in greater demand, such as nature/adventure tourism, cultural heritage tourism, and travel for well-being, health and retirement purposes (Christie et al, 2013).

Tourism in Malawi

In Malawi, Tourism is the third largest foreign exchange earner after Tea and Tobacco, and a major employer, accounting for 12% of the total wage employment by 2016. It contributes about 11% of the gross domestic product (GDP) (Malope, 2006). In 2012, the country received 770,341 visitors, contributing MK59.6 billion (US$149 million) in visitor exports which rose to 800,000 in 2013 (Malawi Economic Report, 2012) and by 2015 the number of international

tourists had risen to 850,000 and the sector brought in K105 billion (US$180 million), which is about 3.5 percent of Gross Domestic Product [GDP], (Annual Economic Report, 2016). In this regard, tourism remains one of the country's key sectors with significant potential for growth making a substantial contribution to the socio-economic development of the country.

The plan to build hotels started as soon as Malawi gained independence. The first hotel was opened in 1969 and by 1972Malawi had a total of 9 hotels and inns that were owned by Malawi Development Corporation (MDC). Among the 9 hotels, four were directly built by government while five were purchased in take-overs from private owners. During the 1970s, government continued with building and acquiring more hotels, inns or resorts of acceptable international standards. Of special concern was the lakeshore area, which was considered to be the focus of tourism development, and had two hotels by the 1970s (Magombo, 2011).

Table 2 shows an analysis of hotel accommodation amongst six top sub-Saharan African countries.

Table 2: Top sub-Saharan African Countries by Hotel Accommodation

| World region	Total hotel rooms	International hotel rooms	Average occupancy (%)	Year of most recent recorded data
South Africa	61,417	9,850	57	2007
Tanzania	31,365	1,588	43	2005
Kenya	24,354	2,284	92	2007
Cameroon	24,803	673	17	2006 and 2007
Ghana	24,410	902	75	2005 and 2008
Malawi	20,871	120	61	2004 and 2006

Source: WTO, 2012

Referring to table 2, Malawi is one of the top six tourist destinations in Africa and it is rated high above big countries like Nigeria.

ICT exploitation in the Accommodation and Hospitality Industry

ICTs have penetrated accommodation and hospitality sector at a fast pace, integrating the hotel operations, reshaping the marketing function, improving total efficiency, providing tools for marketing research and partnership building, and enhancing customer services, while also providing strategic opportunities. Concerning bookings made during the trip, Mobile Hotel Bookings continued to grow throughout 2016, with a prediction that 50% of direct online bookings will be made via mobile devices by 2017 (Seggitur and CICtourGUNE, 2014).

Moreover, search tools facilitate finding information about the hotels online. Examples include Google, Bing, Yahoo, Booking.com, open data for accommodations. The following Technology Map summarises common ICT applications that are used by accommodation providers globally:

Figure 3: Technology Map for Accommodation Providers
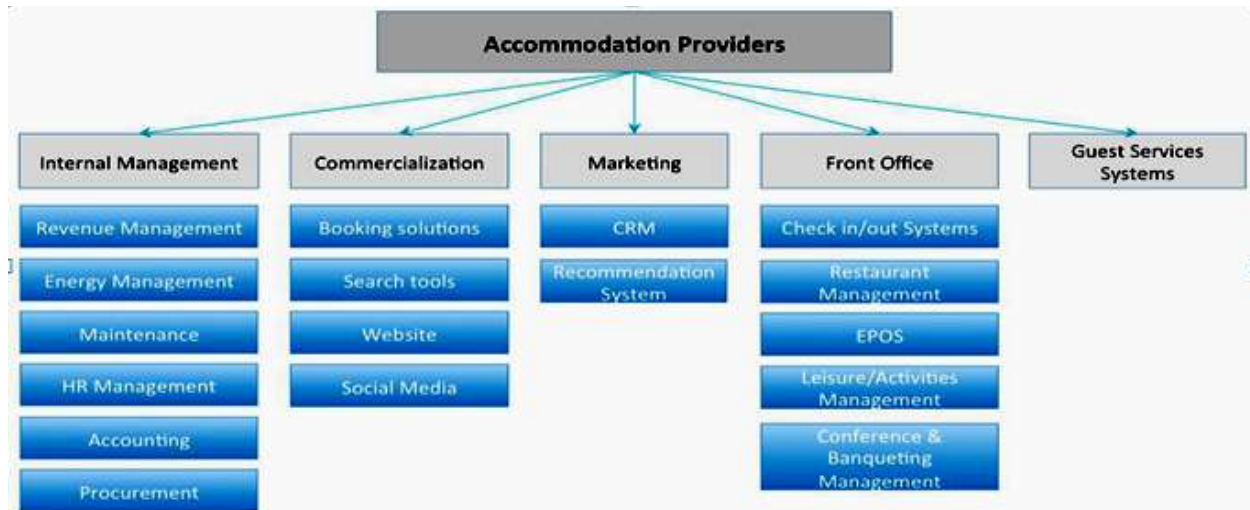
Source: Seggitur and CICtourGUNE (2014)

The main processes to consider for accommodation providers include Front Office processes, marketing, Commercialization, Internal Management, Guest Services and General ICT Management. The Table below gives a summary of these processes:

Table 3: Main ICT Processes and Functions in the Hotel Sector

Process	Main Functions	ICT exploitation or usage
Internal Management	Revenue Management	Online payments, Point of sale machines, Budgeting, planning and forecasting
	HR Management	e-HRM for recruitment, selection and training
	Energy management	Electricity control measures – automated systems
	Accounting	Payroll, automated ledgers, generation of financial statements
	Procurement	e-tendering, online ordering
Commercialization	Booking solutions	Online destination viewing, accommodation booking and payment
	Search tools	search engines and accommodation databases
	Website	Marketing, customer and supplier interaction
	Social media	Customer, supplier and stakeholder interactions, promotional events, marketing

Marketing	Customer Relationship Management	Keeping closer customer relationships
Front Office	Check in/ check out systems	Allow customers to enter data concerning their reservation and undertake their check-in and check-out conveniently by themselves
	Restaurant management	Inventory management, online ordering and payment
	Point of Sale Machines	Payment with credit and/or debit cards
	Leisure/activities management	Online bookings and payments
	Conference and banqueting management	Online bookings and payment, e-quotes, audio-visual online conferencing
Guest Service Systems	Property Management Systems (PMS)	The use of PMS for reservation and yield management system via single-image inventory, guest accounting, call centres and CRSs, Public Broadcast Exchange (PBX), restaurant reservation and table management system

RESEARCH METHODOLOGY

The methodology for this study is based on quantitative research using a sample of 96 hotels in the four major cities in Malawi (Lilongwe, Blantyre, Mzuzu and Zomba) and one district along the lake shore (Salima) which is the main tourists' destination. A questionnaire, which was self-designed by the researcher, was used to generate data in the areas of ICT strategy, equipment and applications being used, facilitators for ICT adoption and exploitation, purpose of ICT exploitation, main barriers to ICT adoption and exploitation, barriers to ICT exploitation, benefits of ICT exploitation and financial investments in ICT. The design and structure of the research instrument was aimed at answering the key research questions and meeting the objectives of the study.

Purposive sampling, where the primary consideration is the researcher's judgment as to who can provide the best information to achieve the objectives of the study was used to collect data. The advantage of purposive sampling is that it is extremely useful when the researcher wants to construct a historical reality, describe a phenomenon or develop something about which only a little is known (Kumar, 2010; Saunders et al. 2009). Purposive sampling was considered ideal for this research as it depended on the researcher's discretion to select the

hotels that could provide the best information to achieve the objectives of the study and to select cases that will best answer the research questions. To this end, the researcher used his judgment in selecting the hotels to participate in the study. This ensured the inclusion of all hotels that use ICT in their daily operations, those who make decisions in making investments in ICT, decision makers who decide which ICT software and applications should be used. The designed questionnaire was presented to selected personnel; who included owner/managers, operations managers, general managers, IT personnel, finance officers and customer relationship managers,

## ANALYSIS AND DISCUSSION OF FINDINGS

ICT Strategy by the Hotel sector

The starting point for data collection was to obtain information about the ICT strategy used by the companies under study. The study found that almost 85 percent of the hotels have an ICT strategy that they are using as a road map to navigate through the coming years so as to remain competitive in a globalized world. Whilst the formal or informal nature of such strategic thrust is important, the significance of this finding is that there is a realization amongst the management of hotels in Malawi that ICT is an important resource that needs to be managed enabling them to enhance their competitiveness and gain competitive advantage. The study suggests that the level, extent, and sophistication of ICT strategy varied amongst the participants, and there is clear evidence that there is room for improvement. There was some realization of the importance of ICT as a resource by companies who do not have an ICT strategy, never the less for various reasons the progress of these companies was limited in relation to the exploitation of ICT.

Equipment and applications in ICT exploitation

The study then delved to find out the facilities and resources that the hotels under study are using as an entry point in ICT exploitation. From the data collected, 91 percent of the hotels have a PC and/or laptop which reflect the basic use of ICT equipment (Figure 4). The implication of this finding is that the majority of Malawian hotels are using ICT as a support in their day to day work hence have made investments in basic ICT equipment in order to enhance their competitiveness and as a first step in exploitation of ICT. As such, the high usage of the PC and Laptop equipment denotes the increased awareness by businesses of the importance of ICT.

Figure 4: Applications and Resources
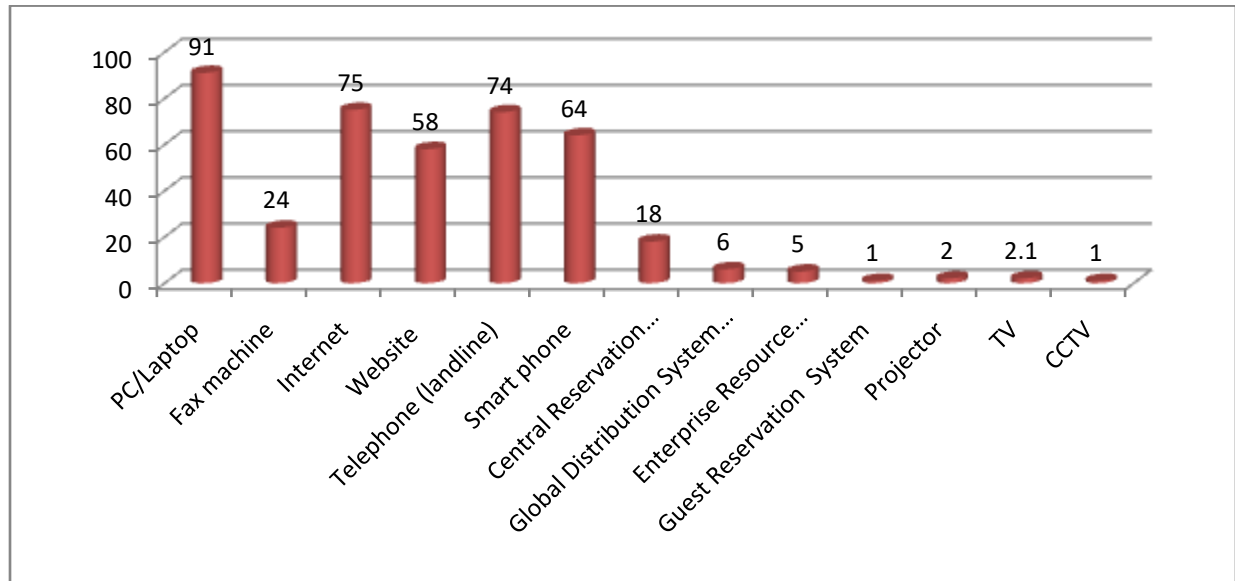
The Internet is also being widely used by the accommodation sector as indicated by 75 percent of respondents. This is a very significant finding. The advent of the Internet completely changed the landscape of how people and businesses communicate and conduct business and all categories of players in the tourism industry are now directly accessible and have implemented their Internet strategy (The European Commission, 2003). Travel and tourism is a major field of Internet usage. In terms of sales, tourism products, such as air tickets, hotel rooms and last-minute holiday packages, are the most common products sold via the Internet, apart from books. This demonstrates that the Internet is used as a booking machine (Ashari, et al. 2014). Whereas established markets can be reached by active communication via direct marketing, trade exhibitions, traditional public relations (PR) and advertisements, new incoming tourists are not easy to target. In using the Internet as a marketing channel, it is important to understand that customers find the business more than the business finds the customer – potential new visitors use the Internet to independently locate a website. The Internet is undoubtedly the cheapest, most convenient and efficient way to address these potential new customers in some African countries (Arlt, 2003). The numbers of Internet users continue to grow exponentially with developing countries reporting bigger increase (Tan et al. 2009). To this end, the Internet provides hotels with a means of reaching end users and being reached by them while internal processes such as production, collaboration, sales and marketing (e-marketing), service and e-learning are optimized/streamlined using Internet technologies (Milutinovic and Patrcelli (2010). New trends are emerging as industry value chains become increasingly sophisticated and global and therefore the competitiveness of hotels increasingly depend on their capacity to

connect better and do business with other enterprises to integrate into global value chains and thus become international business partners.

Despite this relatively high uptake in Internet usage, one in every five hotels under the study is not using the Internet. This is mainly attributed to the fact that Malawi as a developing country has inadequate ICT infrastructure especially in the rural areas. This situation makes it a challenge for Malawi to provide electronic services to the general public, especially to those that reside in rural areas. In addition, lack of local and relevant Internet content and e-services that may be useful to organizations in rural areas hinders adoption of Internet in rural areas. In the same vein, the slow broadband Internet contributes to this lack of Internet usage.

The telephone, both landline (74%) and smart phones (64%), is an important ICT resource which is mainly a communication tool to reach a wide range of tourism players by the hotel sector. Of course the smart phone is now being widely used to browse the Internet, access social media hence it is a mobile tool that has multiple functions. The fact that the telephone is widely used by hotels in Malawi is an indication of the growing importance of communication in the hotel sector. However, 26% and 36% respectively are not using landline and smartphone mainly due to inadequate communication infrastructure and expensive connectivity charges.

The Website is a very important ICT application for just over half (58%) of hotels under study. A website is critical as a tool to communicate with a large number of customers in a variety of geographical settings, distribution of product information to them and information can be accessed to the same degree by industry players. However, considering the critical importance of having a web page for marketing purposes and to reach global audiences, the figure is relatively low and shows that the hotel sector in Malawi needs to up its game if it has to reach wider global audiences and use the website as a marketing tool.

There is relatively low uptake in the more sophisticated applications such as Central Reservations System (18%), Global Distribution System (6%) and Enterprise Resource Planning (5%). Central Reservation System (CRS) and Global Distribution System (GDS) have increasingly become key ICT tools for hotels globally. CRS/GDS demonstrate an "Intel inside" marketing strategy by linking to major tourist Web sites to increase transaction volume. With the aid of ICT applications, prospective tourists can view a destination, book accommodation, and pay without leaving their homes (Waghmode and Pallavi, 2012).

The basic goal of using an ERP system is to provide one central repository for all information that is shared by all the various ERP facets to improve the flow of data across the organisation. From a functional point of view, according to Tambouceus and Tambouceva (2013) an ERP integrates all enterprise functions (production and R&D, financial, HR,

marketing) and management functions (supervision and planning, organising, decision making, coordination and control).

The low adoption levels of GDS, CRS and ERP by Malawian hotels reflects the limited exploitation of more advanced applications by Malawian hotels due to lack of high investments that have to be made to procure such applications. An ERP application, for example, can cost over US$50,000 and, as illustrated in figure5, only 6 percent of hotels in Malawi made an investment of over US$50,000 in ICT in the financial year 2016/17 with the majority (45%) investing between US$1,000 to 5,000.

Figure 5: Investment in ICT for Financial Year 2016/17
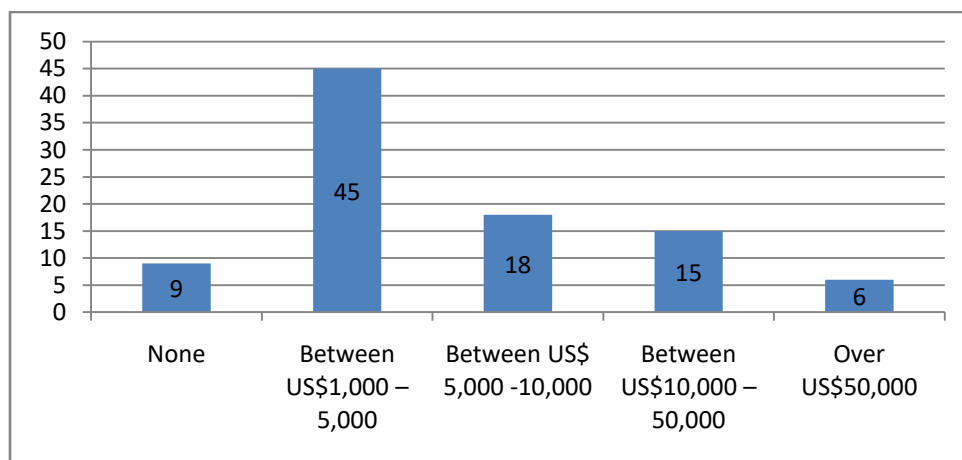
Main Facilitators of ICT exploitation

For ICT to be adopted and exploited there should be drivers in the organization that should facilitate the adoption and exploitation of the ICT. The empirical data collected as depicted in figure 6 shows that management commitment (92%) is very critical for ICT uptake within the organization.

Figure 5: Facilitators of ICT
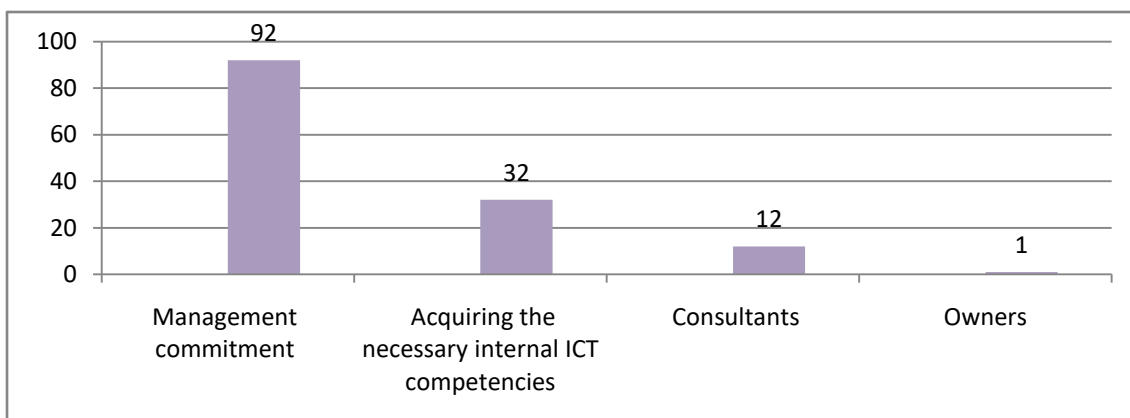
This finding is important because an organization's capacity to adopt and exploit ICT hinges on management's knowledge, acceptability and commitment to invest in ICT. In addition, considering that most hotels in Malawi are owned by individuals or families, the findings indicate that the overwhelming majority of entrepreneurs who own these establishments have come to the realization of the importance of ICT adoption and exploitation. Once there is management commitment, the possibility of the hotel having a strong ICT exploitation is assured. This has implications on the acquisition of the necessary ICT competences such as human resources and technical capacities required for the exploitation of ICT.

**Functions or Purpose of ICT Exploitation**

The essence of ICT adoption and exploitation are the functions that it can be used to enhance business efficiency, service improvement, and competitive advantage. From the data collected, it has been revealed that ICT is being used for numerous and multiple functions by the hotel sector in Malawi (Figure 6).

Nine out of ten of the respondents(91%) mentioned that they are using ICT for Human Resource Management (HRM) as companies are able to streamline their HRM functions by utilizing ICT applications that enables them to effectively and efficiently manage their human resources in areas such as Acquisition of Personnel, Training and Development, Performance Management and Compensation, Human Resource Mobility (vertical and horizontal), Working conditions and Work Schedules (including Health and Safety) and Employee Relations . This is a key finding since most hotels have a relatively large staff in various departments and the use of ICT in Human Resource Management which is aimed at attracting, selecting, retaining, training and motivating capable and competent people who possess the requisite qualifications, knowledge, skills, and experience required to satisfy human resource needs of the organization, is very important. Organizations are taking cognizance of the implications of e-HRM where jobs can be posted online and candidates can apply for the jobs via the Internet. This has now become a phenomenon and hotels are utilizing ICT exploitation as part of the recruitment process.

It is interesting to note that almost 3 out of 4 hotels (74%)in the country are using ICT for financial management and accounting purposes. There are numerous software applications that organizations are using to enhance their capacities to effectively conduct various financial management and accounting functions. Amongst others, SAGE X3, EPICOR, INTACCT, SYSPRO 7, IFS Application are being used for Budget management, Cash flow, E-invoicing, General ledger, Payroll, Advanced budgeting and planning, General ledger such as Accounts receivable, Revenue management and Cash management, Automating inter-entity transactions,

Estimating and quoting and Forecasting. The implication of this finding denotes that the hotel sector in Malawi has generally automated its financial management and accounting processes, thereby increasing efficiency of operations and increasing competitiveness of the industry.

Figure 6: Functions of ICT Exploitation
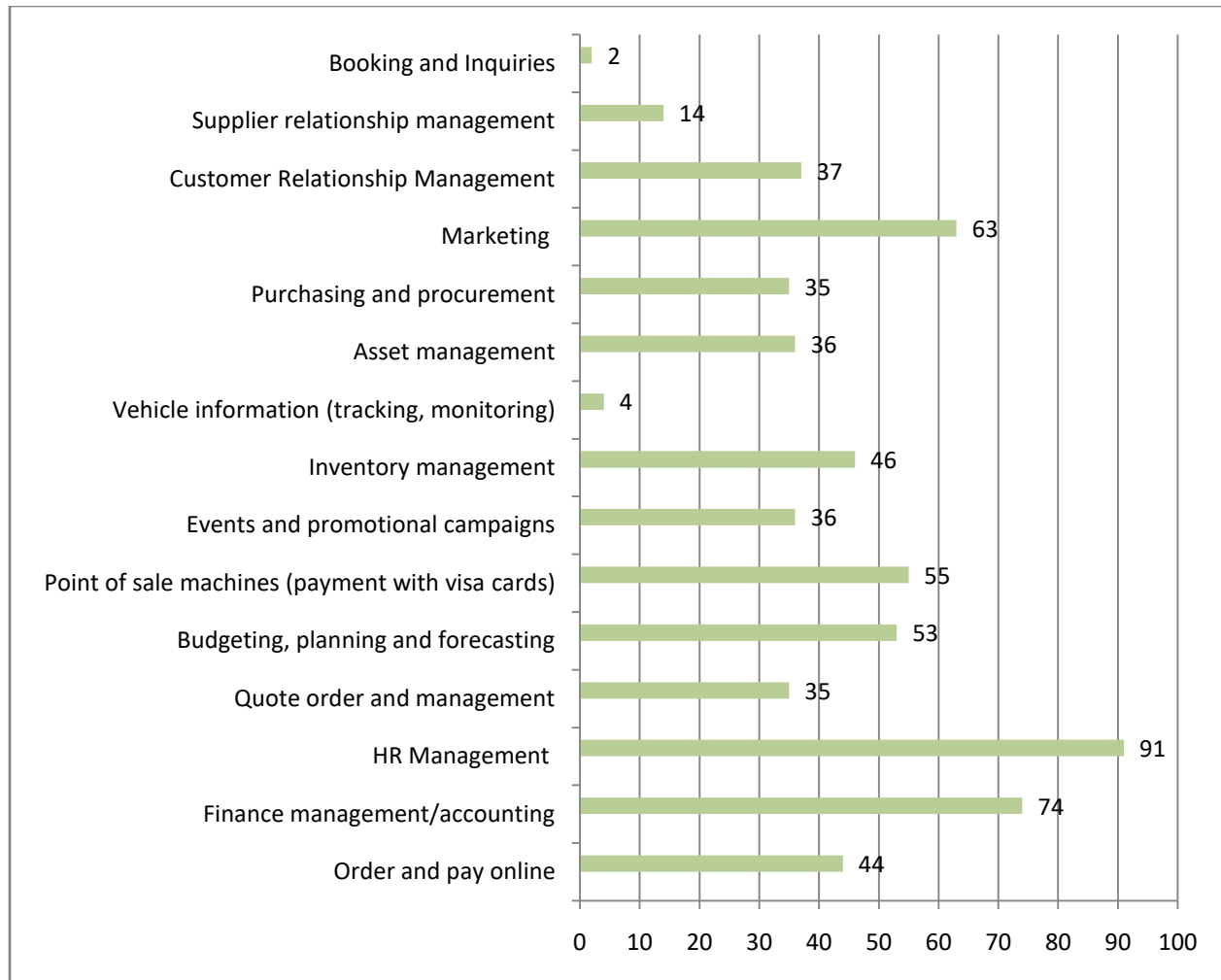
Marketing the products and services of the hotels (63%) is another major function that ICT is being used for by accommodation providers. This is a very important finding for the hotel sector. ICT encourages hotels to find new ways to expand the markets in which they compete, to attract and retain customers by tailoring products and services to their needs, and to restructure their business strategy to gain competitive advantage (Gratzer and Winiwater, 2004). Moreover, ICT enables travellers to access reliable and accurate information as well as to make reservations in a fraction of time, cost and convenience required by conventional methods (Wahgmode and Jamsandekar, 2012; Buhalis and O'Connor, 2005). To this effect, ICT-supported, consumer-

centric, flexible service delivery is critical and the hotel industry needs to become more flexible, efficient and quicker in responding to consumer requests as well as to offer ICT tools and mechanisms for product customization. As such, ICT does assist customization of service quality and contribute to higher guest and/or traveller satisfaction. To achieve customer centricity, hotels need to integrate their systems and development mechanisms for both recording customer reaction to stimulus and also to develop tools to allow consumers to customize their desired products to personal preferences and this can only be achieved through the usage of ICT. Having become exposed to several tourism products and destinations, experienced, sophisticated; demanding travellers rely heavily on electronic media to obtain information about destinations, as well as to be able to communicate their needs and wishes to suppliers rapidly. To this effect, ICT empowers consumers to identify, customize and purchase tourism products and supports the globalization of the industry by providing tools for developing, managing and distributing offerings worldwide (Buhalis and O'Connor, 2005). ICT also helps to provide immediate customer feedback that allows them to react fast to customer demands and recognize new market niches.

Kong et al. (2010) identifies the following as the most prevalent benefits for adopting ICT in marketing the products and services of accommodation providers: reduced operating costs in communicating with customers and suppliers; enhanced efficiency through better coordination of firms in the tourism value chain; and bigger market exposure which opens new opportunities and enable hotels to have global presence and partnerships around the world in an efficient and cost effective manner. In addition, as Buhalis and O'Connor (2005) points out, ICT also facilitates direct distribution thereby saving commission and fees, engage with customers, satisfy personalized needs and better understand customer preference and price elasticity. In addition, the Internet enables all types of hotels to be linked to emerging intermediaries and thereby distribute their products directly to consumers thus expanding their value chain and able to promote their product and services through a combination of partners and systems.

Over half of the respondents mentioned that they are using ICT for point of sale machines (paying with credit/debit cards – 55%) and for budgeting, planning and forecasting (53%).

Payment using credit or debit cards has become the norm as tourists do not want to carry large amounts of cash on them. In addition, considering that tourists do not have local currency, payments using POS is important to streamline online payments. However, although 55 percent of hotels have point of sale (POS) machines, there is need for the financial services sector and the accommodation providers to collaborate to ensure that the majority of hotels

have POS machines. Greater collaboration is therefore required between the two sectors to ensure that the majority of hotels have POS.

Budgeting, planning and forecasting are a very important business process for the accommodation sector. The use of Property Management Systems for reservation and yield management system via single-image inventory, guest accounting, call centers and Central Reservation Systems (CRSs), Public Broadcast Exchange (PBX), restaurant reservation and table management systems are elements of the hotel industry that need careful planning and forecasting in order to effectively allocate resources. Further integration between PMSs and hotel CRSs can improve efficiency, facilitate control, reduce personnel and minimize the response time to both customers and management requests.

Inventory and asset management is a very important business process in the hotel industry as hotels have to maintain and manage large records and registers of inventory. The study has revealed that 45 percent of respondents are using ICT in inventory management and this denotes that the other 55 percent are manually managing their inventory while 36 percent are using ICT to manage their assets. Considering the huge volumes of inventory and assets that an average hotel manages from food and beverages, beddings, toiletries, cutlery, furniture, there is room for hotels in Malawi to maneuver to increase the use of ICT in inventory and asset management.

Ordering and paying online was reported by 44 percent of the respondents as an important activity that requires usage of ICT. Considering the globalization of the financial system and the increase in e-commerce between business to business, online transactions have increased. The use of advanced ICT to improve business processes falls into the category of electronic business (e-business) which refers to information solutions packages used by enterprises for electronic business transaction purposes. Electronic commerce (e-commerce) is a part of e-business and is a concept that describes the process of buying and selling or exchanging products, services, and information via computer networks including the Internet (Gratzer et al, (2014). This is mainly done through Business to business (B2B) transactions which include the e-market transactions between organizations in which businesses buy and sell among themselves.

In addition, it can also be through Business to Consumer (B2C) which represents transactions between businesses and consumers where currency and/or information is exchanged for goods and services. Hotels interact with other businesses in the tourism value chain such transportation providers (airlines, vehicle hire), insurance companies, intermediaries such as travel agents and tour operators, food and beverages providers. In addition, they also transact with consumers such guests, customers to restaurants. Most of these order and pay

online and as such hotels in Malawi should take decisive measures to increase the usage of this mode of payment. Considering that 56 percent of respondents do not have the technology in place where other businesses and customers can order and pay online, the competitiveness of the hotel sector is being compromised in a globalized economy.

Other functions that are used by a third of the hotels in Malawi include Customer Relationship management (37%), conducting events and promotional campaigns (36%) to market the services of the hotel, managing quotes and orders from customers (35%), purchasing and procurement (35%).

The essence of Customer Relationship management is to ensure that the company stays closer to customers by ensuring that it is easy for customers to contact the organization and helping customers make the right choice. This is achieved by providing the right level of information, advice and guidance; improve customer reception such as handling efficiently customer enquiries, replying to customer enquiries within agreed time scale; keep customers informed of progress at all times and setting up procedures for handling problems via ICT such as fax, email, telephone, website, etc. To this end, hotels are exploiting ICT to keep track of customers and establish a two-way communication with them.

Regarding events and promotional campaigns, ICT is critical in raising the profile of the organization through outreach campaign to the customers. In addition, ICT takes the products and services of the organization to customers in a high impact manner. Hence hotels are exploiting ICT to bring their products and services they offer closer to their customers.

Businesses solicit quotes and orders for procurement purposes but also for managing customer orders and providing quotes to them. Hotels in particular are constantly receiving quotes and ordering goods and services from suppliers. ICT is being used to generate quotes and manage orders hence one in three hotels reported using ICT in quote and order management. This also applies in cases where the hotel has to give quotes to customers.

Purchasing and procurement is a very important aspect for an organization as it interacts and manages its supply chain. The use of ICT in procurement and purchasing reduces order lead-time and purchasing costs; speeds up requisitioning, bidding, supplier selection, and order placements; Suppliers get closer to their customers; Shorter cycle times may improve cash flow; Capital investment is low; Buyers enjoy comparison shopping, rapid ordering, reduced transaction costs, and lower inventory and may be part of an integrated Enterprise Resource Planning (ERP) system.

Despite making headway in the above processes, the majority (over 60%) of hotels in Malawi are not fully utilizing ICT for CRM, order and quote management, promotional campaigns and in procurement. Considering the significance of these processes in terms of

customer and supplier interaction, the hotel industry has a lot of work to do to upgrade to international standards. This will require deliberate strategies by the hotel sector in investing in competent human and technical resources.

Barriers to ICT exploitation

Malawi, as one of the least developed economies in the world, has over the years faced a number of socio-economic challenges which are associated, among other things, with weak or inadequate ICT infrastructure (Malawi ICT Policy, 2006). Malawian hotels are also required to respond to many challenges including; financial constraints, limited infrastructure, and lack of expertise and technical know-how, the poor macro-economic environment such as high interest and inflation rates, and Government policies and business environment. Empirical data collected from this research concurs with this as depicted in Figure 7.

Electricity blackouts were mentioned by 79 percent of the respondents as the major barrier to ICT exploitation in the hotel industry. This has mainly resulted from low generation capacity by the Electricity Supply Commission of Malawi (ESCOM) due to decreasing water levels in Lake Malawi. In addition, ESCOM has obsolete equipment that it is using to generate electricity.

Finally, ESCOM has very limited capacity to generate electricity to meet the increasing energy demands at both industry and household level as it lacks the necessary and required machinery and technical expertise. To this end, the country has experienced massive load shedding which has affected the hotel industry and other sectors of the economy.

Expensive ICT infrastructure was mentioned by 73 percent of the respondents as a major threat to the exploitation of ICT in the hotel sector. Most of the ICT equipment is imported; hence the cost of bringing it into the country is very high which makes it inaccessible especially to small players. This can be attributed to the high investment cost for ICT infrastructure. ICT infrastructure is heavily dependent on imported material. Linked to the above challenge, experts for constructing and installing the infrastructure have to be imported. Return on investment is low, especially in the rural areas due to the low telephone and computer use in those areas, and investors shun from investing in the rural areas. This is evidenced through the inadequate ICT infrastructure in Malawian rural areas.

Linked to the above are problems in accessing technological infrastructure due to the high cost of ICT.

Figure 7: Barriers to ICT Exploitation
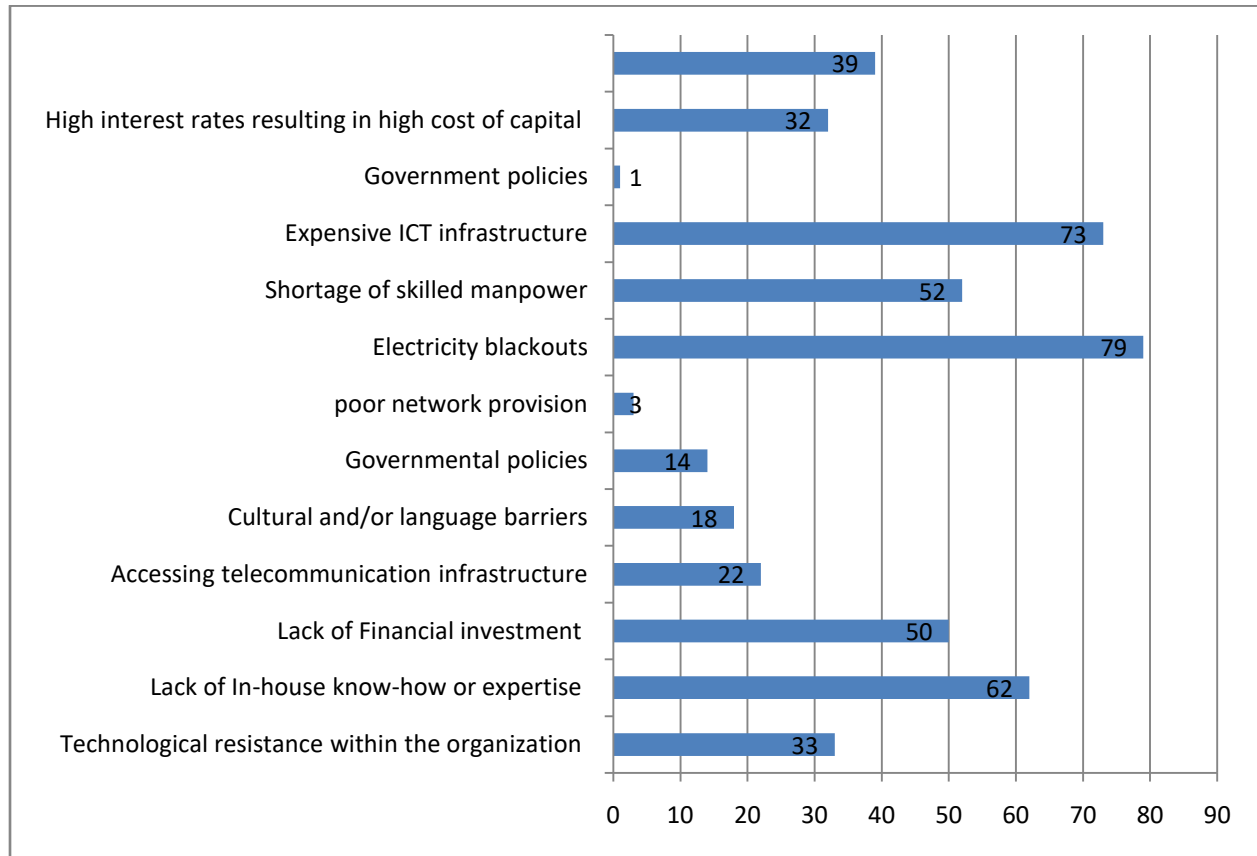
Sixty two percent of respondents reported that the major barrier to ICT adoption and exploitation in the Malawian hotel industry is lack of in-house know-how or expertise. This indicates that the country lacks the technical expertise in ICT and this is due to several reasons.

Firstly, there is underdeveloped research and development capacity in ICT. No patented ICT-based innovation has been recorded in the country. The country imports almost all of its ICT products and services.

Secondly, there are inadequate specialized ICT professionals and institutional capacity in the country. There are very few certified professionals in specialist ICT areas. Malawi continues to depend on international experts as well as institutions for capacity development and for implementing and managing complex ICT initiatives.

The other barrier mentioned by over half of the respondents to ICT adoption and exploitation is shortage of skilled manpower (52%) and this is mainly due to inadequate specialized ICT professionals and institutional capacity in the country. There are very few certified training institutions and professionals in specialist ICT areas. Malawi continues to depend on international experts as well as institutions for capacity development and for

implementing and managing complex ICT initiatives. Moreover, there is lack of awareness of ICT and e-services and their potential. Awareness programs on ICT and ICT-based services have not been implemented on a large scale in Malawi due to a lack of coordination.

The other barrier mentioned by 50 percent of respondents was lack of financial investments in the ICT sector. Data collected by the study indicates that the hotel industry is making minimal investments in ICT as depicted in the Figures below.

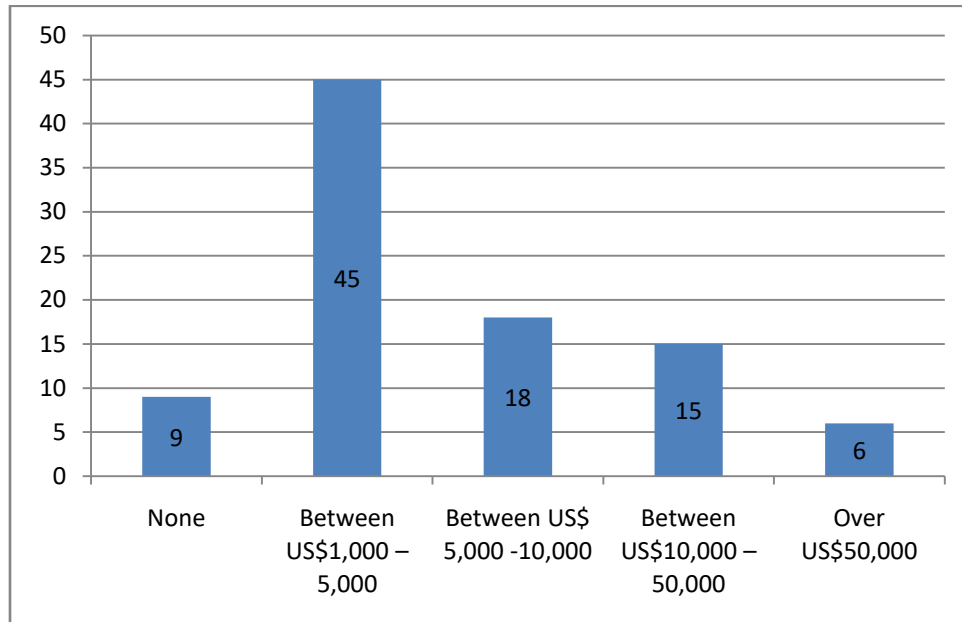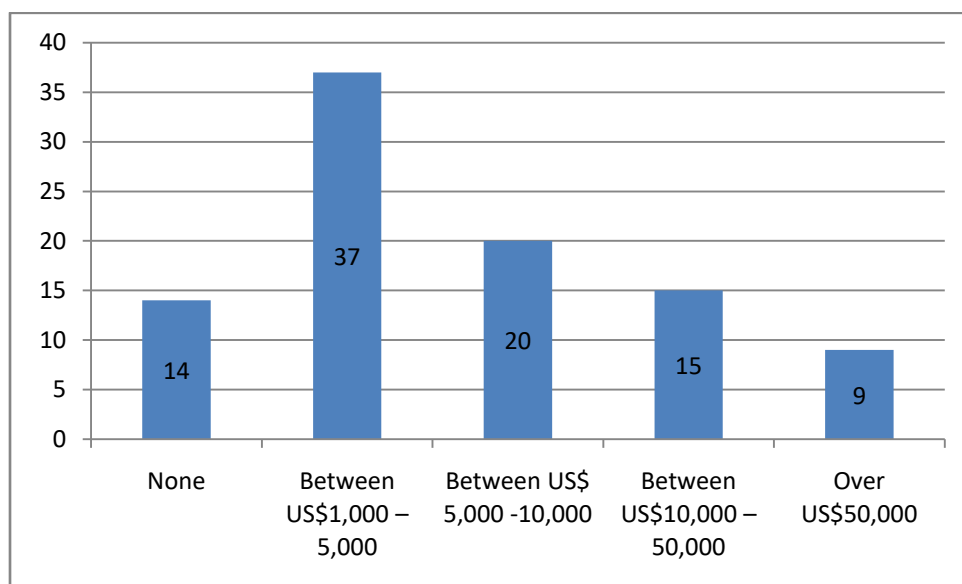Figure 8: Investment in ICT in 2016/17 Financial Year

Figure 9: Planned ICT Investment in 2017/18 Financial Year

The financial investment made in the financial year 2016/17 indicate that the majority of hotels (45%) made an investment of between US$1,000 to 5,000 while 18 percent made an investment of US$ 5,000 to 10,000 and a meagre 15 percent invested between US$ 10,000 to 50,000 while only 6 percent invested over US$50,000 in ICT. In terms of planned investments in ICT in 2017/18 financial year, 37 percent of respondents mentioned that they intend to invest between US$1,000 to 5,000 and only 9 percent will invest over US$50,000. In both financial years, 9 percent and 14 percent respectively have no intention of investing in ICT. The implication of this is that hotels in Malawi are investing in basic, low level ICT infrastructure and resources and not in more advanced applications.

To this end, the majority of hotels in the country will remain uncompetitive on the global scale, thereby losing out on the increasingly expanding and growing tourism market. Considering that ICT infrastructure is expensive in Malawi, there is need for the government to create a conducive environment to attract investments in ICT and telecommunications in the country.

Another barrier is technological resistance within the organization which was mentioned by 33 percent of respondents. There is a perception that ICT adoption and exploitation leads to employees being declared redundant and thereby losing their jobs. As such, employees are wary of ICT as they fear for their jobs.

Benefits from ICT exploitation

The rapid evolution of digital media technologies, the cost reduction in electronics and the advent of the Internet have led to series of "disruptive innovations" and displaced existing ways of business processes and practices and introduced new business models in the tourism value chain. ICT has changed and continues to change the nature of contemporary tourism. Its adoption in all parts of the industry is transforming tourism into an information and knowledge intensive sector in the globalized economy.

No player, large or small, can afford to ignore the impact of ICT-based innovation in the current and dynamic global business environment if that means to remain competitive in today's economic sphere. This is true of the hotel industry and as an information-based industry, the hotel sector hugely depends on how information is generated and disseminated across the various tourism value chain actors. ICT has a significant impact on the capture, storage, manipulation, and dissemination of information across the various tourism value chain, as depicted in Figure 10 below.

Figure 10: Benefits of ICT Exploitation
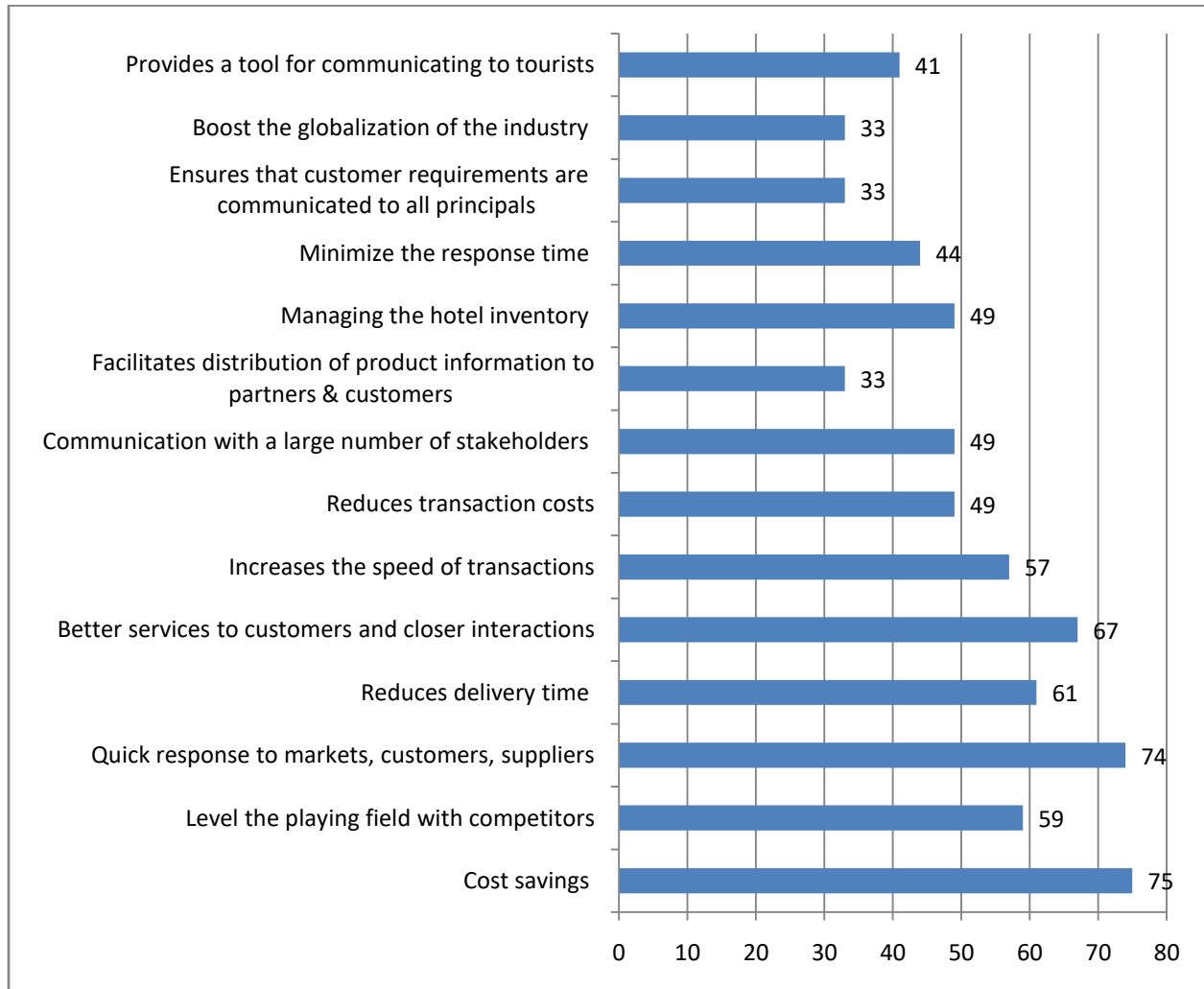
The findings suggest that ICT provides a competitive advantage due to cost savings (75%) and provides a tool to respond quickly to markets, customers and suppliers (74%). This implies that three in every four hotels in Malawi consider ICT as a very beneficial tool for business efficiency and facilitating integration of the various functions thereby centralizing the interconnectivity between systems. In the same vein, ICT facilitates control, reduce personnel and minimize the response time to both customers and management requests.

In addition, ICT exploitation provides an opportunity to offer better services to customers and closer interactions with them in the virtual world. To this end, ICT applications improve business performance in managing the supply chain thereby increasing efficiency and improved communications with customers. The implication of this is that hotels are able to integrate their internal operations more closely with their vendors, partners and customers. This facilitates closer working relationship with other tourism partners, increases productivity, enhances

efficiency, and facilitates greater access to market information and knowledge, and reaching new clients from either locally, regionally or globally. In addition, better communication with customers helps hotels to be aware of the environmental changes and respond quickly to changing competitive rules by initiating new services, products and processes that satisfy new needs.

Other important benefits accrued from ICT exploitation include reduction in delivery time of services and products (61%) and increased speed of transactions (57%). The implication of this finding is that ICT exploitation increases business performance of enterprises enabling potential customers to access up to date, reliable and accurate information as well as making reservations in a fraction of time and cost provided by conventional methods. As such, ICT can assist customization of service quality and contribute to higher guest and/or traveller satisfaction. Buhalis and O'Connor (2005) concurs with this finding by pointing out that having become exposed to several tourism products and destinations, experienced, sophisticated, demanding travellers rely heavily on electronic media to obtain information about destinations, as well as to be able to communicate their needs and wishes to suppliers rapidly.

Fifty nine percent of respondents mentioned leveling the playing field with competitors mainly through the use of the Internet as a benefit of ICT exploitation. The Internet is an extremely cost-effective marketing medium, which has the potential to level the playing-field for small tourism businesses. The Internet is an important cross-cultural promotional tool for tourism that can be used to weave together text and graphics to globally market individual tourism businesses and destinations (Ashari et al, 2014). The Internet has dramatically changed the way people communicate, search information, make decisions, and particularly the way they buy goods and services. Travel products in particular have proven to be some of the most suitable ones to sale online (Gratzer and Winiwater, 2014). The Internet is changing the industry structure by altering barriers to entry, minimizing switching costs, revolutionizing distribution channels, facilitating price transparency and competition, while enhancing production efficiency (Ashari et al, 2014). Hotels in Malawi have enhanced their position within the global tourism industry due to the increased of interconnectivity and interactivity with consumers and partners, thereby leveling the playing field with global players.

Managing the hotel inventory and reducing transaction costs were mentioned by 49 percent of the respondents as key benefits that ICT brings to their organizations. Hotels manage large amounts of inventory and hence at the firm level, ICT and its applications can make communication within the firm faster and make the management of the hotel's resources more efficient. To this end, ICT improves the hotel's ability to plan better for future inventory needs by

providing management with easy access to relevant information about different operations within the firm.

Further, at inter-firm level, the Internet and e-commerce have great potential for reducing transaction costs and increasing the speed and reliability of transactions. They can also reduce inefficiencies resulting from lack of coordination between firms in the value chain. In fact, adopters of e-commerce tend to reduce transaction costs, increase transaction speed and reliability, and extract maximum value from transactions in their value chains.

Another benefit of ICT that was mentioned by 49 percent of respondents is communication with a large number of stakeholders in a variety of geographical settings, with a wide range of customers and provision of critical information on products to them, and easy access of information. As such, to compete on a global scale, being able to stay closer to customers and suppliers and thereby improving efficiencies, hotels in Malawi must adopt and use ICT. As such, it is imperative that the majority of hotels should consider ICT as an important approach in their business to take competitive advantage from the global markets.

Minimizing response time (44%) and ICT providing a tool for communicating to tourists the key and important information pertaining to the destination (41%) are some other benefits of ICT exploitation in the hotel sector. In terms of the former, by linking intranets to the Internet, hotels are able to integrate their internal operations more closely with their vendors, partners and customers. ICT is permeating the supply chain, transforming the way value activities are performed and the nature of the linkages among them (Borghoff, 2014). Pertaining to the later, hotels have enhanced their position within the tourism industry due to the increased possibility of interconnectivity and interactivity with consumers and partners. From a customer perspective, the Internet has affected the bargaining power of buyers. Buyers have gained bargaining power as they now have instant access to information, understand market offers and conditions better and are constantly exposed to special offers. In today's tourism world, using ICTs and the Internet is no longer a distinctive characteristic by itself, and only effective and efficient use of it can help in obtaining a competitive advantage. The flexibility of the Internet and the ability to address different target markets support hotels to develop a marketing proposition for each target market and to create themes or routes through the destination to address the needs of each market.

As can be deduced from above, ICT benefits justify making and increasing investments in ICT in the hotel sector in Malawi. By creating a conducive environment for ICT exploitation in the country, the government could assist the hotel industry to overcome some of the problems it is facing in ICT exploitation such as expensive equipment and lack of local expertise.

CONCLUSION

There is clear evidence that companies in the hotel sector are realizing the importance and benefits that ICT accrues to their businesses. At the moment, the hotel sector is mainly using ICT as a support system i.e. human resources and financial management while others are using the Internet for marketing, ordering and paying online, inventory and asset management. In this way, the hotel sector has realized the importance of exploiting ICT as critical to the interface between a business and its suppliers, partners, other stakeholders and customers and markets. In addition, business processes have fundamentally been altered due to the exploitation of ICT. Some deductions can be made from the findings of this study.

Firstly, the findings of this study indicate that the hotel sector in Malawi is responding to the globalization of the industry which has been fuelled by the exploitation of ICT. The international business environment is now characterized by a world without barriers, shrinking distance due to advances in transportation and information technology, similar culture, merging economies. The main driver of globalization has been the increased exploitation of ICT through rapid developments in microprocessors that have changed the way people communicate and advances in transport technology. The hotel sector has taken advantage of these developments and the majority of accommodation providers in Malawi is using the PC/Laptop as an entry into the virtual and digital world, has a website, are using telephones and the Internet.

Secondly, the use of ICT as an important tool to communicate with customers, suppliers and partners has driven the uptake of ICT in the hotel sector in Malawi. It must be pointed out that the creation and delivery of tourism products is based on partnerships between a range of organizations; including transportation, accommodation, catering, entertainment, and cultural heritage. Taking advantage of the characteristics of the virtual reality, hotels are adapting their products and services constantly to satisfy tourism demand; use information extensively; develop partnerships; and outsource a significant amount of functions in order to achieve economies of scope. To this effect, ICTs empower hotels to network throughout the tourism industry and also improve the interactivity with other important suppliers and partners.

Thirdly, the advent of the Internet has completely changed the way businesses operate, function and communicate. By using the Web and the Internet as marketing tools, hotels have gained some distinct advantages in cost reduction, revenue growth, marketing research and database development, and customer retention. The Internet has assisted hotels to use a wide range of promotional activities to supplement, if not replace, offline promotions. The flexibility of the Internet, and the ability to address different target markets, support hotels to develop a marketing proposition for each target market and to address the needs of each market.

It is clear from the foregoing discussion that ICT is key to the hotel industry and, as such, is the main source for creating competitive advantage for accommodation providers in Malawi.

However, despite these advances in ICT exploitation, there is still room for improvement. The hotel sector can take advantage of emerging technologies such as social media and other ICT infrastructure and telecommunications such as search tools and online booking solutions. In order for Malawi to become a leading tourism attraction, the challenges to ICT adoption and exploitation that the hotel sector in the country is facing have to be addressed. Some of the challenges being faced by Malawian accommodation providers to exploit ICT include lack of infrastructure, high cost Internet connection, lack of skill in ICT use and incomplete government regulations for e-commerce. This is exacerbated by poor telecommunications infrastructure, limited ICT literacy, inability to integrate ICT into business processes, high costs of ICT equipment, and a poor understanding of the dynamics of the knowledge economy. In addition, inconsistent electricity supply and blackouts, poor service from Internet Service Providers and high cost of training employees have also contributed to low uptake of ICT by the hotel sector in the country. These constraints being faced by the hotel industry points to the fact that the government should intervene to ensure that ICT equipment and applications are accessed at affordable prices, the energy sector should upgrade its machinery and improve provision of electricity, private training institutions should increase investments so that they can provide ICT training that meet the needs of the 21st century business and accommodation providers should invest more in upgrading their ICT applications and training of their employees if they have to migrate and be in synch with rapid technological advances and become competitive in a globalized economy.

RECOMMENDATIONS FOR FURTHER RESEARCH

The study has examined the exploitation of ICT in the hotel sector in Malawi. As this study was limited in its scope, the following would be of interest for further research:

- **Upgrading the Malawi hotel industry in the global tourism value chain through adoption and exploitation of ICT.** This study would focus on how the hotel industry would be engaged in process upgrading by introducing superior technology that would ensure that it is able to tap into the ever growing global tourism industry. Kaplinsky & Morris (2000) points out that this involves increasing the efficiency of internal processes to make them better, both within individual links in the chain and between links in the chain. To this end, the research would focus on how the hotel industry can exploit ICT to penetrate global value chains.

- **The nexus between ICT exploitation and business competitiveness in the Tourism industry: the case of the hotel industry in Malawi.** The research would focus on how the hotel industry can enhance its competitiveness through ICT exploitation. The key area of study would be to find out and discuss how internal business processes can be improved in the hotel sector through the usage of ICT.

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