

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Technology has become an integral part of all major corporate firms and with its emergence and continued development, firms have been making technological investments to compete strategically by realizing the benefits it brings along (Laudon & Laudon, 2007). Hoteliers have also realized that the face of innovation in technology is continually changing and they need to take a proactive stance in implementing technological advances while continually striving to build levels of service quality and guest loyalty (Magnini, Honeycutt, & Hodge, 2003). Although economic conditions have had a dramatic, negative financial impact on the hospitality industry (Brandau, 2009), hoteliers still need to look at various strategic vehicles to build and regain customers.

1.1.1 Technology

Technology is the application of science or knowledge to commerce and industry. Technologies create an array of opportunities for entrepreneurs ranging from operating across borders to shopping from home. Technology is easy to acquire and therefore the advantage that results from it depends on how it is exploited. When it is fully exploited, it strengthens the core capabilities of the business (Johnson et al, 2008). According to Grant Thornton International Business Report 2010, whatever the position of a company in a market when it adapts technology and explores the full potential of it, it can get either fast-mover advantages or fast-follower advantages.

1.1.2 Sustainable Competitive Advantage

Ma (1999) defines competitive advantage as the asymmetry or differential in any firm attribute or factor that allows one firm to better serve the customers than others and hence create better customer value and achieve superior performance. Competitive advantage is anything that a firm does especially well compared to rival firms i.e. when a firm can do something that rival firms cannot do, or own something that rival firms desire while strategic management is all about gaining and maintaining competitive advantage (David, 2009).

Creating competitive advantage is a tough task but preserving it is much harder. The more the firm combines the sources of competitive advantage, the greater the competitive advantage and the wider the gap between the market leader and its followers the more sustainable the competitive advantage. To achieve any competitive advantage, a firm has to look deeply into

what it has, what it can achieve and how to use what it has for realization of success (Passemar & Kleiner, 2000).

1.1.3 Hotels

A hotel is a building where people stay, for example on holiday, paying for their rooms and meals a commercial establishment providing lodging, meals and other guest services (Collins, 2009). In general, to be called a hotel, an establishment must have a minimum of six letting bedrooms, at least three of which must have attached private bathroom facilities. Hotels are classified into 'star' categories (one-star to five-star), there is no worldwide standard method of assigning this ratings but a rough guide is; a one-star hotel provides a limited range of amenities and services, but adheres to a high standard of facility-wide cleanliness. A two-star hotel provides good accommodation and better equipped bedrooms, each with a telephone and attached private bathroom. A three-star hotel has more spacious rooms and adds high-class decorations and furnishings and color TV. It also offers one or more bars or lounges. A four-star hotel is much more comfortable and larger, and provides excellent cuisine, room service, and other amenities. A five-star hotel offers most luxurious premises, widest range of guest services, as well as swimming pool and sport and exercise facilities. (<http://www.businessdictionary.com/definition/hotel.html>)

In Kenya, hotels are graded in accordance with the star classifications system. They range from the small town hotels to the five star town and beach hotels. The game lodges are luxurious and are situated in rural surroundings that are symbolic of Kenya's scenic splendor. Smaller or budget hotels and beach villas offer comfortable accommodation and good service at very reasonable rates. (<http://www.kenyaspace.com/Hotels.htm>)

1.1.4 Nakuru Town

Nakuru Town is located 160 km North west of Nairobi, situated at an altitude of 1859m above the sea level and it is within the region of the Great Rift Valley whose formation gave rise to a unique natural structure. The town started as a railway station on Kenyan-Uganda railway at the turn of this century. The name 'Nakuru' is derived from Nakurro, the Maasai word meaning a 'dusty place'. Known for its flamingos and once dubbed "the cleanest town in East-Africa", Nakuru, Kenya has lost a lot of its past glory. Nakuru population has been growing at the rate of six per cent per annum. From a population of 38,181 in 1962, the population reached 163,927 in

1989. Nowadays, Nakuru is the fourth largest town in Kenya (after Nairobi, Mombasa and Kisumu), with a 1999 population of 309,424 (GOK, 2010). By the year 2015, the population is projected to rise to 760,000, which is approximately fifty per cent above the present levels. The population growth has been influenced by the birth rates, rural-urban migration and boundary extensions. The major economic sectors of the Nakuru urban economy are: commerce, industry, tourism, agriculture and tertiary services. The presence of key natural features such as Lake Nakuru, Menengai Crater and archaeological sites such as Sirikwa holes and Hyrax Hill gives rise to tourism potential in Nakuru. The town has a vibrant economy based on broad sectors such as commerce and trade, manufacturing industry, service and tourism, agriculture and forestry, and informal trade and industry. (<http://www.kenyaspace.com/nakurukenya.htm>)

1.2 Statement of the Problem

Today's consumers arrive at a hotel with a high level of expectations. A hotel room needs to be their home away from home, and offer new services, experiences and conveniences. But how does one maintain the balance of achieving a healthy bottom line while enhancing the guest experience, create guest loyalty and attract new guests? The key to creating new guest-centric environment is to integrate the right technologies in the right way to create ubiquitous and efficient network that can support guest services and hotel operations. As it becomes more evident that technology is now a key element in the successful running of any business, its adoption has however been hindered by high costs of the technology and lack of technical knowhow in using the technology (Mwangi, 2011)

An increasing number of companies are gaining a competitive advantage by using the internet for direct selling and for communication with suppliers, customers, creditors, partners, shareholders and competitors who may be dispersed globally. E-commerce is minimizing the expense and cumbersomeness of time, distance and space in doing business thus yielding better customer service, greater efficiency, improved products, and higher profitability (David, 2009). Jarvenpaa (1997) adds that automation of business processes and functions ensures that there is an increase in sales as the customers familiarize themselves with the system and an increase in customer loyalty due to the consumers appreciating the services offered to them. Several studies have been done on competitive advantage in Hotels, but none has been done on the role of technology in building a sustainable competitive advantage in hotels in Nakuru Town and

therefore to bridge this gap, this study will seek to determine the role of technology in building a sustainable competitive advantage in hotels in Nakuru Town.

1.3 Research Objectives

1.3.1 Overall Objective

The overall objective of this research is to investigate the role of technology in building a sustainable competitive advantage on hotels in Nakuru Town.

1.3.2 Specific Objective

The research specifically seeks to:

- i. Identify the technologies used in the hotel industry in Nakuru Town.
- ii. Assess the relative importance of various information technologies used by hoteliers in Nakuru Town.
- iii. Determine the extent to which technology has impacted on customer service and satisfaction.
- iv. To determine the key Information Technology challenges faced by hoteliers in building sustainable competitive advantage

1.4 Research Questions

- i. Which technologies are used in the hotel industry in Nakuru Town?
- ii. What is the relative importance of various information technologies used by hoteliers in Nakuru Town?
- iii. To what extent has technology impacted on customer service and satisfaction?
- iv. What are the key Information Technology challenges faced by hoteliers in building sustainable competitive advantage?

1.5 Significance of the Study

This study will be significant to the following:-

- 1) Hoteliers will be exposed to the technologies that the world-class hotels are using which are giving them a competitive edge. This will build on their competitive advantage.
- 2) Investors will get to know the technologies that are new in the market hence posing as an opportunity for them to invest in.

- 3) Academicians will also benefit from the findings of this paper, since information about the role of technology on hotels in Nakuru Town is not available therefore this study will be useful as it will be the basis upon which further research could be built on.

1.6 The Scope and Limitation of the Study

This study is based on the hotel industry and in particular, limited to the two to four star hotels in Nakuru Town. The study focuses on the assessment of the role of technology in sustainable competitive advantage for these hotels.

The major limitation in this study is the time allocated to collect data as well as the resources to carry out the research available. If the study is allocated more time and more resources, then it would be prudent to carry out the research on all the hotels in Kenya rather than having the two to four stars in Nakuru Town only.

1.7 Definition of Terms

Hotel – A building where people stay, for example on holiday, paying for their rooms and meals (Collins, 2009)

Hotelier – A person who owns or manages a hotel (Collins, 2009)

Technology – the application of science or knowledge to commerce and industry (Johnson et al, 2008)

Information Technology – a series of different implements including hardware, software, information theories, information networks, workstations and artificial intelligence (robotics) which use different forms of information as a systematic process to carry out activities (Zandia, 2005 cited in Talebnejad, 2008)

Competitive Advantage - anything that a firm does especially well compared to rival firms i.e. when a firm can do something that rival firms cannot do, or own something that rival firms desire while strategic management is all about gaining and maintaining competitive advantage (David, 2009).

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

By accomplishing a customer-centered focus, companies will be able to highlight their strengths and highlight opportunities for improvement. This chapter will highlight various models and theories of building sustainable competitive advantage, technology's role in gaining competitiveness, and the changing trends in the hotel industry as well as discuss empirical researches previously done by accredited scholars and researchers

2.1 Theoretical Literature

2.1.1 Information Technology

Information Technology is a series of different implements including hardware, software, information theories, information networks, workstations and artificial intelligence (robotics) which use different forms of information as a systematic process to carry out activities (Zandia, 2005 cited in Talebnejad, 2008).

In a short time, IT has become the backbone of contemporary industrial civilization and the major driver for the growth of both developing and developed countries (Vasudevan, 2003; Long and Long 1999 cited in Shaukat and Zafarullah, 2009)

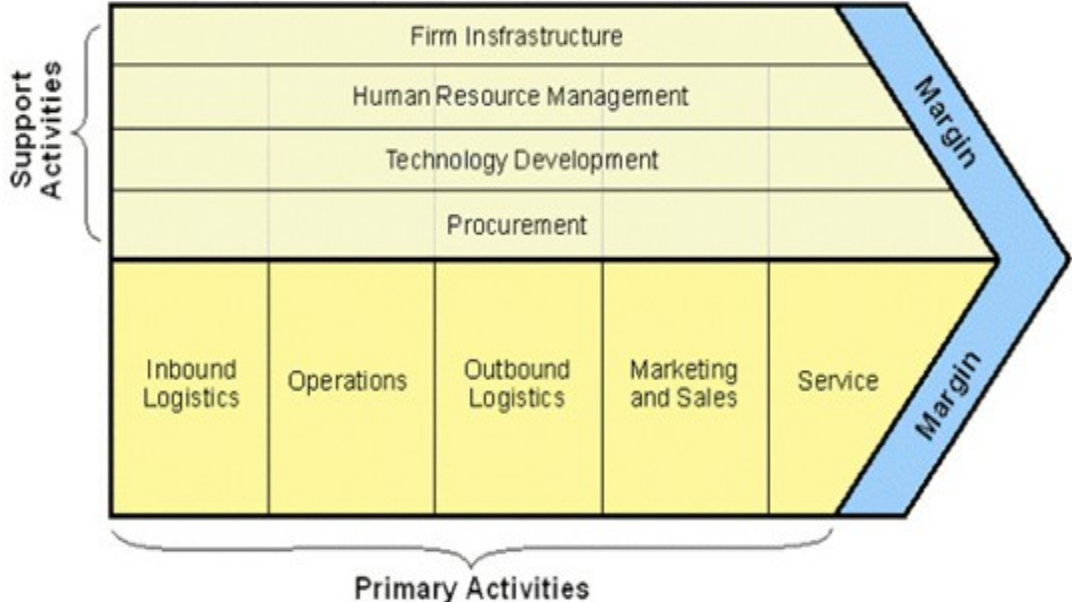
Information technology is changing the way companies operate. It is affecting the entire process by which companies create their products. Furthermore, it is reshaping the product itself: the entire package of physical goods, services, and information companies provide to create value for their buyers. An important concept that highlights the role of information technology in competition is the "value chain." This concept divides a company's activities into the technologically and economically distinct activities it performs to do business. We call these "value activities." The value a company creates is measured by the amount that buyers are willing to pay for a product or service. A business is profitable if the value it creates exceeds the cost of performing the value activities. To gain competitive advantage over its rivals, a company must either perform these activities at a lower cost or perform them in a way that leads to differentiation and a premium price (more value).

2.1.1.1 The Concept of Value Chain

To better understand the activities through which a firm develops a competitive advantage and creates shareholder value, it is useful to separate the business system into a series of value-generating activities referred to as the **value chain**. In his 1985 book *Competitive Advantage*, Michael Porter introduced a generic value chain model that comprises a sequence of activities found to be common to a wide range of firms. Porter identified primary and support activities as shown in the following diagram:

Porter's Generic Value Chain

(Porter,1985)



Porter argues that the goal of these activities is to offer the customer a level of value that exceeds the cost of the activities, thereby resulting in a profit margin. The primary value chain activities are:

- Inbound Logistics: the receiving and storage of materials needed in the day-to-day activities carried out in the hotel. For instance, there are materials needed in the kitchen for cooking and cleaning and there has to be a clear process of how those materials will be received and stored to be available when needed.
- Operations: the processes of transforming inputs into finished products and services. For instance, how the kitchen staff changes whatever material they have been provided with to come up with a delicious meal.
- Outbound Logistics: the distribution of finished goods. For instance, in the hotel industry outbound logistics is how the waiters get to serve the food from the kitchen.
- Marketing & Sales: the identification of customer needs and the generation of sales. For instance, hotels have a marketing department whose main duty is to gather information about what the market wants and communicate with the other departments to make whatever is acceptable in the market.
- Service: the support of customers after the products and services are sold to them. In relation to the hotel industry, workers are trained to take good care of customers. They get to follow up on a customer to know if they are enjoying whatever they've bought.

These primary activities are supported by:

- The infrastructure of the firm: organizational structure, control systems, company culture, etc.
- Human resource management: employee recruiting, hiring, training, development, and compensation.
- Technology development: technologies to support value-creating activities.
- Procurement: purchasing inputs such as materials, supplies, and equipment.

The firm's margin or profit then depends on its effectiveness in performing these activities efficiently, so that the amount that the customer is willing to pay for the products exceeds the cost of the activities in the value chain. It is in these activities that a firm has the opportunity to

generate superior value. A competitive advantage may be achieved by reconfiguring the value chain to provide lower cost or better differentiation.

Porter continues to state that the value chain model is a useful analysis tool for defining a firm's core competencies and the activities in which it can pursue a competitive advantage as follows:

- i. **Cost advantage:** by better understanding costs and squeezing them out of the value-adding activities.
- ii. **Differentiation:** by focusing on those activities associated with core competencies and capabilities in order to perform them better than do competitors.

Technology and the Value Chain

Because technology is employed to some degree in every value creating activity, changes in technology can impact competitive advantage by incrementally changing the activities themselves or by making possible new configurations of the value chain.

Various technologies are used in both primary value activities and support activities:

- Inbound Logistics Technologies: Transportation, Material handling, Material storage, Communications, Testing, Information systems.
- Operations Technologies: Process, Materials, Machine tools, Material handling, Packaging, Maintenance, Testing, Building design & operation, Information systems.
- Outbound Logistics Technologies: Transportation, Material handling, Packaging, Communications, Information systems.
- Marketing & Sales Technologies: Media, Audio/video, Communications, Information systems
- Service Technologies: Testing, Communications, Information systems

Porter continues to note that many of these technologies are used across the value chain. For example, information systems are seen in every activity. Similar technologies are used in support activities. In addition, technologies related to training, computer-aided design, and software development frequently are employed in support activities. To the extent that these technologies affect cost drivers or uniqueness, they can lead to a competitive advantage.

2.1.1.2 The Role of Information Technology in Business

This technology has led to the fast, precise and large-scaled publication of information in different geographical places all the time. Circulation of information with these characteristics has resulted in decreasing costs, saving in localities, expedition in doing activities and thus increasing profitability and efficiency and effectiveness of technology. Rapid development of information technology caused special attention to be focused on informational knowledge (Talebnejad, 2008)

Information Technology has changed the structures and organizational processes. This technology has caused organizations to become small, decreased the number of staffs and organizational level, extended inside and outside organizational communication and also decreased communication costs. Suitable use of IT implies repeated creation of the structure and organizational processes. In a new creation, the main emphasize is on creating simple and direct relationships between the staff, customers, products and electronical definition of organizational processes (Strebinger, A. and Traiblmaier, 2006)

Rather than control information technology, however, an Information System manager should coordinate the architecture and standards of the many applications throughout the organization, as well as provide assistance and coaching in systems development. Unless the numerous applications of information technology inside a company are compatible with each other, many benefits may be lost. Information technology can help in the strategy implementation process. Reporting systems can track progress toward milestones and success factors. By using information systems, companies can measure their activities more precisely and help motivate managers to implement strategies successfully (Porter, 1985).

2.1.2 Competitive Advantage

Competitive advantage is the focal point of strategy and a basic concept in strategic management. This advantage is developed by differentiating an organization in a special business compared with other competitors in the opinion of stakeholders, particularly customers. The customer must mentally feel that the organization in question is able to create more value for him than other competitors. If an organization does not possess competitive advantage, it can not survive in the long run. The more the difference between the organization and other competitors, the more sustainable and strong the competitive advantage will be. Competitive advantage is a result and sustainability is a situation created after the failure of imitative and patterning attempts

of the factor causing the competitive advantage. What makes an organization a successful one in the long run is the possession of sustainable competitive advantage. Opportunism and shortsightedness will not create success in the long run. An organization cannot purchase sustainable competitive advantage from the market, but it has to acquire it through creating superior ability in managerial activities. This is a competitive advantage to be created, conquered and maintained by organizations (Powell & Dent-Micallef 1997).

Current economic conditions have had a dramatic, negative financial impact on the hospitality industry (Brandau, 2009). Consumer behavior patterns have been changed for multiple reasons, including high levels of unemployment, a deep recession, and overall fear of what the future holds. Hoteliers and restaurateurs will need to look at various strategic vehicles to build and regain customers. The face of innovation in technology is continually changing. The hotel and restaurant industry needs to take a proactive stance in implementing technological advances, while continually striving to build levels of service quality and guest loyalty (Magnini, Honeycutt, & Hodge, 2003).

Hotels and restaurants are continually competing for employees, locations, and more recently information about customers. As more people are using the Internet there is a high amount of information that is being captured on web server logs (Garver, 2002). Proper extraction of this information coupled with high levels of service is what will help the hotel and restaurant industry build competitive advantage in a troubled economy. An organizations ability to take advantage of external environmental factors will help the firm sustain and grow in economically challenging times (Oparanma, Hamilton & Seth, 2009). Piccoli, Spalding, and Ives (2001) stated that organizations need to structure the way they think around how customers think and act.

2.1.3 Information Technology and Sustainable Competitive Advantage in Organizations

Information technology can create competitive advantage for an organization and improve its competitive position in the market (Andersen, 2001). In order to create sustainable competitive advantage in an organization using information technology, we must first understand the influence of technology on organizational activities and processes and know how to create value using it (Tabb, L., 2006).

To enhance the service quality and to gain competitive advantage, organizations must use technology to gather information on market demands and exchange it (Sangeetha &

Mahalingam, 2011). Several researchers have examined the positive consequences of IT on quantitative performance variables of the corporations, which are incomes and profits (Parthasamthy and Sethi, 1993; Kelly, 1994; Earls.al, 1996; O' Dell and Elliot, 1999 cited in Shaukat and Zafarullah 2009). Whereas, Frankin (1997), Olalla (2000), Schmid et al., (2001), Zee and Han (2002) cited in Shaukat and Zafrullah (2009) have examined the increase and/or decrease in different qualitative performance indicators i.e. customer satisfaction, company image, job interest of employees, stake holders confidence, interoffice link etc and also have found positive impact.

Information Technology (IT) has changed the structures and organizational processes. This technology has caused organizations to become small, decreased the number of staffs and organizational level, extended inside and outside organizational communication and also decreased communication costs. Suitable use of IT implies repeated creation of the structure and organizational processes. In a new creation, the main emphasis is on creating simple and direct relationships between the staff, customers, products and electronical definition of organizational processes (Strebinger & Traiblmaier, 2006). In a survey, senior managers of some companies in the U.S.A were asked about their most important challenge in facing information technology. These managers said that the most important challenge which they face was not inaccessibility to the advanced information technology but how to use this technology optimally and efficiently in their businesses (Gantz & Gens, 2004). Therefore, organizations must put more emphasis on information organizational and managerial skills and also informational systems in and out of the organization through this technology. The difference among organizations in profitability and optimum performance is more due to the difference in managerial skills rather than a difference at the level of information technology. Managers, who are able to organize and manage separate activities better than others by the use of information technology through an appropriate proportion and relation, will experience a higher level of profitability and a more optimum performance.

The role and influence of information technology in creating sustainable competitive advantage is discussed from two different approaches:

- 1) ***Market-Based Approach***

This approach tends to direct towards the inner part of the organization. An organization is defined as possessing competitive advantage that can create a value more than that of competitors for its own stakeholders. One of the tools used to create value for stakeholders is the implementation of information technology in organizational business. If an organization can create value higher than that of others for its own stakeholders using information technology, its name and brand will have such a position in the minds of its stakeholders that is not easy for the competitors to achieve. In case an organization creates a value lower than that created by competitors, the contentment of this important group of stakeholders is decreased, and thus, they will go to other providers and competitors to provide their own needs. Then, the profitability and survival of the organization will be seriously endangered and thus, there will be no organization to create values for stakeholder groups such as stockholders, personnel, providers, government and so on. Price, quality and services are the most important aspects of value-creating in the customer's opinion. Price is one of the most influential factors in a customer's decision to choose the product or service of an organization. An organization can reduce the design, production, sales, distribution and official costs of its own products and services using information technology. The reduction of the costs makes it possible for the organization to keep the price of its products and services at a low level and gain more profit through the mass sales of products and services. Information technology can reduce costs through the automation of productive sales and distributional activities and processes and pave the way for the implementation of the cost leadership strategy. The automatic savings resulted from these activities in an electronic environment such as using mechanized systems and robots instead of manpower, promotions and marketing and network sales, electronic commerce using barcode system, using the electronic reception system, the electronic data interchange and so on, will reduce the costs and makes it possible to determine the price at the lowest level possible. Information technology reduces the need for physical and official places and makes it possible to carry out organizational activities remotely. Using this technology, it is possible to carry out procedures twenty-four hours a day and share the fixed costs with a larger number of products and services. Thus, the share of the fixed cost of each product or service entity is drastically reduced (Hashemi, 2004).

2) *Resource-Based Approach*

Sustainable competitive advantage in an organization is created through a proportionate and unique combination of the organization's resources and skills. According to the resource-based approach, organizations must build their strategies in accordance with their resources and skills so that they can be the best in that business and create the most degree of value for customers; a value not to be created by others (Talebnejad, 2008).

Organizations must emphasize on resources and skills which lead to the formation and creation of a distinct competency and qualification (Atkins, 1998).

Resources- Morgan & Hunt (1996) examine the role of relationship building as a means of obtaining resources in order to create a Sustainable Competitive Advantage (SCA). They propose that resources can be combined in order to form higher-order resources, or competencies, from which the firm can eventually achieve a Competitive Advantage (CA). For example, it is difficult for outsiders to replicate the process of building a long-term relationship. Resources such as loyalty, trust, and reputation are immobile and cannot be purchased. Therefore, Morgan and Hunt (1996) state that relationships formed to acquire organizational, relational, or informational resources will commonly result in sustainable resource-based CAs.

An organization's resources include the physical, human and organizational capital. In the present era, called "the information era", information technology is one of the most important organizational resources (Talebnejad, 2008). Hardware, software and networks are short-living and quickly imitated and patterned. Thus, they cannot create sustainable competitive advantage for an organization. American airlines systems which used information technology in order to achieve differentiation were immediately patterned and copied by the competitors.

The information technology tools changed organizational structures, intra-organizational and extra-organizational communications made the formation of virtual organizations possible, reduced the number of organization levels, and increased organizational decentralization, changed open and informal relations in and out of organizations and increased organizational efficiency and effectiveness. Nevertheless, for the possibility of being copied and imitated, they cannot create sustainable competitive advantage (Andersen, 2001). The specialized work force in information technology can not create sustainable competitive advantage either; because organizations can easily employ the specialized work force (Talebnejad, 2008).

Skills and abilities- The skills and abilities of an organization are the capability of appropriate implementation and combination of organizational resources in a way that leads to the best

performance and highest competitive position in the business market for that organization. Skills and abilities put the resources in competitive status and they cannot easily be copied and imitated (Talebnejad, 2008).

It is better to institutionalize the managerial skills concerned with information technology in the form of teams in organizations because teams rarely quit an organization, individuals feel more content and secure when they are members of a team, continuous learning as a competitive tool is carried out more appropriately and optimum usage of resources and the creation of synergy in collective activities is done more appropriately (Atkins, 1998).

In order to create sustainable competitive advantage and have a better performance using information technology, it is necessary to establish some sort of relation and interaction among organizational factors (Barney, 1991).

2.2 Empirical Literature

2.2.1 Impact of technology in hotels

A study conducted by Griffin (1998) investigated how information (through data warehouses) was being utilized by hotels, through the investigation of twelve of the largest hotel firms in the industry. In this study, only seven of the twelve hotels were involved with data manipulation and two of the seven had successfully developed and implemented their own data warehouses. Even though some of the hotels did not have data houses in place they were planning on the future development of this technology. Most of the hotels in the study were, using information for support of strategic market analysis including, targeting new customers, fine tuning loyalty programs, sales analysis and conducting trend analysis. The study concluded that the hotels ability to collect, process, and access large amounts of data can help companies build a competitive advantage (Griffin, 1998).

A 2004 study conducted by the National Restaurant Association stated that seventy per cent of a restaurants business base comes from repeat customers. The same survey asked restaurateurs if it was getting more difficult to maintain customer loyalty. Fifty-two percent of the respondents said yes (Sanson, 2004). Tapping into customers needs through the use of information can be instrumental in building loyalty and gaining competitive advantage (Piccoli, 2008).

2.2.2 Impact of Technology in Other Sectors

Information technology (IT) is extensively used in this competitive environment to deliver banking services to the consumers. In fact, rise of information technologies and the internet in particular, have changed the consumption process of retail banking as human-human interactions in service delivery is becoming increasingly redundant (Bitner et al., 2000). Traditional banking or branch banking is increasingly being replaced by the technology-based banking (e.g. usage of ATMs, internet and phone banking). Hence human-human interactions or face-to-face interactions between customers and bank employees are being replaced by interaction of customers with technology. In fact a large number of IT tools are utilized to increase the efficiency and effectiveness of service delivery (Marshall, 2006). With the patterns of consumer behavior changing with the increasing use of technology in the delivery of banking services, there is a need to cultivate customers' confidence in using the tech-based services. This is so because customers may not be ready to avail the tech-based service delivery and there is proof of growing customer frustration while interacting with the technology based service delivery interfaces (Parasuraman, 2000).

2.3 Conceptual Literature Review

2.3.1 The Broad Environment

Opportunities are discovered when organizations begin to analyze the broad environment. Hoteliers and restaurateurs need to be cognizant of these factors and how they can drive change in the industry. Societal trends and technological trends should be critical points of interest for industry executives. From a societal perspective, organizations need to look at influences such as current hot topics, emerging attitudes, demographic shifts and new fads (Oparanma, et al., 2009). An example of societal trends that are impacting the hospitality industry would include the explosion of social networking. The trend has spanned across several demographic barriers ranging from Baby Boomers to the Millennials. There has additionally been an enormous affect on the hotel and restaurant industry. Bloggers have launched sites commenting about experiences that they have had and have made recommendations regarding the hotel or restaurant. Savvy industry executives understand the impact of these societal trends and focus efforts on establishing methodologies that can incorporate appropriate strategies to take advantage of these trends (Luebke, 2010).

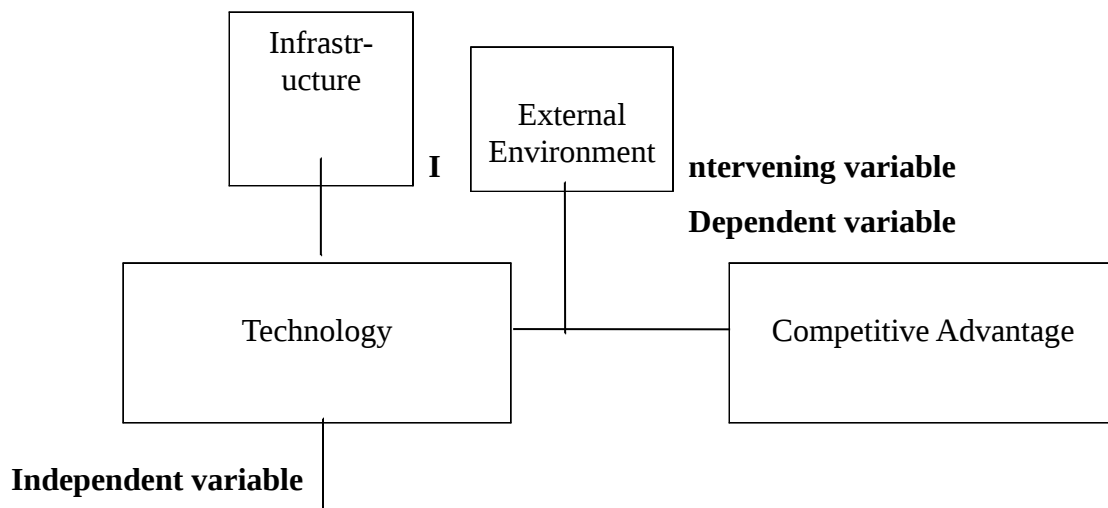
According to Siguaw and Enz (1999), companies that effectively use technology will have the biggest effect on customer satisfaction. The authors discussed three hotels which were awarded “best practices” for their technological innovations. These programs were specifically designed to improve service. These hotels were, The Balsams Grand Resort Hotel, Fairmont Copley Plaza, and the Ritz-Carlton Chicago.

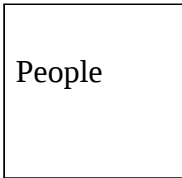
Technological advances focus on the innovation of products, procedures, or services and how these developments can affect the hospitality industry (Yang & Fu, 2007; Harrison, 2003). For example, online reservations have grown exponentially over the years (Jin-Zhao & Jing, 2009).

The convergence between IT, telecommunications, and media and the use of data warehousing/ data mining techniques facilitate hotel organizations in managing the customer relationship and support the collection and consolidation of comprehensive data across every point of interaction, before the guest arrives at the hotel and during his/her stay (Cline, 1999; Olsen & Connolly, 2000). Call center, email, Web site, central reservation system (CRS), point of sale (POS), etc., are just some examples of these applications. Delay in the implementation of technological advances of this magnitude detracts from developing sustainability and competitive advantage (Jin-Zhao & Jing, 2009; Piccoli, 2008; Yang & Fu, 2007).

Using Internet, it is possible to establish communication with a large number of providers of raw materials and half-made products all over the world, choose the best price offered and then sign a contract. Networks also have an important role to play in outsourcing. Nowadays, many of organizations have devolved much of their own work to others by establishing intranets with providers and subcontractors (Koutromanis 2011).

Figure 1: Variables and variable relationship





Source: Researcher 2012

The above framework shows the relationship between independent, dependent and intervening variables. Technology affects the level of competitive advantage that a hotel achieves. This relationship is also affected by the external environmental factors e.g. the general economic status, industry environment and political environment as intervening variables. The outcome is efficiency or inefficiency in creating sustainable competitive advantage, and success or failure of the business.

Infrastructure – This refers to computer hardware, servers, network cables, terminals and other physical installations that are required to operationalise computer systems on which various technologies adopted by the hotel will run. There is a relationship between the infrastructure that is applied on the technology used by the firm and the competitive advantage that the firm acquires since if a firm selects good and quality infrastructure, the outcome of the competitive advantage becomes positive and vice versa.

Technology – This are the computer systems and programs that hotels can use to make work easier e.g. customer relationship system, online booking system, sales management system, electronic room-service ordering system, e.t.c. The above diagram shows how technology comprises a combination of people and infrastructure. Lack of either of this two would render the technology useless. Technology is the independent variable since the diagram above shows that competitive advantage depends on the technology applied.

People – This component refers to the human users of the computer system or technology. These could be customers using the on-line booking system for example, or they could be hotel staff or management using the sales management system or even effecting orders made through the on-line booking management system. People contribute in making complete the technology that is expected to create competitive advantage in the hotels.

Sustainable Competitive Advantage – This refers to high levels of efficiency, service quality and price leadership enjoyed or achieved by a given hotel above the rest due to its effective use

of various technologies to improve service delivery and distinguish itself from competition. In the above diagram, Sustainable competitive advantage is the dependent variable since it depends on technology.

External Environment – These are factors that operate in the environment beyond the control of any single hotel but which in a great way influence the success or failure of the hotels' business. These are political-legal factors, socio-economic factors, economic factors, technological factors e.t.c. These factors highly determine the level of profitability of the hotel but they are out of reach of control of any given hotel hence their being named 'intervening variables'. They affect the way in which technology would deliver sustainable competitive advantage to the organisation.

CHAPTER THREE: RESEARCH METHODOLOGY

This chapter contained a description of the methods and procedures that was used to carry out the study.

3.1 Research Design

This research used a survey design in collecting data from the respondents since the study focused on studying hotels in Nakuru Town by determining the role of technology in building a sustainable competitive advantage. This design was suitable for this study since when dealing with many members in a population it is not possible to study all of them and hence this calls for sampling in order to come up with a generalizations and inferences about the whole population. A survey design was selected since it can be used to collect many different kinds of information, it is also quick and low cost as compared to observation and experimental method and it is carefully designed to ensure complete description of the situation making sure that there is minimum bias in collection of data and reduced errors during interpretation stage of the collected data.

3.1.1 Population of Study

In this study, the population the researcher was interested in studying are the hotels in Nakuru Town. These hotels were considered appropriate for the study since there is a stiff competition in the hotel industry in Nakuru Town and everyone seems to be thinking of that as the next

investment. This shows that there must be sustainable competitive advantage which could be brought about by technology in these hotels thus the study at hand. The population for this study was two to four star hotels in Nakuru Town. The whole population under study comprised of eleven hotels.

3.1.2 Sampling and Sample size

Since it is not possible to study the whole population, the study will focus on selecting a sample of two hotels from each of the category of hotels stated in the population of study. The whole population under study will be stratified based on the various classes of hotels in Nakuru town. There are five hotels in the two-star category, three hotels in the three star category three hotels in the four-star category. A simple random sample of two hotels was used to select the hotels to be used for the study from each of the category of hotels and this was found to be representative enough for the study since it ensured that all the hotels that fall under the category of two-four star were well represented in the entire population for study.

3.2 Data collection

Emphasis was given to primary data. Secondary data was also used to determine the role of technology in building a sustainable competitive advantage. Strategic plans as well as competitive strategies that the hotels may have put down for their organizations were used as a guide to know the sustainable competitive advantage brought about by technology in the hotels. The primary data was collected using a structured interview guide consisting of open and closed ended questions attached as Appendix 2. The interviewees were departmental managers/heads of department in the hotels. Where managers of these departments were not available the assistant managers/ assistant heads of departments, Senior officers or Junior officers were expected to respond to the interview. This made it possible to obtain data required to meet the objective of the study.

3.3 Data analysis

The data collected from these interviews was coded and analyzed using descriptive statistics such as tables, charts and percentages to represent the response rate and information on the variables under study. The analysis of this study was expected to bring out the role of technology

in building a sustainable competitive advantage in the hotels in Nakuru Town. This study therefore involved observation and detailed description of objects, items or things that comprise the theme of the study.

CHAPTER FOUR: FINDINGS AND DISCUSSIONS

4.1 Introduction

This section gives detailed findings of the primary data collected using an interview guide. As mentioned before, the study sought to establish the role of technology in building a sustainable competitive advantage. This study focused to carry out data from hotels in Nakuru town. This section therefore analyses the information designed to answer the questions outlined in the study. Five sections were presented in the interview guide addressing specific questions presented in this study. The study targeted a total of 36 respondents, 30 respondents were available to answer the questions in the interview guide, and this was an equivalent of 83% response rate. According to Babbie (2002), any response of 50% and above is adequate for analysis. Thus 83% was significantly within the range. The completed interview guides were then collected, edited for completeness, consistency and clarity.

4.2 General Respondent Information

4.2.1 Hotels sampled for the study

Hotel name	Class of Hotel	Respondents	Percentage
Sarova lion hill	Four star	6	20%

Merica	Four star	3	10%
Kunste	Three star	5	17%
Cathay	Three star	6	20%
Jumuia guest house	Two star	6	20%
Water Buck	Two star	4	13%
Total		30	100%

4.2.2 Distribution of respondents by their job title

Respondents Rank	Number of employees	Percentage
Head of departments	8	27%
Assistant head of departments	12	40%
Senior officers	6	20%
Junior officers	4	13%
Total	30	100%

4.2.3 Distribution of time the hotels have been operating in Nakuru town

The study found out that there were no hotels in the study that operated for less than 1year. But the hotels that operated for 1-5years were two making it 33%. The hotel that operated for 5-10years was one making it 17% and the hotels that had operated for more than 10years were three making it 50%.

4.2.4 Distribution of time the employees has worked in the hotel

This study found out that 9 respondents had worked between 0-3 years making it 30% of the sample. 16 employees had worked between 4-7 years making it 53% and 5 employees had worked for more than 7 years making it 17%.

Descriptive Statistics

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Distribution of the time the employees have worked in the hotel industry	30	1.8667	.12441	.68145	.464
Valid N (listwise)	30				

Source: Researcher 2012

4.2.5 Respondents opinion on the hotels market share

This study found out that 5 respondents agreed to the fact that the market share of their hotels is excellent making it 17%. Respondents who noted that the market share was good were 13 making it 43%. Respondents who noted that the market share of their hotels was satisfactory were 7 making it 23%. The respondents who noted that the market share was above average were 5 making it 17%. There was however no respondent who said that the market share was poor.

Descriptive Statistics

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Respondents opinion on the hotels market share	30	2.4000	.17682	.96847	.938
Valid N (listwise)	30				

Source: Researcher 2012

4.3 Technologies used by hotels and their importance

In this study, the respondents in the four star hotels said that they have now greatly introduced the Electronic key cards and these key cards have replaced the regular door keys. This has been so helpful to these hotels in an attempt to provide better security for hotel guests and their belongings too.

High definition televisions (HDTVs) are the focal point of every hotel room and there are a huge variety of models for hoteliers to choose from to suit differing room sizes and budgets. The respondents in all the hotels that were interviewed have been able to provide a range of high quality HD channels to reflect the needs of guests and most major suppliers including Samsung and LG, for example, offer a range to suit all requirements and budgets. Respondents noted that the four star hotels have plasma interactive televisions that help hotels in marketing their services. It fulfills guests business and recreational needs. It also offers additional services like details about city, tourist spots, shopping venues etc. Various applications loaded on a common server which connects to set-top of box in the guest room offers additional multifunctional entertainment functions like Games, Music on demand and guest can also listen to FM radio of the country he belongs to or to international radio channels etc. The study also found out that DSTV is also available in the four, three and two star hotels.

High speed internet access (wired and WI-FI) in hotel rooms has been regarded as a must for any business traveler and now many leisure travelers too. This has resulted in the four star, three star and the two star hotels that were interviewed to acknowledging this fact and state that this is one of the technological advancement that the hotels have acquired. Most of the hotels have started providing both wireless and wired Internet services in guest rooms and public areas which is also known as Broadband or HSIA High-speed Internet Access. With the availability of Broadband, a guest is able to browse at a much faster speed and download files in a short span of time, but the main challenge for hoteliers is when they have to offer foreign guests the same level of broadband service in the hotel room the same as the one that they receive at their home country, in terms of reliability, speed, and security. The four and three star hotels have discovered a way of doing this is by offering a tiered bandwidth service, meaning that they price the broadband service according to usage, that is to say those who use less bandwidth pay a smaller fee than those who require more. This has been seen to allow the hotel management to control the amount of bandwidth available to each guest and deliver a fairer and more reliable service. Internet facility has become a vital factor for the guest in the selection of hotel for their stay.

Convenient power sources seem to sound obvious, but this is one of the technological advancement that all the respondents stated that has helped them provide quality service to their guests. Surprisingly, many times hotel guests have to dive under a desk to access power sockets

to connect and charge their laptop and mobile and this has led to improvement in the power sourcing for quality service. Respondents said that they have also provided the option of a connectivity panel which enables content from a laptop, digital camera or MP3 to be viewed/listened to via the television so they don't have to keep recharging their batteries.

100% of all the respondents in the study said that they use the hotel reservations system which is commonly known as a central reservation system (CRS). Though the study found out that the system is more advanced in the four star hotels compared to the three and two star hotels. This research found out that this CRS mainly assists hoteliers to manage all of their online marketing and sales, meaning that using this system they can upload their rates & availabilities to be seen by all sales channels that are using a CRS. (Sales Channels may include conventional travel agencies as well as online travel agencies who market these hotels to the guests). 70% of the respondents in the three star hotels stated that the central reservation system makes the hoteliers tasks easier for online distribution, because a CRS does everything to distribute hotel information to the sales channels instead of the hotelier. The study found out that hotel room booking and various other travel and tourism related services could be booked by a customer on-line at the best available rate.

50% of the respondents in the three and four star hotels said that they have Food Inventory Solutions in the hotels, which provide clients with a personalized inventory audit service that helps monitor and control food inventory costs, maximize on new opportunities, and improve profits.

100% of the respondents said that there is the use of CCTV cameras in the hotels. This technology has advanced the recording for purposes of guest safety and security in the hotel rooms.

Telephones in hotels are common for calling the hotel attendants and this was said by 100% of the respondents. Although telephone revenue in hotels has dropped since most of the guests prefer to use their cell phones, the respondents added that it is still useful for internal communication in the hotel as well as external communication when need be. The guests are however charged a fee for this which they find convenient whenever they have a need since it is added to the overall charges of services.

100% of the respondents said that Website Optimization is another technological advancement that they have developed for their guests. Optimized hotel website appeals to valuable customers and hotel synchronize their website with customer relationship management (CRM) strategies and capabilities. Websites of some hotels even offer virtual presentation with moving pictures and these would differentiate the services offered by one hotel from another in the eyes of the guests. This is a powerful marketing tool since it is using the website that sometimes guests make decisions on the hotel to go to. CRM also helps the hoteliers in customer retention since it improves customer retention rates by building loyalty and consistently delivering on the hotels brand promise across all consumer touch-points.

100% of all the respondents said that they have a data warehouse which they use to identify trends, find answers to business questions, and derive meaning from historical and operational data, all of which enhances decision support in the enterprise. From the origin of hospitality, a customer is always considered as king. Retaining business and loyal customer is a real challenge for hotel and tourism industry. Storing details of customer preferences (likes and dislikes) into the system enables customized services which in turn helps hotels in retaining guest and up selling. Data ware housing and data mining tools play an important role in this area since they are in charge of finding out information about the guests. This also helps hotel sales and marketing/Revenue Managers to analyze crucial business data for loss of room nights by a particular company.

Respondents in the four and three star hotels said that to improve operations and record guest feedback, hotels deploy Hotel communication system. In this application all guest calls into the hotel are recorded. This is helpful since it allows the Hotel management to know the key repetitive issues and challenges that the guests have been calling about and which require to be addressed. This system also helps hotels to measure the productivity of employees for the purpose of appraisals and employee recognition programs.

The study found out that all the hotels that were under study have elevators which is a type of vertical transport equipment that efficiently moves people or goods between floors (levels, decks) of a building, vessels or other structures. Elevators are generally powered by electric

motors. Elevators are normally very important since it creates convenience when guests want to go upstairs and also whenever they have luggage.

This study found out that the hotels under study do have a generator which is an electrical machine which produces electricity when there is a black-out. This is normally a very important advancement since the clients can be able to have light in the room whenever electricity goes off and it does not inconvenience them in any way.

4.4 Distribution on whether the use of technology has made work easier or harder

Majority of the respondents said that the use of technology has made their work easier. This constituted of 80% however 20% of the respondents said that technology has made their work harder.

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Distribution on whether the use of technology has made work easier or harder	30	1.2000	.07428	.40684	.166
Valid N (listwise)	30				

Source: Researcher 2012

4.5 Impact of Technology on Customer Satisfaction

Distribution on whether the available technologies can entice a customer to make a return visit to the hotel

	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Impact of Technology on Customer Satisfaction	30	1.2000	.07428	.40684	.166
Valid N (listwise)	30				

80% of the respondents said that the available technology can entice guests to make a return visit since they felt that they had advanced on technology and services had improved. However, 20% of the respondents felt that the available technology would not entice a guest to make a return visit since the hotel needs to really improve on some of the crucial ways it services its guests and therefore up-to date technology needs to be acquired.

4.6 Technology involvement in enhancing the service quality and competitive advantage

In order to remain competitive, hotels have to apply technology to enhance the quality of their services and improve customer satisfaction. The widespread adoption of technology has assisted hotel operations and management. The study found out that the four star hotels has more advanced technology than the three and two star hotels although the price of their services is a bit too high especially for the local guests who are price sensitive.

Respondents in the four star hotel said that it is due to technology that their services has improved since technology has helped bring comfort, value to their products as well as leisure and recreation in the hotels. More services have been introduced to the hotel due to technological advancements for instance the payment systems, the Wi-Fi, CCTV security, data warehouse etc has enabled the four star hotel deliver quality to its clients and hence this has made the hotels gain competitive advantage. The four star hotels that were sampled for the study are Merica hotel which is at the central business unit of the busy Nakuru county and Sarova lion hill hotel which is at the Lake Nakuru national park. This two locations are equally important for guests who want the many quality services of a four star hotel. These technological advances assists the four star hotels in gaining competitive advantage.

Respondents from the three star hotels acknowledged that they also have technological advances that help them gain competitive advantage due to the management that has been in the hotel as a result of technology. The online reservations as well as the data warehouses and others have helped the management of the hotel be able to come up with better strategies for guest satisfaction as well as getting to know what the guests would like added in the hotels and this has brought competitive advantage to the three star hotels.

The two star hotels have benefited from the technology installed in their hotels by even knowing what prices to charge their products. Technology has been of great importance to them since it has helped them gain competitive advantage especially by knowing what the clients have been saying from the data warehouse and helping them come up with affordable services to the local guests who mostly and in large numbers visit the hotels for business forums or visits for leisure.

4.7 Technology's involvement in realizing cost advantages associated with cost centers

The researcher found out that all hotels were using information for support of strategic market analysis including, targeting new customers, fine tuning loyalty programs, sales analysis and conducting trend analysis. The study concluded that the hotels ability to collect, process, and access large amounts of data really helps them build a competitive advantage. Hotel executives in the four, three and two star hotels understand the importance and power of information, especially in troubled financial times. The development and use of information systems assists the hotels in the ability to develop concepts for new development, target better locations, identify potential franchisees, locate new labor markets, track employee performance and most importantly, track customer satisfaction in the cheapest way possible and this helps in realising cost advantages.

Viewed simply as adding costs to the profit and loss statements, the researcher found out that the two star hotels tended to shy away from new technological advances, because they added costs to already slim profit margins and that is why most of the technological advances are found in the three and four star hotels.

The study found out that ultimately the POS system keeps track of sales, labor and payroll, and can generate records used in accounting and book keeping and therefore it had a positive effect on service quality. The study identified technological advances in POS systems for the three and four star hotels for instance it was found out that there was menu item tracking whereby the POS tracks items sold in real time, graphic user interface which helps reduce and simplify training time, the POS helps check the meal time duration how long guests sit at tables, it checks the kitchen display systems whereby it tracks where the order has reached the production process in the kitchen, it ensures improved reporting whereby it support management decision making, the

POS has advanced input devices like touch screens. The study found out that the POS systems fit into the restaurant industry well by automating the jobs of the service staff and kitchen staff hence saving on costs. The POS is able to save valuable time and is a much more efficient way of executing the hotel functions. The servers no longer have to remember or input pricing on hand written checks. The POS system is programmed with menu items corresponding with price, increasing efficiency to new levels hence saving a lot of cost.

4.7.1 Distribution of employees on the response on whether technologies that support the following activities have improved performance

	Strongly agree	Agree	Indifferent	Disagree	Strongly disagree
E-Marketing	30	0	0	0	0
Process Innovation	24	4	2	0	0
Total Quality Management	22	5	3	0	0
Client Service Management	25	5	0	0	0
Client Relations Mgt	25	25	0	0	0
Emergency Preparedness	5	3	3	6	13

	Strongly agree	Agree	Neither agree nor disagree	agree	Strongly disagree
E-Marketing					
Process Innovation					
Total Quality Management					
Customer Service Management					
Customer Relations Management					
Emergency Preparedness					

80% of the respondents noted that customer's turn up has really improved as a result of technology and that technology has really improved the services in the hotels. However, 20% of the respondents said that they do not think the customers turn up has improved as a result of technology since there are various ways that the hotel has used to try and advance the services in the hotel.

4.11 Challenges faced in technology

The study found out that WI-FI is faster and it offers freedom from wires. 90% of guests carry WI-FI enabled latest laptops which are also known as Centrino Laptops. Configuration of external PCMCIA card readers to enable Wi-Fi -wireless in non-Centrino laptop is a challenge for most of the IT

department of the hotels. Installation of this card occasionally takes a lot of time encroaching on guests' privacy and this is seen as a challenge in the hotels.

Like car rental WI-FI has become a major source of revenue for the hotels. Five years back usage of High speed Internet (wired or wireless) was minimal. Today most of the business travelers carry laptop and the number is on the increase. However, increased Internet usage has its own share of challenges such as weak signal, no signal, unable to connect and frequent disconnection. This is a major challenge in the hotels especially for the guests who really need the internet and fast internet for that matter. To arrest complaints like these most of the hotels are in the process of upgrading their Internet services with respect to better speed, coverage and connectivity

although it has turned out to be costly and demanding.

Strategy formulation is the next important step in the technology development stage for hotels. By having information warehouses, mining for pertinent data and utilizing that information to aid in the decision-making process hoteliers will be able to gain competitive advantage. As is the case in the hotel industry, the study found out that only big hotels will have the financial means to align themselves with this type of technology. Smaller hotels will be behind the curve in their ability to compete. Although small hotels have shown great improvements in their effort to implement new technology, they still need to figure out the best way to manage the technology and implement the proper infrastructure to best utilize the technology and pertinent

information extracted.

How to use technology optimally and efficiently has been a challenge for these hotels due to lack of adequate skills and knowledge to use this technology and these has been improved by taking staff for training so that they can be conversant with the technology that is being used in the hotels.

**CHAPTER FIVE:
SUMMARY,
CONCLUSIONS AND
RECOMMENDATIONS**

5.1 Summary

It is well documented that the hotel industry had tended to fall behind in technological advances, opting more for labor intensive operations and service delivery (Chathoth, 2006). This study however found out that technology is vital in the hotel industry since it has

proven to improve the services offered by hotels creating more revenue and reducing cost. Therefore, it is perhaps now more important than ever for hotels to innovate and make use of technology as a means to provide better guest service quality and increased satisfaction. This may provide loyalty and repeat business which will be increasing importance to hotels in these troubling times.

Pine and Gilmore (2009) state that 'all businesses must orchestrate memorable events for their customers' in order to remain competitive in the long run. This study found out that there are several technologies used by the four, three and two star hotels. These technologies include CCTV, elevator, generator, HDTV, data warehouse, CRM, POS, payment solutions, Wi Fi, mirror TV, CRS among

others. These technologies have been so helpful in creating competitive advantage since they have really improved the quality of service offered by the hotels.

Buhalis (1998) stresses a continuing need to increase levels of technology due to the increasing volume of travelers and the contemporary needs of those travelers. In many cases, where technology is implemented effectively it has become a main source of competitive advantage.

This study found out that new business has been generated from previous guest recommendations in the CRM and services have been improved out of technological improvements in the hotels. This technological advancement provides a number of benefits for hotels including reduced labor costs, reduce

dependence for skilled labor and increased efficiency. However, in some cases this may not have any substantial impact on guest satisfaction as it can be argued that it is very much dependent on the type of hotel and the guests which it attracts.

5.2 Conclusion

Technology has arguably been one of the main driving forces in the growth of many economies and organizations around the world. The tourism industry and hotels in particular have seen an abundance of benefits which technology can bring to internal operations and guest service quality. In the hotel industry, guest service quality often involves exceeding expectations in an attempt to increase guest satisfaction and ultimately build loyalty. Increasingly, technology is playing a role in guest experiences and overall satisfaction.

Technology for the hotels under study has been paramount in sustaining competitive advantage. However, smaller hotels rely less on technology but it is recommended that these types of hotels make use of technology which is economically and operationally viable. These hotels should rely on quality service which will increasingly be channeled through technology.

Therefore, it can be concluded that although technology provides a number a benefits for the hotel industry there are still a number of challenges which need to be addressed. Also although technology can be useful at some levels for the whole hotel industry, it is not vital for success. However, it is likely that this conclusion may change in the future and technology may become vital for the whole hotel industry. The Caterer and Hotelkeeper

(2001) suggests that by 2020 technology will be paramount for the success of the hotel businesses. A number of recommendations will be offered as to the likely direction of the industry in the future and how the industry can adapt for these changes.

5.3 Recommendations

This study recommends that hotels should acquire Energy management systems which adjust the temperature and lights in a hotel room upon detection that the room is empty and an air-powered hair dryer to help save water and energy usage. This would help save costs of energy consumed and saving on costs brings about profits

Interactive TV which offer features like alarm clock, view bills on line, connect laptop with the TV, check-out from the room and others features should be adopted by the big hotels like the four

star hotels. This would be helpful since it would help serve a lot of functions by the guests. It should also have film library that permits guest to view a movie anytime with very good picture quality and music library that allows the guest to access most of the music tracks. Digital video recorders would help guest to watch favorite program in case he missed it due to any prior engagement.

Another innovation in technology for the hotel industry that should be acquired is wireless POS. Many hotels with high volume use wireless handheld POS to collect orders which are sent to a server. The server sends required information to the kitchen in real time. This would be suitable to the two star hotels which have large volume of local guests who visit the hotels for business purposes.

This study also recommends acquisition of the Technology used to help develop a guest history log. Guest history log is used to capture customized information on the guests that had already made reservations at the hotel. The program uses an expert system model to gauge the needs and wants of the guests. Information is normally generated in regards to times of year visited, hotel inquiries, rooms, room types and numbers, any special requests, service personnel requested. All of this information is normally stored into an individual's personal file. The expert system then can anticipate almost any guest request. The success of this program can really generate repeat business for hotels.

Technology that enables hotels to provide 'Automated mini bar' where a guest is

charged automatically as and when guest consumes any items from the mini bar is another technological advancement that is especially recommended for the big hotels since it reduces the time that guests take ordering for this items.

Electronic door lock systems are recommended for all the classes of hotels since they record who has entered the guest rooms in that incase of pilferage they could help to track who has entered in the guest room and this would enhance more security in the rooms in addition to the CCTV's.

It is most of the time a tedious job to keep looking for the waiters or to wait for them to pass by for guests to order hence this study recommends that technological gadget which can be placed on each table in a restaurant be acquired so that if customers need service they won't have to spend

much energy and time looking for the waiter.

This study also recommends the acquisition of automatic water sprinklers installed in the guest room in all classes of hotels since they help safeguard property from unlikely events like fire. Many hotels abroad have installed systems in the room which disconnect electricity connection as most often guest forgets to switch off the television, AC and other gadgets (Even though the same has come down with the key card activation system). In many Hotels the guest body motion sensing device controls the HVAC in the room. This would be preferable in hotels in Nakuru Town for disaster management purposes.

The study recommends that new technology be developed to allow guests to use any brand of mobile phone to gain access to their

hotel room, so they don't have to worry about their keys at all. This would create convenience to the guests and would in turn improve the image of the hotel. Face recognition key locks and LCD screens connected to a digital camera to let guests know instantly who's outside their door could also be an intriguing guest security proposition for future new build properties. Guest sensors that monitor when a guest enters and leaves should also be fitted so that lights and other technology in the room can be switched on and off accordingly. This would help save costs through saving energy and it would also enhance security. In addition, use infrared signals to allow housekeeping staff to tell if the room is occupied by pressing a button should be acquired in the rooms. Technological gadgets that can gauge the weather on its

in-room control panel should be acquired since it would allow guests to decide if they should put on or drop an extra layer before heading outside.

In addition to the above, this study recommends that other forms of technology which include self-service check-in facilities, which can reduce check-in time be incorporated in the hotels. In some cases a guest can check-in using wireless devices once arriving at the hotel. This may even be made easier for guests in the future who could check-in from home. If this works in tangent with finger print technology then it is likely that a guest will be given a time for when the room will be ready and the guest will be able to by-pass any form of check-in procedure once arriving at the hotel. This would work particularly well in business where guests can often arrive very late in the

evening.

The study found out that there is no technology in the bar management section and it therefore recommends the use of a Bar Inventory Solutions to manage the hotels bar since it will provide

- A complete physical inventory every two weeks. We will count all of your open liquor, full bottles, wine, bottled beer and draft beer then, using a combination of your item by item, POS sales information, details regarding your specific recipes and glass size information, we will create a customized total theoretical pour cost.

- Summary and Detail Reports listing exact cost information, and detailing every brand will show you how much you sold, how much you used, and the difference in both units and dollars.

- A Product Contribution Report that ranks every item sold by the total gross dollars contributed to your bottom line allows the quick and easy identification of your top selling items and their specific costs as well as any items that needs to be re-examined from a cost or contribution perspective. The perfect pricing analysis tool!

- A Re-Order Report detailing exactly how much you need to order to maintain enough products for your actual sales. This is based on actual inventory and real use, not a "par level", to keep your cash flow flowing instead of tied up slow moving inventory.

- A fully functional "Recipe Book" compiled from the information gathered when customizing your theoretical use to be used in your bar or restaurant to reduce waste and maximize profit.

Technology which is at the

forefront of the hotel industry includes the use of finger print technology and Closed-circuit television (CCTV). This study therefore recommends the use of fingers prints, which are linked to property management systems since they can provide many benefits for both the hotel and the guest. The guest will be able to use a finger to check-in, enter their room, pay for items in multiple outlets and check out. This will allow the guest to be free of carrying room keys, forms of payment and identification details while staying at the hotel. The hotel will also see many benefits from this. Firstly, room keys or key cards will not need to be purchased, which often are expensive to purchase. Hotels will also be able to gather forms of guest intelligence on elements such as food and beverage preferences, retails

purchases, time spent in room and in hotel facilities. This provides opportunities to analyze guest preferences and ultimately exceed guest expectations. It is well documented that the hotel industry has tended to fall behind in technological advances, opting more for labor intensive operations and service delivery (Chathoth, 2006). Therefore, it is perhaps now more important than ever for hotels to make use of technology as a means to provide better guest service quality and increased satisfaction. This may provide loyalty and repeat business which will be increasingly important to hotels in these troubling times.

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APPENDICES

Appendix I: Letter of Introduction

Kabarak University
School of Business
Private Bag
NAKURU

Dear Sir/Madam,

MBA Research Project

This letter is to introduce to
you Ruth K. Kinyua an MBA
student who is carrying out a
study on the role of
technology in creating
sustainable competitive
advantage in hotels in

Nakuru town. This study is expected to be of importance to hotels since the industry is currently in the process of embracing technology in the delivery of services.

We kindly request your cooperation and adequate information that will assist the researcher in attaining her objective. Please also provide further comments or suggestions that you consider necessary in the development of adequate technological advancement that would lead to sustainable competitive advantage in the hotel industry. Thank you.

Yours Faithfully,

.....

.....

Ruth K. Kinyua

Dr. L.W Njanja

Researcher

Supervisor

Appendix II: Interview

Guide

**SECTION 1: Respondent
Information**

a) What is the name of
your hotel?

b) What is your job
title?

c) For how long has this
hotel been operating
in Nakuru town?

1year Less than
 1-5years
 5-10years
 over
 10years

d) For how long have
you worked with the

hotel?

0-3years

4-7years

more than 7years

- e) How would you rank your market share?

Excellent

Good

Satisfactory

Above

average

Poor

SECTION 2: Technologies used by hotels in Nakuru

- a) What technologies are you conversant with?

Telephone

Intercom

Hotel Website

DSTV

Central Reservation

System Computers

HDTV(television)

Electronic Keycards

Internet

CCTV camera

Data warehousing

Management

Systems

- b) Among the technologies listed above, which ones are used in your hotel?

SECTION 3: Importance of Information technology to the hotel

- a) What is the role/benefit of technology in your department/hotel?

b) In your view, do you think the use of technology has made your work easier or harder?

Easier

Harder

c) If easier, state in which way

d) Has the use of information technology created competitive advantage for your hotel and improved its competitive position in the market?

Yes

No

e) In what ways has technology helped your organization in enhancing the service quality and to gain competitive advantage?

f) Has technology assisted your hotel in realizing cost advantages associated with cost centres such as staffing levels, communication costs, e.t.c.?

g) Technologies that support the following activities have improved my performance

Distribution of employees on the response on whether technologies that support the following activities have improved performance

E-Marketing 1 2 3 4 5

Process Innovation	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Total Quality Management	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Customer Service Management	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Customer Relations Management	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Emergency Preparedness	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SECTION 4: Impact of Technology on Customer Satisfaction

a) Is technology one of the methods you have been using to target new customers?

Yes No

b) In your view, what technologies are frequently used by customers in your hotel/department?

c) In reference to the above, do you think the available technologies can entice a customer to make a return visit to the hotel?

Yes No

d) Ever since you put the technology into place, has the customer turn-up improved?

Yes No

e) What do your clients say is different with you from the other hotels?

f) What specific differentiation strategies has your hotel been using to set itself apart from the other hotels? i.e What are you doing different from the other hotels?

g) Do you foresee any need for change in differentiation strategy by your hotel in the near future so as to improve customer satisfaction?

Yes

No

h) Have consumer behavior patterns changed in the last five years?

Yes

No

If 'yes', what would you say was the main catalyst for this change?

i) How in your view has technology assisted in the growth of clientele and more recently information about them?

SECTION 5: Challenges Faced

a) What technological challenges do you face?

b) How do those technological challenges affect your business?

c) How do you deal with the challenges?
