

**THE INFLUENCE OF TECHNOLOGY-BASED SELF-SERVICE ON  
COMPETITIVE ADVANTAGE OF FIVE-STAR HOTELS IN  
NAIROBI COUNTY, KENYA**

**BY**

**FRIDAH WANGECHI KARIUKI**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT  
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE  
OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF  
BUSINESS, UNIVERSITY OF NAIROBI**

**NOVEMBER 2018**

## **DECLARATION**

I, the undersigned, declare that this research project is my original work and has not been submitted for a degree in this or any other university.

Signature.....Date.....

Fridah Wangechi Kariuki

D61/88032/2016

## **SUPERVISOR**

This research project has been submitted for examination with my approval as the university supervisor.

Signature.....Date.....

Dr. Midikira Churchill Kibisu

Department of Business Administration

School of Business

University of Nairobi

## **DEDICATION**

I would like to dedicate this work to my parents Mr. George Alex Kariuki and Mrs. Loise Nyawira Kariuki whose dreams for me have resulted in this achievement and without their loving upbringing and nurturing; I would not have been where I am today and what I am today. Had it not been for my parents' unflinching insistence and support, my dreams of excelling in education would have remained mere dreams.

I would also like to dedicate this study to my sisters, Annette Wambui and Phyllis Muthoni for the never ending moral support. To my nieces, Hildah Wairimu and Grace Lovelyn Waithira, and nephew Brian Mwathi, the sky is the lower limit and you can achieve whatever you strive for in life.

## **ACKNOWLEDGEMENT**

My deepest gratitude goes to God who has provided all that was needed to complete this project and the program for which it was undertaken for. There was never lack or want. Throughout this entire study, He took care of everything that would have stopped me in my tracks and strengthened me even through my most difficult times.

I sincerely appreciate my lead supervisor, Dr. Mikidira Churchill Kibisu, he has been the ideal project supervisor. His sage advice, insightful criticisms, and patient encouragement aided the writing of this project in innumerable ways. I would also like to thank my second supervisor, Prof. Ogutu whose steadfast support of this project was greatly needed and deeply appreciated. I would also like to express my special gratitude and thanks to the hospitality industry persons for giving me such attention and time.

I would also like to extend my special gratitude to the administration of the University of Nairobi through the university's library and the library staff that enabled me to access the various materials used in compiling this work. Special attribute goes to my class members and friends who through their persistence assistance and hard work saw the achievement of this study. Thank you very much and may God reward you abundantly. Again, my gratitude goes to my family members especially my parents Mr and Mrs Kariuki.

## TABLE OF CONTENTS

DECLARATION .....	ii
DEDICATION .....	iii
ACKNOWLEDGEMENT.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
ABBREVIATIONS AND ACRONYMS.....	ix
ABSTRACT.....	x
CHAPTER ONE .....	1
INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.1.1 Technology-based Self-service .....	3
1.1.2 Competitive Advantage .....	4
1.1.3 Hospitality Industry in Kenya .....	5
1.1.4 The Five Star Hotels in Nairobi County .....	6
1.2 Research Problem .....	7
1.3 Research Objective .....	10
1.4 Value of the Study.....	10
CHAPTER TWO .....	12
LITERATURE REVIEW .....	12
2.1 Introduction.....	12
2.2 Theoretical Foundation .....	12
2.2.1 Technology Acceptance Model .....	13
2.2.2 Dynamic Capability Theory.....	14
2.3 Empirical Literature Review .....	15
2.4 Knowledge Gap .....	17
CHAPTER THREE.....	20
RESEARCH METHODOLOGY .....	20
3.1 Introduction.....	20
3.2 Research Design .....	20
3.3 Population of the Study .....	21
3.4 Data Collection.....	21
3.5 Data Analysis.....	22

<b>CHAPTER FOUR</b> .....	24
<b>DATA ANALYSIS, RESULTS AND DISCUSSION</b> .....	24
<b>4.1 Introduction</b> .....	24
<b>4.2 Response Rate</b> .....	24
<b>4.3 Demographic Information</b> .....	25
<b>4.3.1 Position in the Organization</b> .....	25
<b>4.3.2 Cumulative Experience in the Hospitality Industry</b> .....	26
<b>4.3.3 Cumulative Experience in the Current Organization</b> .....	27
<b>4.3.4 Gender</b> .....	28
<b>4.3.5 Level of Education</b> .....	28
<b>4.4 Descriptive Analysis</b> .....	29
<b>4.5 Regression Analysis</b> .....	36
<b>4.5.1 Customer Service and Competitive Advantage</b> .....	36
<b>4.5.2 Direct Transactions and Competitive Advantage</b> .....	38
<b>4.5.3 Self-Help and Competitive Advantage</b> .....	40
<b>4.8.4 Customer Service, Direct Transactions, Self-Help, and Competitive Advantage</b> .....	42
<b>4.6 Discussion of Findings</b> .....	44
<b>4.6.1 Relationship with Theory</b> .....	44
<b>4.6.2 Relationship with Empirical Literature</b> .....	45
<b>CHAPTER FIVE</b> .....	47
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS</b> .....	47
<b>5.1 Introduction</b> .....	47
<b>5.2 Summary of Findings</b> .....	47
<b>5.3 Conclusion</b> .....	48
<b>5.4 Recommendations</b> .....	48
<b>5.5 Limitations</b> .....	49
<b>5.6 Areas for Further Research</b> .....	49
<b>REFERENCES</b> .....	50
<b>APPENDICES</b> .....	i
<b>Appendix I: Questionnaire</b> .....	i
<b>Appendix II: List of Five Star Hotels in Nairobi County</b> .....	v

## LIST OF TABLES

<b>Table 2.1:</b>	Summary of Knowledge Gap.....	13
<b>Table 4.1:</b>	Response Rate.....	25
<b>Table 4.2:</b>	Responses on Technology Based Self-service.....	31
<b>Table 4.3:</b>	Responses on Competitive Advantage.....	34
<b>Table 4.4:</b>	Model Summary I.....	38
<b>Table 4.5:</b>	Analysis of Variance I.....	39
<b>Table 4.6:</b>	Coefficients I.....	39
<b>Table 4.7:</b>	Model Summary II.....	38
<b>Table 4.8:</b>	Coefficients II.....	41
<b>Table 4.9:</b>	Model Summary III.....	42
<b>Table 4.10:</b>	Coefficients III.....	43
<b>Table 4.11:</b>	Model Summary IV.....	44
<b>Table 4.12:</b>	Analysis of Variance IV.....	45
<b>Table 4.13:</b>	Coefficients IV.....	45

## LIST OF FIGURES

<b>Figure 4.1:</b>	Respondent's position in the organization.....	26
<b>Figure 4.1:</b>	Respondent's cumulative experience in the hospitality industry.....	27
<b>Figure 4.3:</b>	Cumulative experience in the current organization.....	28
<b>Figure 4.4:</b>	Respondent's gender.....	29
<b>Figure 4.5:</b>	Respondent's Level of Education.....	30



## **ABBREVIATIONS AND ACRONYMS**

**EAC** East Africa Community

**ATM** Automated Teller Machine

**HIS** Human Interaction Service

**ICT** Information Communication and Technology

**SPSS** Statistical Package for Social Sciences

**TAM** Technology Acceptance Model

**TBSS** Technology-based self-service

**TMT** Top Management Team

**TV** Television

## ABSTRACT

The popularity of technology-aided transactions continues to gain traction worldwide, partly attributable to the rising economic pressures compelling organizations to develop self-service platforms. Accordingly, customers across the globe are also increasingly embracing self-service platforms. Whereas some studies have attempted to investigate the technology based self-service phenomenon and its effect on competitive advantage of five-star hotels, the definition of star-hotel appeared to vary globally. Some of the studies have also under-explored the technology based self-service dimensions. A few studies have edged closer to the exact variables and dimensions, but all these had been in foreign contexts. Other studies have focused on the Kenyan context, but their analytical models have not focused on the measure of association between the variables. The current study therefore, using an explanatory cross-sectional survey design, sought to answer the question: What is the influence of technology-based self-service on competitive advantage of five-star hotels in Nairobi County? The study was guided by the postulations of technology acceptance model, and dynamic capability theories. The population of this study was all the 10 five-star hotels in Nairobi County, and data was collected using semi-structured questionnaire. Data was analyzed using Statistical Package for Social Sciences, and descriptive and regression analyses were done. The study determined that each of the selected technology based self-service dimensions had statistically significant influence on competitive advantage of the five star hotels in Nairobi County. The use of technology based self-service for direct transactions attracted the most favorable responses; followed by the use of technology based self-service for self-help; and customer service use. With respect to the competitive advantage, the cost effectiveness dimension had the most favorable responses; followed by customer service dimension. The product/service quality dimension of competitive advantage had the least favorable responses. Generally, the cost effectiveness dimension had the least dispersed response form the mean. The study recommends that an in-depth study should be done on the challenges facing the adoption of technology based self-service in other categories of hotels. The study also recommends that the influence of control variables such as the macroeconomic factors including interest rates, inflation, and foreign exchange rates should be examined, since that was not within the scope of the current study.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

The popularity of technology-aided transactions continues to gain traction worldwide, partly attributable to the rising economic pressures compelling organizations to develop self-service platforms. Accordingly, customers across the globe are also increasingly embracing self-service platforms (Ong, 2010). Technology-based self-service (TBSS) refers to the technological interfaces enabling clientele to obtain services free of human interaction with the organization's employees (Meuter et al., 2000). Relating TBSS to competitive advantage, Harris et al. (2001) determined that it was a major antecedent of competitive advantage in the hospitality industry. The concept of competitive advantage has, therefore, been defined by Gupta (2013) as unique and sustainably inimitable assets and capabilities that put the firm ahead of its competitors, this being the most frequent definition adopted by (K'Obonyo et al., 2011) as well.

This study used postulations of technology acceptance model and dynamic capability theory to determine the relationship between technology-based self-service and competitive advantage between of five star hotels in Nairobi County, Kenya. Technology acceptance model attempts to explain perceived usefulness and usage intentions of technology in terms of its social influence and the cognitive instrumental processes involved in its choice among clientele (Harris et al., 2001).

Dynamic capabilities theory, on the other hand, postulates that for an organization to attain and sustain competitive advantage, it has to not only have unique and inimitable resources, but also a configuration of systems and processes that are flexible and adaptable (Teece et al., 1997). This study is motivated by the increasing trend of technology-based self-service adoption among five star hotels in Nairobi County. Whereas this seems to be the emerging trend, there is no empirical evidence that technology-based self-service leads to competitive advantage among the five-star hotels in Nairobi County. It is against this backdrop that the study seeks to empirically test the association between the two variables in the sectorial context of five-star hotels in Nairobi County.

Hotels in Kenya are classified as per the Hotel and Restaurant Act Cap 494 using star ratings, ranging from one to five star hotels. The star ratings are a way of classifying hotels in terms of the standard it upholds and amenities it contains. There are currently 33 five-star hotels in Kenya, 10 of which are situated in Nairobi County. With the emerging dynamics such as increased fears of terrorism, high labor costs, advances in technology, alongside an increase in the number of new hotels in Nairobi, competition has increased among the hotels. As a result, the organizations have had to devise new strategies to the gain and sustain competitive advantage, and one such strategy is the development of technology-based self-service platforms.

### **1.1.1 Technology-based Self-service**

The concept of technology-based self-service (TBSS) has been defined by Beatson et al. (2006) as a type of service where clients of an organization access the services on their own through interaction with technological systems. The concept has also been defined by Meuter et al. (2000) and Salomann et al. (2006) as technologies enhancing clients to get services in the absence of the employees of an organization. In light of this, Scholars including Lema (2009) have determined that TBSS is indeed a game changer in the hospitality industry. In concurrence, others such as Connolly (2005) have identified diverse justifications for the popularity of TBSS, including customer preference and the cost savings involved.

According to Kim et al. (2012) it has become possible for some organizations to expand the scope of their operations by simply providing interfaces between the actual services and the clients. According to this school of thought, there are diverse reasons for the deployment of TBSS among firms. First, most activities relating to customer service have now been availed through technology platforms (Lema, 2009). In this regard, enquiries about accounts, settlement of bills, the list of most frequent questions, and delivery audit trails comprise some of the services now undertaken through TBSS. Another growing dimension of TBSS is the direct transactions. Accordingly, customers are facilitated by technology to place delivery orders, and to conduct exchanges through TBSS platforms. The third type of TBSS is the self-help which enables clients to train themselves, trouble shoot, and provide solutions through the use of TBSS platform (Lema, 2009).

### **1.1.2 Competitive Advantage**

Scholars such as Divandri et al. (2011) and Gupta (2013) explain competitive advantage from the core competence perspective, and they argue that it is a competency or ability that an organization underscores and outcompetes at while pursuing its overall strategic direction. Accordingly, any core capability that varies from those traceable in competing company would qualify as a competitive advantage. Kit (2011) argues that despite clients still consulting employees of an organization, TBSS has contributed to a significant reduction of the number of employees in the hospitality industry, with many organizations translating this to competitive advantage.

According to Jo Bitner et al. (2000) a lot of organizations are now delighting their customers through the use of technology platforms, with many of them using this as a source of competitive advantage. Concurring with this proposition, Beatson et al. (2006) posits that a successful interaction with technology by a customer is likely to raise the confidence of the customer in the service and the organization. This proposition has further been advanced by Bitner et al. (2000) who argue that such clients also have the propensity to pass favorable word of mouth and strong repeat visit intentions.

Moreover, through technology aided interactions, an organization can be able to respond faster to the queries of their clients (Berry, 2002), thereby gaining competitive advantage over the competitors. According to Beatson et al. (2007) some organizations actually use TBSS to achieve differentiation capabilities. Others such as Ong (2010) posit that through TBSS, organizations are highly likely to make services reliable and consistent, with limited variances, leading to competitive advantage.

### **1.1.3 Hospitality Industry in Kenya**

The term hospitality is the situation where a guest and a host are mutually relate. In this relationship, the host by goodwill receives and entertains the guest. Hotels in Kenya fall under the hospitality industry. Despite the global hotel rating system exceeding 100 in number, they can be classified into two categories, namely: official and non-official types (Mose, 2015). The official type involves the government agency providing the rating for regulatory, and hence compulsory reasons. Whereas the official type applies to all hotels, the unofficial category is done by private firms, including hotels or tourism associations.

The other organizations that normally conduct unofficial and voluntary hotel rating are the automobile associations at both regional and national scale. The global objective of official classification systems is normally exert control on the taxes and tariffs levied on the lodges, while the non-official systems imply no social obligations on the hotels and their stakeholders (Ayele, 2012). According to Ayele (2012) certain hotels have a tendency to oppose the official rating systems due to the expectations that the various stakeholders place upon them as a result of the ratings, as well as the bureaucracies that go with them.

The most common classification systems include the ‘star’ rating, use of letters A to F to rank hotels in order of service superiority, diamond rating, as well as simple use of words such as “satisfactory” or “unsatisfactory” for ranking purposes. Nevertheless, star rating system remains the most popular worldwide, with the higher the star rating the more the level of luxury. There are various determinants of star classification, including the food services, view, entertainment, room diversity in terms of spatial capacity, as well as surplus facilities including fitness centers, spas as well as location and accessibility (East Africa Community, 2009).

The EAC Standards criteria would act as a tool that would enhance the offering of products and services that would consistently meet the expectations of tourists patronizing the region (EAC, 2009). The Kenyan classification criteria consider the following essential items before classifying tourist facilities: occupational permit, valid operating license, drainage systems, room designations, fire safety, water supply, parking space, communication systems, electrical safety, First Aid. Classification in South Africa is conducted by South Africa Grading Council. Classification is done to offer consumer confidence and also acts as a marketing tool. South Africa also use star as a way of Grading Hotels.

#### **1.1.4 The Five Star Hotels in Nairobi County**

Star rating of hotels is a common practice across the world, even though there are diverse ways of hotel classification. According to this rating criterion, higher star rating imputes higher levels of luxury. In Kenya, hotels are ranked using the star-rating system that includes 5-star hotels, 4 –star hotels, 3-star hotels, 2-star hotels and 1-star hotels. The entity in charge of determining the conditions by which hotels would be accountable and which would determine their star-rating is the World Organization of Tourism (Mose, 2015).

As per the Kenyan Gazette, Gazette Notice No. 3976 (Vol. CV- No. 62) there were 33 five-star hotels in the country and 10 of them are situated in Nairobi, while the rest are located in Mombasa, Kilifi, Kwale, Lamu, Taita Taveta, Nyeri, Narok and Nakuru Counties in Kenya. The hotels have a bed capacity ranging from forty six beds to seven hundred and sixteen beds. Class, elegance, ambiance and quality services are the major distinguishing factors of the hotels. The high quality among the hotels in Kenya not with-standing, there is intense competition among them.



Not only are the hotels competing for the customers but also for the best staff. This situation is made even more complicated by the ever changing tastes and preferences of their clients (Ayele, 2012). Against this backdrop, the organizations each attempt to adopt competitive strategies, with development of technological solutions such as TBSS (Oketch et al., 2010). Despite the increasing popularity of TBSS among five star hotels in Kenya, there is compelling empirical evidence that it significantly influences competitive advantage.

## **1.2 Research Problem**

Despite the benefits of TBSS platforms, this type of service is also characterized by many limitations (Chen, 2011). One of the key weaknesses of TBSS is the degree of initial and recurrent capital investment involved. Moreover, a complex TBSS with poorly designed user-interface could lead to customer apathy, low market share, and hence competitive disadvantage (Shaw, 2004). In addition, system down times could significantly impact competitive position of the firm adversely through customer disinterest.

The tourism industry has gone through challenges across the world in the recent past, with hotels in Kenya facing similar dynamics (Njeru et al., 2014). This argument has also been propounded by Tsuma (2014) who posits that in the last fifteen years, there have been incidents in the Kenyan environment impacting the tourism industry adversely. One of the major events in the region is the inter-firm competition that has transcended the African continent, with traditional patrons of the hotels in Kenya preferring South Africa, Morocco, and Tunisia. Against this backdrop, some of the hotels have experienced acute financial challenges, with a few ending up under receivership (Mzera, 2012). In addition, due to the seasonal nature of demand for hotel services, the firms have had to device innovative methods of not only delighting their clients, but also dealing with competition.

Against the backdrop of conceptual and contextual challenges presented above, various studies have been conducted. Otieno and Iravo (2014) conducted a study on the association between electronic inbound logistics acquisition and supply chain management efficiency among five star hotels in Nairobi County. The study determined that electronic inbound logistics acquisition had led to significant cost savings due to the reduced staff capacity, and physical material requirements that are typical of traditional procurement strategies. However, the study focused on the e-procurement and supply chain efficiency, and neither TBSS nor competitive advantage was part of the study focus.

A study by Tsuma (2014) focused on the global sourcing practices in five star hotels in Nairobi County. The study established that the hotel industry practiced three global sourcing strategies, being global outsourcing, contract manufacturing and international purchasing. Even though the study contextually focused on Nairobi County, it had a different conceptual focus, and used exploratory design since determination of association was not part of its objectives.

An investigation by Salem (2014) focused on the association among knowledge management, innovation and performance of five star hotels in Egypt. The study reported a significant positive association between knowledge management and organizational performance of the hotels. A similar finding was reported on the relationship between knowledge management and innovation among the firms. The study was however done in a culturally different country context, which is Egypt.

A study by El-Said (2013) aimed at comparing customer preferences for TBSS and HIS in hotels in Sharm El-Sheikh, Egypt. Findings showed that in most service interactions, customers preferred human interaction to technology based service platforms. The study also determined that where preference was on TBSS, the main justification was the speed of service. The focus of the study was however on customer preference, hence other dimensions of competitive advantage, such as service efficiency were not explored. This is more so because various subsequent sources of literature have indicated that the dimensions of TBSS do not impact competitive advantage and performance the same way. A more construct-inclusive model would probably yield more reliable results, considering that past studies have reported mixed results in this regard.

Aiming at a determination of the association between novel technologies and management of information in the hospitality industry in the upscale Croatia and Italy, Saura et al. (2012) concluded that customers who stayed in both Croatian and Italian hotels demonstrated high satisfaction and intention to recommend the hotel. Still greater scores were obtained for the Croatian compared to the Italian hotels. This study was however conducted in a more technologically savvy nation context. The study also focused on new technologies in general, with customer-firm interaction interface not forming part of the study.

A study by Jo Bitner et al. (2000) focused on the correlation between TBSS and level of customer satisfaction in the United States of America. An examination of the correlation between level of incident customer satisfaction and attribution nature was done using chi-square analytical method. The study unearthed a significant correlation between the study variables as indicated by the statistical output:  $\chi^2 = 72.36, p < .001$ .

The study however used a non-parametric method of analysis, hence there may be need to replicate a similar study with parametric analytical methods. From the foregoing, whereas some studies have attempted to investigate the TBSS phenomenon and its effect on competitive advantage of five-star hotels, the definition of star-hotel varies globally. Some of the studies have also under-explored the TBSS dimensions. A few studies have edged closer to the exact variables and dimensions, but all these have been in foreign contexts. Finally, other studies have focused on the Kenyan context, but again their analytical models have never focused on the measure of association between the variables. The current study therefore, using an explanatory cross-sectional survey design, sought to answer the question: What is the influence of technology-based self-service (TBSS) on competitive advantage of five-star hotels in Nairobi County?

### **1.3 Research Objective**

The objective of the study was to determine the influence of technology-based self-service on competitive advantage of five-star hotels in Nairobi County.

### **1.4 Value of the Study**

The study has provided empirical evidence on the association between TBSS and competitive advantage in the context of five-star hotels in Nairobi County. The findings would then be compared with the predictions of technology acceptance model and dynamic capabilities theory. This would consequently help refining the theories and would chart direction for further research on this phenomenon. Accordingly, the findings of the study would provide a pointer as to the future research priority based on the current objectives.

The government of Kenya through the relevant agencies such as the ICT Authority would find the study an invaluable source of information for charting policy direction in order to enhance the output of the hotel industry. In return, a more prolific hotel industry would translate to macroeconomic growth and development through improved gross domestic product (GDP), due to the improved quality of policy based on sound empirical evidence.

The findings of the study would also provide new insight on the efficacy of TBSS with regard to achievement of sustainable competitive for the various five-star hotels in Nairobi County. Accordingly, the top management team (TMT) of the various hotels would find the study an important source of information not only for strategic choices but also on strategic action in light of achieving distinctive capabilities using TBSS against the backdrop of increasing competition in the industry.

Chapter one has unveiled the background of the study, including the study variables, the context, and a brief highlight on the anchoring theories. Motivation of study has also been introduced in this chapter. The research problem has been discussed in detail in this section, with conceptual, contextual, and methodological gaps clearly identified. The research question has been posed at the end of the research problem, with the objective clearly articulated immediately afterwards. The chapter has concluded with a discussion on the value of the study, including its significance to the academia, the policy fraternity, and the industry.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This section entails a review of the literature on technology-based self-service (TBSS) and competitive advantage. It comprises both theoretical as well as empirical literature review on the key study variables. The literature is both theoretical and empirical. The theoretical literature includes a review of the postulations of technology acceptance model and dynamic capability theories. Each of the theories has been reviewed based on its general postulations, specific prediction on the relationship between the two study variables, and limitations.

Empirical literature has been reviewed, with specific attention on past studies focusing on the linkages between TBSS and competitive advantage. The empirical literature review has considered each study based on its focus, findings, and limitations. Some of the notable studies in this regard includes Tsuma (2014), Salem (2014), and El-Said (2013). Accordingly, knowledge gaps have been identified, informing the focus of the study.

#### **2.2 Theoretical Foundation**

Technology acceptance model (TAM), being the overarching theory in the study, postulates that effective use of a system is predicted by the application of motivation principles. Dynamic capability theory, on the other hand, postulates that for a firm to gain competitive edge over the rivals, it has to develop a unique set of strength in terms of asset-base, systems, and processes, called capabilities.

### **2.2.1 Technology Acceptance Model**

According to the model (TAM) proposes that the application of a system is predictable by the application of motivation; subsequently of which is overtly caused by peripheral factors including the system characteristics, and abilities (Davis, 1985). In the original proposal of TAM, it was postulated that the motivation of a user could be explained by various determinants, namely: ease of application as perceived by the user, usefulness, as well as the attitude toward utilization (Lee, Korzar, and Larsen, 2003). The model hypothesizes the user's attitude towards application of a system is highly likely to influence its success.

This proposal was later refined to include other variables, with subsequent scholars proposing additions. Nevertheless, a few scholars argue that the model emphasizes easy research focus, with pre-dominant attention on technology acceptance, rather than the actual challenges around technology utility. Accordingly, technology acceptance empirical investigations are still on-going. Therefore, it would be important to develop understanding on the underlying principles, strengths, as well as weaknesses of the model (Chuttur, 2009).

The current study, therefore, seeks to use the propositions of technology acceptance model to establish the relationship between TBSS, and competitive advantage of the five star hotels in Nairobi County, Kenya. The various determinants of technology acceptance proposed by (Davis, 1985) would therefore guide the study. The study would, hence, consider the influence of the user-friendliness, utilitarianism, and attitudinal dynamics on competitive advantage of five star hotels in Nairobi County.

### **2.2.2 Dynamic Capability Theory**

The theory postulates that if abilities of a firm are diverse and implicit, imitation by other firms would be made difficult, forming the basis for sustainable competitive advantage (Teece et al., 1997). According to this theory, a firm should advance its competences in a dynamic setting by utilizing peripheral company-specific proficiencies (Bogers, 2012). Based on the foregoing theoretical postulation, authors such as Berdine et al. (2008) have come to a conclusion that it is evident that the company-specific resource positions and evolutionary pathways outline the company's administrative and firm developments which subsequently explain competitive advantage of such a firm.

The weakness of dynamic capabilities theory is that it overly assumes that there exists an equilibrium point of dynamic capabilities and that such a point ought to be the focus of a rational strategist. This assumption is ideal since competitive advantage is relative and contingent upon the capabilities of key competitors, and which cannot be assumed to be constant. This observation has previously been made by West et al. (2012), and Divandri et al. (2011).

The prediction of this theory is that firms tend to develop dynamic capabilities and continuously develop them according to the changing competitive environment. It also predicts that new business strategies, such as intensive use of technology, tend to be adopted by organizations in attempt to gain sustainable competitive advantage. The current study would therefore use the predictions of dynamic capabilities to determine the relationship between technology-based self-service (TBSS) and competitive advantage of five star hotels in Nairobi County, Kenya.



## **2.3 Empirical Literature Review**

Academic interest on the relationship between technology-based self-service (TBSS) and competitive advantage continues to develop. Whereas there are a few areas of consensus among scholars, many of the studies have adduced diverse evidence in this respect.

### **2.3.1 Inbound Logistic Acquisition**

Otieno and Iravo (2014) conducted a study on the association between electronic inbound logistics acquisition and supply chain management efficiency among five star hotels in Nairobi County. The study determined that electronic inbound logistics acquisition had led to significant cost savings due to the reduced staff capacity, and physical material requirements that are typical of traditional procurement strategies. However, the study focused on the e-procurement and supply chain efficiency, and neither TBSS nor competitive advantage was part of the study focus.

A study by Tsuma (2014) focused on the global sourcing practices in five star hotels in Nairobi County. The study established that the hotel industry practiced three global sourcing strategies, being global outsourcing, contract manufacturing and international purchasing. Even though the study contextually focused on Nairobi County, it had different conceptual focus, being global sourcing practices. Accordingly, the study focused used exploratory design since no association measures were part of its objectives.

### **2.3.2 Knowledge management**

An investigation by Salem (2014) focused on the association among knowledge management, innovation and performance of five star hotels in Egypt. The study reported a significant positive association between knowledge management and organizational performance of the hotels. A similar finding was reported on the relationship between knowledge management and innovation among the firms. The study was however done in a culturally different country context, which is Egypt.

A study by El-Said (2013) aimed at comparing customer preferences for TBSS and HIS in hotels in Sharm El-Sheikh, Egypt. Findings showed that in most service interactions, customers preferred human interaction to technology based service platforms. The study also determined that where preference was on TBSS, the main justification was the speed of service. The focus of the study was however on customer preference, hence other dimensions of competitive advantage, such as service efficiency were not explored. This is more so because various subsequent sources of literature have indicated that the dimensions of TBSS do not impact competitive advantage and performance the same way. A more construct-inclusive model would probably yield more reliable results, considering that past studies have reported mixed results in this regard.

### **2.3.3 Novel Technology and Information Management**

Aiming at a determination of the association between novel technologies and management of information in the hospitality industry in the upscale Croatia and Italy, Saura et al. (2012) concluded that customers who stayed in both Croatian and Italian hotels demonstrated high satisfaction and intention to recommend the hotel. Still greater scores were obtained for the Croatian compared to the Italian hotels. This study was however conducted in a more

technologically savvy nation context. The study also focused on new technologies in general, with customer-firm interaction interface not forming part of the study.

A study by Jo Bitner et al. (2000) focused on the correlation between TBSS and level of customer satisfaction in the United States of America. An examination of the correlation between level of incident customer satisfaction and attribution nature was done using chi-square analytical method. The study unearthed a significant correlation between the study variables as indicated by the statistical output:  $X^2 = 72.36$ ,  $p < .001$ . The study however used a non-parametric method of analysis, hence there may be need to replicate a similar study with parametric analytical methods.

#### **2.4 Knowledge Gap**

From the empirical literature review, a few gaps in knowledge emanate. Whereas some of them are conceptual, others are contextual and methodological in nature. Some studies have, for instance, focused on a section of the TBSS and competitive advantage dimensions. A few others have been conducted in developed nation contexts with advanced technological orientation, and utilized research designs that are incapable determining relationship between variables. Table 2.1 is a summary of the knowledge gaps and proposed ways to fill them in the current study.

**Table 2.1 Summary of Knowledge Gap**

<b>Author(s) &amp; Year</b>	<b>Area of Study</b>	<b>Findings</b>	<b>Gap</b>	<b>Addressing the Gap</b>
Otieno and Iravo (2014)	Association between electronic inbound logistics acquisition and supply chain management efficiency among five star hotels in Nairobi County	Electronic inbound logistics acquisition had led to significant cost savings due to the reduced staff capacity, and physical material requirements that are typical of traditional procurement strategies	The study focused on the e-procurement and supply chain efficiency, and neither TBSS nor competitive advantage was part of the study focus	The current study would focus on influence of TBSS and competitive advantage in the context of five star hotels in Nairobi County
Tsuma (2014)	The global sourcing practices in five star hotels in Nairobi County	The hotel industry practiced three global sourcing strategies, being global outsourcing, contract manufacturing and international purchasing	The study had different conceptual focus, being global sourcing practices. Accordingly, the study used exploratory design since no association measures were part of its objectives	The current study would focus on the relationship between TBSS and competitive advantage, using an explanatory research design
Salem (2014)	Association among knowledge management, innovation and performance	Significant positive association between knowledge management and organizational	The study was done in a culturally different country context, which is Egypt	The current study would be done in the five star hotels in Nairobi, Kenya

**Table 2.1 Continued**

El-Said (2013)	Comparing customer preferences for TBSS and HIS in hotels in Sharm El-Sheikh, Egypt	In most service interactions, customers preferred human interaction to technology based service platforms	The focus of the study was on customer preference, hence other dimensions of competitive advantage, such as service efficiency were not explored	The current study to focus on diverse dimensions of competitive advantage, other than customer preference
Saura et al. (2012)	Relationship between new technologies in the hospitality industry in the upscale Croatia and Italy	Customers who stayed in both Croatian and Italian hotels demonstrated high satisfaction and intention to recommend the hotel	This study was conducted in a more technologically savvy nation context	The current study would focus on the Kenyan context
Jo Bitner et al. (2000)	Correlation between TBSS and level of customer satisfaction in the United States of America	Significant correlation between the study variables as indicated by the statistical output: $\chi^2 = 72.36, p < .001$ .	The study used a non-parametric method of analysis, there is need to try parametric analytical methods	The current study would use linear regression, being a parametric analytical method

From Table 2.1 above, the current study has made attempts to address the knowledge gaps through a carefully developed research design. For instance, studies in foreign contexts may not consider the contextual uniqueness of the Kenyan hospitality industry, hence a similar study would be done in the Kenyan context. Some of the studies have also adopted exploratory design, hence the current study proposes to use explanatory design so as to bring out the association among the various variables in accordance with the proposed study objectives.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This section is a presentation on the proposed methodology for the study. Methodology refers to a set of methods as well as techniques that would be used to undertake research, and the basic assumptions on which the study is to be anchored (Mugenda, 2003). This study, thus, applied census survey. The research design, collection of data and analysis methods, have all been discussed in this section.

#### **3.2 Research Design**

There are various research designs including exploratory, descriptive and explanatory designs (Saunders et al., 2007). Whereas an exploratory design helps to find out what is happening in a given environmental setting with regard to the phenomenon under study through asking questions; a descriptive design helps to present a clear profile of a phenomenon, individuals, situations so as to bring out more information; while an explanatory design assists to establish the association between study variables (Yin, 2013).

The study was undertaken using explanatory cross-sectional survey design because its main objective was to determine relationship between two variables at a specific instant. The research sought to find out how the various dimensions of TBSS influence competitive advantage five star hotels in Nairobi County, Kenya. A cross-sectional study measures the relationship between variables at one point in time (Saunders, et al., 2009).

### **3.3 Population of the Study**

Population is a large collection of elements, objects or individuals forming the main focus of a study (Kothari, 2004). The individuals or objects must be having similar observable attributes (Cooper et al., 2011). The population of this study was all the 10 five-star hotels enlisted by the Tourism Regulatory Authority, Kenya (2018), as shown in Appendix II. This category of hotels has been chosen as the population of the study due to the nature of the research problem and objectives of the study.

As shown in Appendix II, the five star hotels in Nairobi County were 10 in number as at June 30, 2018. The organizations were, therefore, included in the study without regard to the size, among other characteristics. This is because those differences in characteristics are not part of the scope of this study. Their physical addresses were also identified in advance to enhance logistical planning.

### **3.4 Data Collection**

This study made use of primary data collected using a structured questionnaire, hence it contained only closed-ended questions. Thus, the questions were designed to cover various dimensions of TBSS and competitive advantage. The latter was used with the aim of providing more structured responses that would facilitate quantitative analytical methods, and conclusion development. The questionnaire was administered to a total of 40 respondents, drawn equally from each of the 10 organizations. In this regard, four members of top management team of each organization incorporating Chief Executive Officer, Operations Manager, Sales and Marketing Manager, and Information Technology Manager, or their equivalents depending on the organizational structure.

These managers were identified because they are in a position to provide valid responses in relation to the study objectives. The questionnaire comprised three sections. Section A sought to collect general data about the respondents. Section B focused on questions covering TBSS, while section C concentrated on competitive advantage. The questionnaire items were drawn from literature sources including Lema (2009) and Kim et al. (2012) for TBSS, and Kit et al. (2011) and Gupta (2013) competitive advantage variables.

The questions were carefully constructed and administered to more than one respondent in the TMT of each organization to mitigate the risk of common bias. The questionnaire was administered through drop and pick and was accompanied with a transmittal letter. Effort was made to ensure the data collection did not significantly interfere with the ordinary activities of the respondents, because of the nature of their roles in those organizations, and to enhance cooperation.

### **3.5 Data Analysis**

Completed questionnaires were edited accordingly, coded and entered into SPSS version 23, in readiness for actual analysis. Data analyses comprised numeric measures and were done using descriptive statistics. It helped to depict the data distribution, including measures of central tendency and dispersion. Multiple regression model was used to measures association between the variables as stated in the objective of the study. The study analytical model was guided by the regression model below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu_i$$



Where,

Y= Composite score for competitive advantage

X1= Composite score for customer service

X2= Composite score for direct transactions

X3= Composite score for self-help

$\beta$  = Beta coefficient of variable  $i$  the measure of the change in Y associated with a t change in X.

While  $\mu_i$  –refers to the expected error that is assumed to be associated with the variables

The coefficient of determination (R-Square) obtained gave the explanatory power of the model while the correlation coefficient (Beta factor) for each of the four independent measures gave the nature and extent of relationship with the dependent variable. The results of significance were interpreted at 5% level of significance by examination of the p-values.  $P \leq 0.05$ , and  $P > 0.05$  were therefore interpreted for statistical significance, and insignificance respectively.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This section comprises the presentation and discussion of the study results. It unveils the response rate, demographic information, as well as the study output in light of the study objectives. Descriptive as well as regression analyses form the basis for discussion of the study findings.

#### 4.2 Response Rate

A total of 38 respondents were sampled in the study, from whom 30 successfully completed and returned the questionnaire, representing 80% response rate. This response rate sufficed for the researcher to draw reasonable conclusions from the study. Mugenda and Mugenda (1999) suggest that a response rate of 70 percent and above is deemed excellent. Based on the assertion, the response rate was considered to be excellent.

**Table 4.1: Response Rate**

<b>Questionnaire</b>	<b>Frequency</b>	<b>Percentage</b>
Filled and Returned	30	80
Unreturned	8	20
<b>Total</b>	<b>38</b>	<b>100.0</b>

**Source:** *Research Findings*

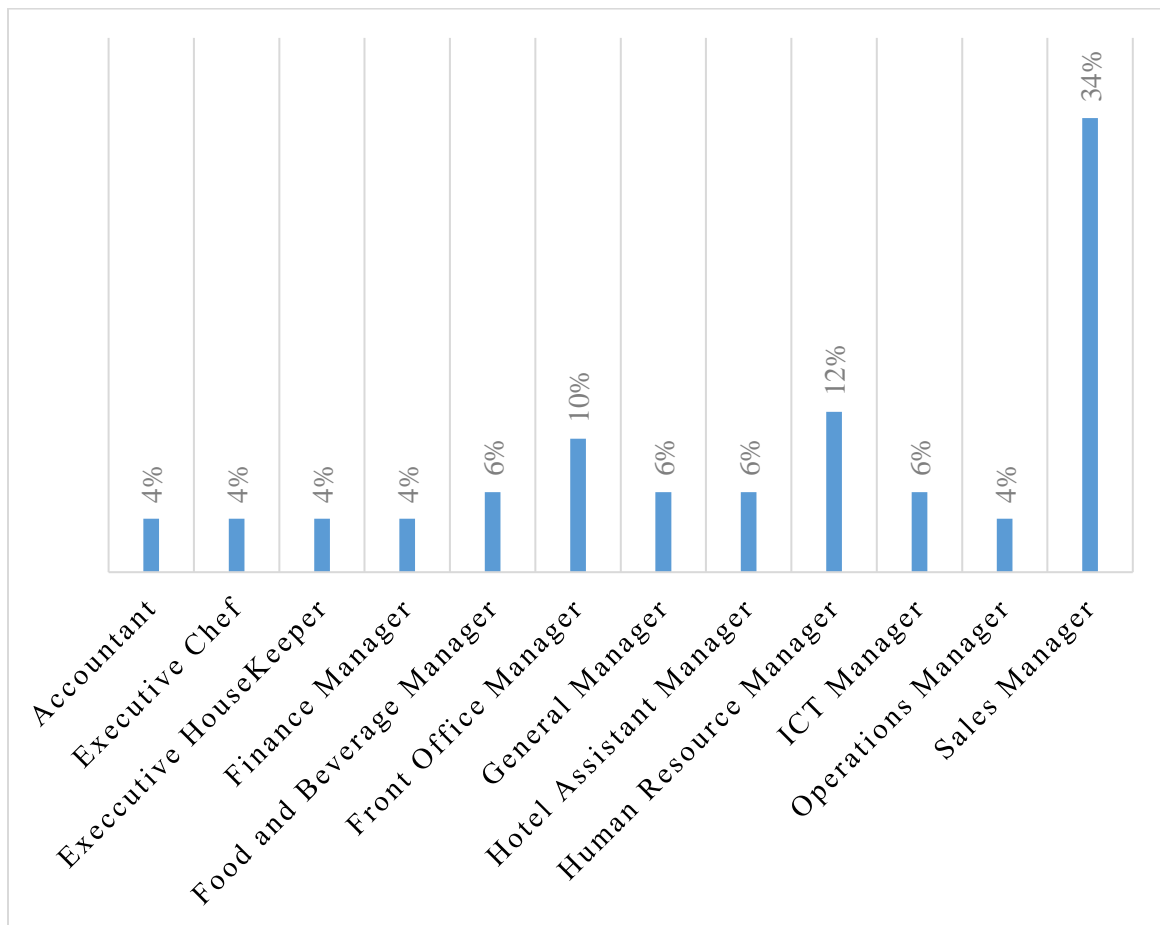
### 4.3 Demographic Information

The respondents were asked to indicate the following demographic data: position in the organization; the period of time for which they had undertaken the business; cumulative experience in the hospitality industry; cumulative experience in this organization; gender; and level of education.

#### 4.3.1 Position in the Organization

The respondents gave information about their position in the organization as shown in Figure 4.1 below.

**Figure 4.1 Respondent’s Position in the Organization**



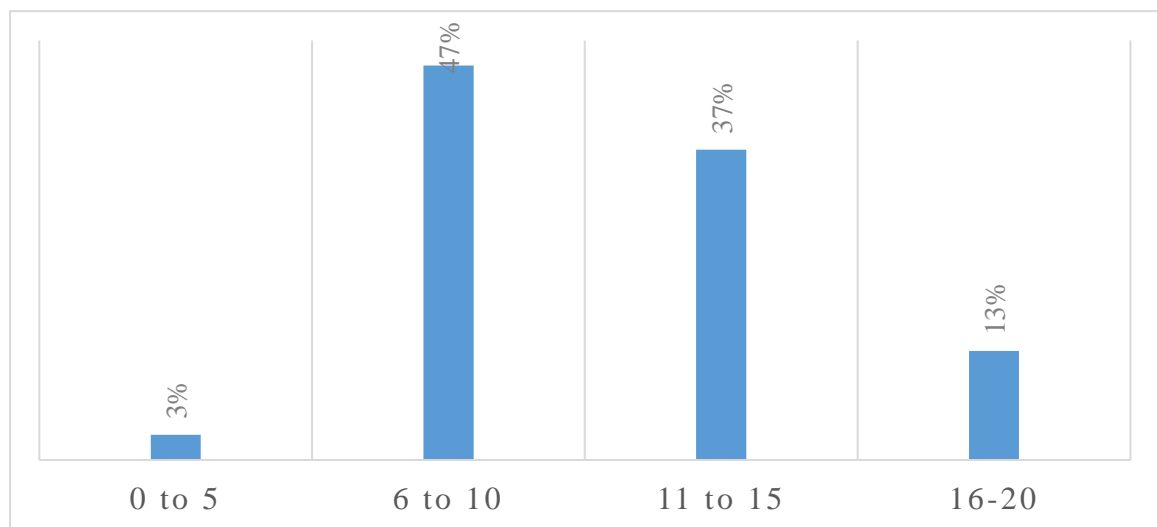
**Source:** *Research Findings*

From Figure 4.1 above, majority of the respondents were sales managers, representing 34% of the respondents; followed by the human resource managers; and front office managers, representing 12% and 10% respectively. The accountants, executive chefs, executive house keepers, finance managers, and operations managers comprised the smallest proportions of the respondents, representing 4% each.

### 4.3.2 Cumulative Experience in the Hospitality Industry

The respondents gave information about their cumulative experience in the hospitality industry as shown in Figure 4.2 below.

**Figure 4.2 Respondent's Cumulative Experience in Years in the Hospitality Industry**

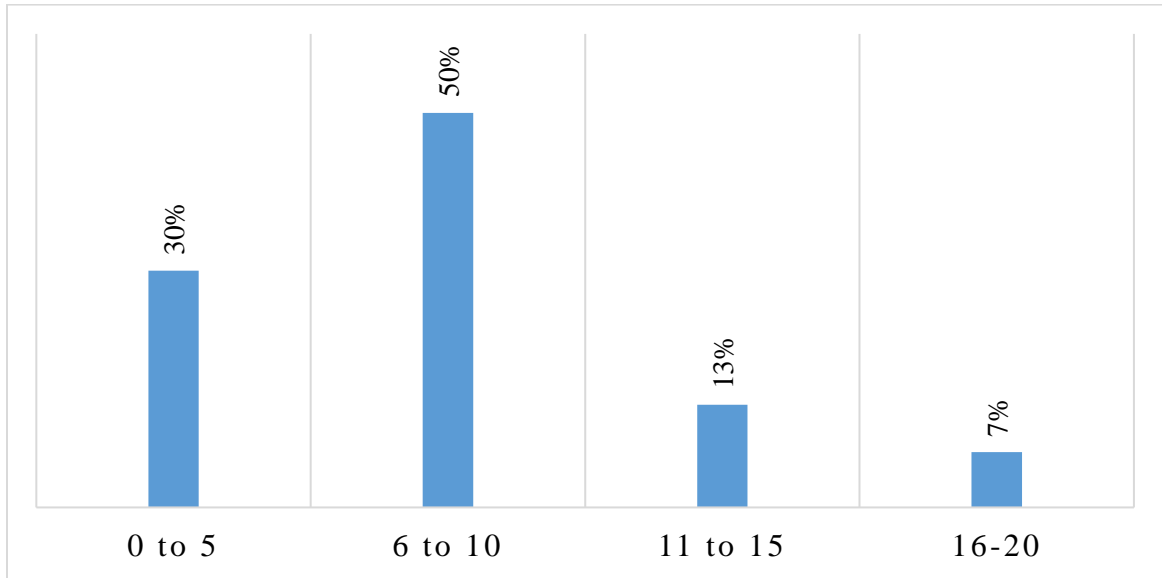


**Source:** *Research Findings*

From Figure 4.2 above, many of the respondents had been in the hospitality industry for a period of between 6 to 10 years cumulatively. 37% of the respondents had been in the industry for a cumulative period of between 11 to 15 years. Only 3% of the respondents had been in the industry for a period of between 0 to 5 years. This means that majority of the respondents had sufficient knowledge of the industry, hence would offer useful data on the research question.

### 4.3.3 Cumulative Experience in the Current Organization

The respondents gave information about their cumulative experience in the current organization as shown in Figure 4.3 below.



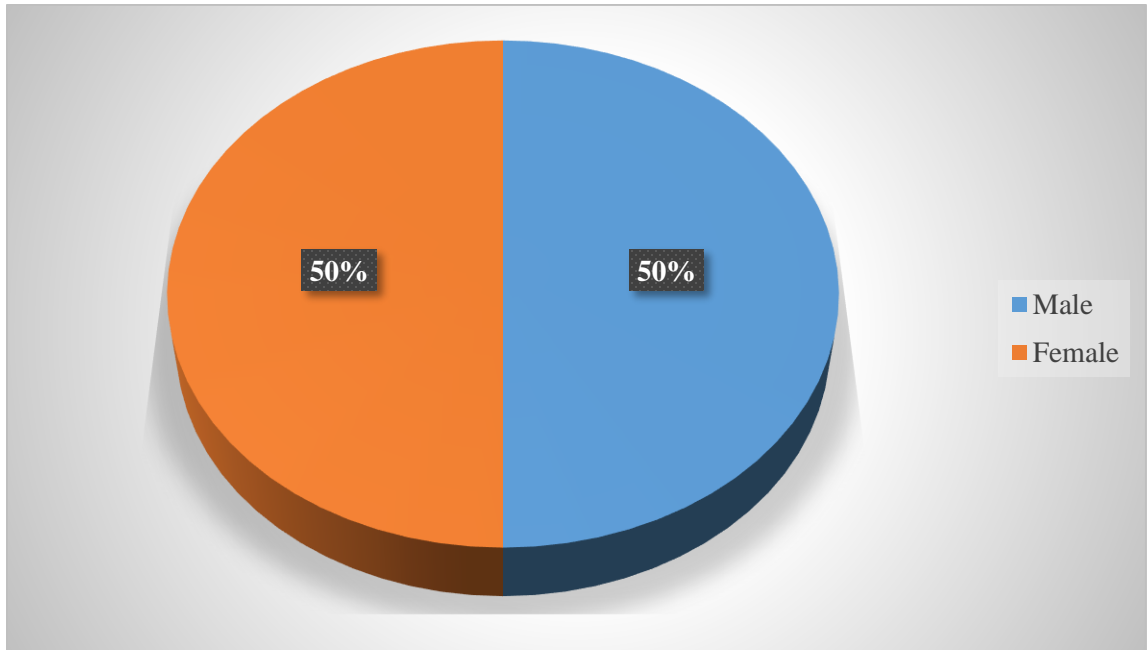
**Source:** *Research Findings*

From Figure 4.3 above, many of the respondents had been in the current firm for between 6 to 10 years cumulatively. 30% had been in the current firm for a cumulative period of between 0 to 5 years. Only 7% of them had been in the current firm for a period of between 16 to 20 years. This means that most of the respondents had sufficient knowledge of their current organizations since they had been there for at least 6 years, hence would offer useful data on the research question.

#### 4.3.4 Gender

The respondents gave information about their gender as shown in Figure 4.4 below.

**Figure 4.4 Respondent's Gender**



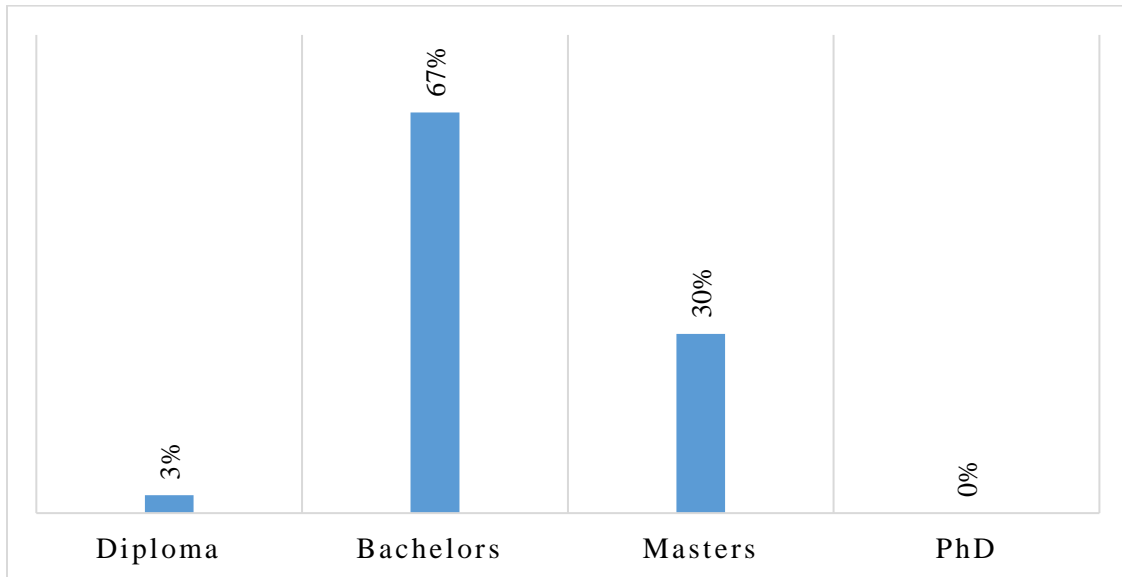
**Source:** *Research Findings*

Figure 4.4 above demonstrates that the respondents were drawn for both gender in equal numbers. Accordingly, the opinions expressed in the study were gender balanced.

#### 4.3.5 Level of Education

The respondents gave information about their cumulative experience in the current organization as shown in Figure 4.5 below.

**Figure 4.5 Respondent's Level of Education**



**Source:** *Research Findings*

From Figure 4.5 above, majority of the respondents had Bachelors' degree, representing 67% of the respondents. A further 30% had Masters' degree, while 3% had Diploma qualifications. None of the respondents had a PhD. From the foregoing, the respondents had sufficient qualifications, hence could respond to the questionnaire without direct intervention of the researcher.

#### **4.4 Descriptive Analysis**

The study sought to determine the influence of TBSS on competitive advantage of the five star hotels in Nairobi County. The data was collected using a structured questionnaire, with a 5 point rating scale. The central tendency of the responses was measured using the mean, while dispersion was measured using the standard deviation.

The mean measured the extent to which the responses were centered about one point on the scale, while standard deviation measured the degree to which the responses were dispersed from the mean. The statistics are as shown in Tables 4.2 and 4.3 below.

**Table 4.2 Responses on TBSS**

**Table 4.2(a) Responses on Customer Service**

<b>Customer Service</b>	<b>Mean</b>	<b>Standard Deviation</b>
My hotel receives and handles most customer enquiries about bookings using technology platforms	2.593	0.145
My hotel handles most bill payments using technology platforms	3.100	0.382
My hotel has availed a list of frequently asked questions (FAQs) on-line with their responses	2.646	0.233
My hotel monitors most customer reviews using an on-line platform	2.737	0.221
<b>Aggregate</b>	2.769	0.245

**Source:** *Research Findings*

Under the customer service dimension, most respondents concurred that their organizations used technology platforms to handle bill payments as shown by the highest mean of 3.100. The poorest score under the customer service dimension was on the use of TBSS for handling customer queries, at 2.593. Nevertheless, the responses on the use of TBSS for handling customer queries had the least standard deviation. This means that it attracted the



most stable responses, compared to those on the use of TBSS for handling bill settlement, which had the highest standard deviation, at 0.382.

**Table 4.2(b) Responses on Direct Transactions**

<b>Direct Transactions</b>	Mean	Standard Deviation
My hotel does most product/service deliveries using the technology platforms	3.378	0.197
My hotel does most service/product exchanges with other organizations on-line	2.925	0.336
My hotel has an integrated system for most of the services	3.246	0.298
<b>Aggregate</b>	3.183	0.277

**Source:** *Research Findings*

Under the direct transactions dimension, majority of the respondents tended to agree that their organizations used TBSS service delivery. This response had the highest mean, at 3.378 compared to the response on the use of TBSS for exchanges with other organizations on-line, with the mean of 2.925. The responses on the use of TBSS for service delivery had the least dispersion from the mean, and hence the most stable, with a standard deviation of 0.197.

**Table 4.2(c) Responses on Self-Help**

<b>Self-Help</b>	<b>Mean</b>	<b>Standard Deviation</b>
My hotel has provided most customer solutions on the on-line platform such as a booking engine and online payment gateway	2.971	0.354
My hotel has availed an on-line training guide for the customers on self-service	3.192	0.322
My hotel has availed a trouble-shooting system for customers to support on-line self-service	2.863	0.320
<b>Aggregate</b>	<b>3.009</b>	<b>0.332</b>

**Source:** *Research Findings*

Under the self-help dimension, majority of the respondents tended to agree that their organizations availed on-line training guide for their clients. This indicator of self-help dimension had a mean score of 3.192. The availability of on-line trouble shooting system to support TBSS attracted the least favorable response, with a mean of 2.863. The responses on the use of TBSS for self-help, however, had the most stable responses, with the least standard deviation of 0.320.

The use of TBSS for direct transactions attracted the most favorable responses, with an aggregate mean of 3.183, and standard deviation of 0.277; followed by the use of TBSS for self-help, with a mean of 3.009 and standard deviation of 0.332; and customer service use, with a mean of 2.769 and standard deviation of 0.245.

**Table 4.3 Responses on Competitive Advantage**

**Table 4.3 (a) Responses on Customer Service**

<b>Customer service</b>	<b>Mean</b>	<b>Standard Deviation</b>
Our average customer satisfaction rate is very high	3.672	0.236
Our daily average customer complaints are very low	3.363	0.196
We detect changes in customer preferences very fast	3.762	0.197
We communicate with customers very regularly	3.552	0.170
Our daily average customer compliments are very high	3.672	0.236
Our response to customer requests and customer feedback is normally very fast	3.971	0.202
<b>Aggregate</b>	3.665	0.206

**Source:** *Research Findings*

**Table 4.3 (b) Responses on Cost Effectiveness**

<b>Cost Effectiveness</b>	<b>Mean</b>	<b>Standard Deviation</b>
Our costs of furniture, fixtures & Equipment are very low	3.672	0.213
We have relatively low labor costs	3.638	0.210
Our food & beverage costs are very low	3.971	0.224
We have very low Energy/Electricity costs	3.691	0.118
Our costs of sales and marketing are very low	3.638	0.210
Our housekeeping costs are low	3.762	0.224
We have a strong revenue management team	3.901	0.023
<b>Aggregate</b>	<b>3.767</b>	<b>0.166</b>

**Source:** *Research Findings*

**Table 4.3 (c) Responses on Service Efficiency**

<b>Service Efficiency</b>	<b>Mean</b>	<b>Standard Deviation</b>
Our staff are very courteous and friendly to the guests	3.841	0.327
The speed of service in our guest contact departments such as front office and restaurants is fast	3.043	0.021
We normally have very short order fulfillment lead times, in our food and beverage outlets	3.052	0.391
Our service is consistent across all guest service departments	4.015	0.032
<b>Aggregate</b>	<b>3.488</b>	<b>0.193</b>

**Source:** *Research Findings*

**Table 4.3 (d) Responses on Product/Service Quality**

<b>Product/Service Quality</b>	<b>Mean</b>	<b>Standard Deviation</b>
Our products/services are highly distinguished from those of competitors	3.747	0.365
Our products/services are of very high quality	4.177	0.287
We practice Total Quality Management	3.816	0.371
<b>Aggregate</b>	3.193	0.341

**Source:** *Research Findings*

Under the quality dimension, the high product/service quality indicator received the most favorable responses, with a mean of 4.177, and standard deviation of 0.287. Differentiation of products from those of competitors received the least favorable response, with the mean of 3.747, and standard deviation of 0.365. The responses on high product/service quality had the responses more centered about the mean, compared to latter. This is because the product quality indicator had less standard deviation. The cost effectiveness dimension had the most favorable responses as shown by the mean of 3.767, and standard deviation of 0.166; followed by customer service dimension which had a mean of 3.665, and standard deviation of 0.206. The product/service quality dimension of competitive advantage had the least favorable responses as shown by the mean of 3.193 and standard deviation of 0.341. Generally, the cost effectiveness dimension had the least dispersed response form the mean.

## 4.5 Regression Analysis

The study aimed at determining the influence of TBSS on competitive advantage of the five star hotels in Nairobi County. Various inferential statistics were interpreted in light of the study objectives.  $R^2$  was used to measure the proportion of competitive advantage explained by each of the dimensions of TBSS. The beta factors were used to measure the correlation between each of the dimensions of TBSS, and competitive advantage of the five star hotels in Nairobi County. The significance of the beta factors was interpreted at 5% level of significance.

### 4.5.1 Customer Service and Competitive Advantage

**Table 4.4: Model Summary I**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889	.790	.736	.22462

**Source:** *Research Findings*

The findings in Table 4.4 above show that the value of adjusted R squared was 0.736. This implies that 73.6% competitive advantage variation was could be attributed to the changes in customer service, at 95% degree of confidence. This shows that 73.6% changes in competitive advantage could be attributed to changes in customer service. It is also evident from the findings above that there was a strong positive correlation between the variables as shown by 0.889.

**Table 4.5: Analysis of Variance I**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.293	1	.431	3.814	.001 <sup>b</sup>
	Residual	37.968	29	.113		
	Total	39.261	30			

**Source:** *Research Findings*

From the analysis of variance statistics in Table 4.5, the regression model had a fit with the data ( $F=3.814$ ,  $P < 0.05$ ). This is an indication that customer service had a significant influence on competitive advantage, at 5% level of significance, since the p-value was 0.1%, which was below 5%.

**Table 4.6: Coefficients I**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.508	1.131		1.333	.001
	Customer Service	.481	.228	0.203	2.110	.002

**Source:** *Research Findings*

As shown in table 4.6 beta coefficient was significant ( $\beta = 0.481$ ,  $t = 2.110$ ,  $P < 0.05$ ). This implies that for every unit change in identity there was 48.1% increase in performance.

The below regression equation was established.

$$Y = 1.508 + 0.481X_1$$

From the above regression equation, it was revealed that if there were no changes in customer service, competitive advantage would be at 1.508. However, a unit change in customer service would lead to increase in competitive advantage by a factor of 0.481. At 5% level of significance in conversation was found to significantly influence competitive advantage. The significance level was 0.1%, which was less than 5% threshold.

#### 4.5.2 Direct Transactions and Competitive Advantage

**Table 4.6: Model Summary II**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788 <sup>a</sup>	.621	.604	.06210

**Source:** *Research Findings*

The variation in the output variable as a result of changes in input variable is explained by the adjusted R-Squared. Table 4.6 above demonstrates that 60.4% variation in competitive advantage was explained by changes in direct transactions due to the adoption of TBSS . The correlation between direct transactions due to the adoption of TBSS was 0.788. This means that a unit change in direct transaction would cause 78.8% change competitive advantage.



**Table 4.6: Analysis of Variance II**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Residual	2.844	1	0.711	4.903	.001 <sup>b</sup>
	Regression	10.875	29	0.145		
	Total	13.719	30			

**Source:** *Research Findings*

The analysis of variance in Table 4.6 above shows that the data had a significance level of 0.1%. This implies that the data was suitable for drawing a conclusion on the attributes of the population since the p-value was below 5%. At 5% level of significance, the F critical was 2.019; F calculated (4.903) was greater than the F critical. This demonstrates the overall significance of the model. It, therefore, indicates that direct transactions significantly influenced competitive advantage.

**Table 4.7: Coefficients II**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	Constant	1.445	0.453		3.190	.002
	Direct Transactions	0.421	0.145	.297	2.903	.003

**Source:** *Research Findings*

The following equation was established from the above Table 4.7.

$$Y = 1.445 + 0.421 X_2$$

Accordingly, if there were no changes in direct transactions, the competitive advantage score would be at 1.445. However, a unit change in direct transactions led to increase in competitive advantage by a factor of 0.421. At 5% level of significance in direct transaction through TBSS was found to significantly influence competitive advantage. The significance level for the beta factor was 0.2% which was below the 5% threshold.

#### 4.5.3 Self-Help and Competitive Advantage

**Table 4.8: Model Summary III**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.881 <sup>a</sup>	.776	.724	.01121

**Source:** *Research Findings*

Table 4.8 shows that the value of adjusted R squared was 0.724. This shows that there was a change of 72.4% on competitive advantage as a result of variations in the self-help dimension of TBSS. This determination was done at 95% degree of confidence. In this regard, 72.4% changes in competitive advantage were explained by changes in self-help through TBSS. The value of R was 0.881, implying a strong positive correlation between the variables in the study.

**Table 4.8: Analysis of Variance III**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Residual	2.844	1	0.745	4.726	.001 <sup>b</sup>
	Regression	10.875	29	0.167		
	Total	13.719	30			

**Source:** *Research Findings*

From Table 4.8 above, the model was found to be robust, with the F value being 4.726, which was less than 2.0196. The p-value was 0.1%, hence less than 5%. This shows that the self-help dimension of TBSS was statistically significant at 5% level of significance.

**Table 4.9: Coefficients III**

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	Constant	1.213	0.453		3.190	.002
	Self-help	0.532	0.197	.014	2.701	.005

**Source:** *Research Findings*

The regression equation below was determined from the above Table 4.9.

$$Y = 1.213 + 0.532 X_3$$

In this regard, if there were no changes in self-help through TBSS, competitive advantage would be at 1.213. However, a unit change in self-help through TBSS led to increase in competitive advantage by 53.2%. Self-help through TBSS was found to significantly influence competitive advantage, at 5% level of significance. The significance level for the beta factor was 0.5% which was below the 5% threshold.

#### 4.8.4 Customer Service, Direct Transactions, Self-Help, and Competitive Advantage

**Table 4.10: Model Summary IV**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.808	.653	.633	.69440

**Source:** *Research Findings*

The above Table reveals that the adjusted R squared was 0.633. This demonstrates that there was a change of 63.3% in competitive advantage as a result of the changes in customer service, direct transaction, and self-help uses of TBSS at 95% confidence interval. This was a demonstration that 63.3% changes in competitive advantage could be explained by variations in customer service, direct transaction, and self-help uses. The findings in Table 4.10 indicate that there was a strong positive correlation between the variables.

**Table 4.11: ANOVA IV**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	0.813	3	0.271	3.045	.021 <sup>b</sup>
	Residual	2.759	200	0.089		
	Total	3.572	203			

**Source:** *Research Findings*

From the analysis of variance statistics in Table 4.11 above, the data had significance of 2.1%, an indication that the data was suitable for conclusion drawn on the parameters of the study population. The F critical at 5% level of significance was 2.0196. Since the F calculated (3.045) was above the F critical, the overall model was found to be significant. This is an indication that customer service, direct transaction, and self-help uses significantly influenced competitive advantage.

**Table 4.12: Coefficients IV**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant	1.298	.453		2.865	.006
	Customer Service	.237	.160	.198	2.479	.012
	Direct Transaction	.231	.126	.245	3.834	.001
	Self-help	.239	.145	.008	2.065	.023

p<0.05, dependent variable; Competitive Advantage

**Source:** *Research Findings*

The below regression equation was established from Table 4.12 above.

$$Y = 1.298 + 0.237 X_1 + 0.231 X_2 + 0.239 X_3$$

In this respect, if change in customer service, direct transaction, and self-help uses were each zero, competitive advantage score would be 1.298. However, a unit change in customer service would lead to increase in competitive advantage by a factor of 0.237, unit change in direct transaction would lead to increase in competitive advantage by a factor of 0.231 and a unit change in self-help through TBSS led to increase in competitive advantage by 23.9%. Customer service, direct transaction, and self-help uses of TBSS were each found to significantly influence competitive advantage at 5% statistical significance.

#### **4.6 Discussion of Findings**

The study has a relationship with both theoretical and prior empirical studies. The postulations of technology acceptance model, and dynamic capability theories both have predictions on the relationship between TBSS and competitive advantage. Previous empirical studies have also been examined, based on their objectives, and major findings.

##### **4.6.1 Relationship with Theory**

Technology acceptance model (TAM) proposes that the use of a system is predictable by the application of motivation, which is subsequently overtly influenced by external factors including the system characteristics, and abilities (Davis, 1985). In the original proposal of TAM, it was postulated that user motivation can be explained by three factors, namely: perceived ease of use, perceived usefulness, and attitude toward use (Lee et al., 2003). The model hypothesizes that the attitude of a user toward a system is a major determinant of system acceptance or rejection. The current study has adduced empirical evidence in support of the postulations of this theory.

The variability among the organizations with respect to adoption of the various TBSS dimensions can be attributed to the different rates at which peoples embrace technology. Dynamic capability theory postulates that if abilities of a firm are diverse and implicit, imitation by other firms would be made difficult, forming the basis for sustainable competitive advantage (Teece et al., 1997). The prediction of this theory is that firms tend to develop dynamic capabilities and continuously develop them according to the changing competitive environment. It also predicts that new business strategies, such as intensive use of technology, tend to be adopted by organizations in attempt to gain sustainable competitive advantage. The current study has adduced empirical evidence in support of the theoretical argument since it has established that that those who embrace TBSS more and likely to have greater competitive advantage.

#### **4.6.2 Relationship with Empirical Literature**

Various studies have been done, with some of them have a strong relationship with the current one. A study by Jo Bitner et al. (2000) focused on the correlation between TBSS and level of customer satisfaction in the United States of America. An examination of the correlation between level of incident customer satisfaction and attribution nature was done using chi-square analytical method. The study unearthed a significant correlation between the study variables as indicated by the statistical output:  $X^2 = 72.36$ ,  $p < .001$ . The study however used a non-parametric method of analysis, hence there may be need to replicate a similar study with parametric analytical methods. The current study has also determined that there is a strong positive relationship between TBSS and competitive advantage, at 5% level of significance.

This finding is similar to that by Jo Bitner et al. (2000). A study by El-Said (2013) aimed at comparing customer preferences for TBSS and HIS in hotels in Sharm El-Sheikh, Egypt. Findings showed that in most service interactions, customers preferred human interaction to technology based service platforms. The study also determined that where preference was on TBSS, the main justification was the speed of service.

The focus of the study was however on customer preference, hence other dimensions of competitive advantage, such as service efficiency were not explored. This is more so because various subsequent sources of literature have indicated that the dimensions of TBSS do not impact competitive advantage and performance the same way. A more construct-inclusive model would probably yield more reliable results, considering that past studies have reported mixed results in this regard. The current study has adduced further evidence in support of the findings by El-Said (2013).



## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter comprises a presentation on summary of the study findings, conclusion and recommendations based on the findings. The summary, conclusion and recommendations have been made in accordance with the objectives, methodological approach, findings, and limitations of the current study.

#### **5.2 Summary of Findings**

The study used linear regression to determine the influence of TBSS on competitive advantage in the five star hotels in Nairobi County. The study determined that each of the selected TBSS dimensions had statistically significant influence on competitive advantage of the five star hotels in Nairobi County. The use of TBSS for direct transactions attracted the most favorable responses; followed by the use of TBSS for self-help; and customer service use. With respect to the competitive advantage, the cost effectiveness dimension had the most favorable responses; followed by customer service dimension. The product/service quality dimension of competitive advantage had the least favorable responses.

Generally, the cost effectiveness dimension had the least dispersed response from the mean. The study further established that if change in customer service, direct transaction, and self-help uses were each zero, competitive advantage would be at 1.298. A unit change in customer service would lead to increase in business performance by a factor of 0.237, change in direct transaction would lead to increase in competitive advantage by a factor of 0.231 and change in self-help would lead to increase in competitive advantage by 23.9%.

### **5.3 Conclusion**

The study has determined that customer service, direct transactions, and self-help uses of TBSS each have statistically significant influence on competitive advantage of the five star hotels in Nairobi County. The study has also established that the selected dimensions of TBSS have a significant influence on competitive advantage. The postulations of both technology acceptance, and dynamic capabilities have received empirical backing from this study. The study has also adduced evidence in support of a few prior studies with which it (current study) has similarities.

### **5.4 Recommendations**

The study recommends that the academics in the field of strategic and operations management, should consider using the empirical evidence adduced to further their research interests. Theorists should also consider the findings of this study to find further empirical foundation in light of the linkages between TBSS and organizational competitiveness. By so doing, further studies in other contexts, including public, private, manufacturing, and service will emanate.

The study further recommends the findings for the development of policies that will be geared towards increasing the sustainability of the hospitality industry in Kenya. The Kenya Tourism Authority should apply the study results in decision making since it would assist in developing well-informed policies geared towards the achievement of the Vision 2030, the Big Four agenda, and the sustainable development goals in Kenya.

Finally, the study recommends that the top management team of the individual hotels in the survey should use the findings for guidance in making necessary changes in their various administrative units to enable them enhance their competitiveness. Specifically, because the study findings have drawn important lessons for success and best practices for the hospitality industry sustainability against the backdrop of reducing intermittent demand levels typical of the industry.

### **5.5 Limitations**

limitations were encountered in the course of this study. Some respondents were uncooperative in filling the questionnaires; this limitation was mitigated by invoking a conversation with the respondent's first to make them at ease. This strategy was used also to reduce the risk of the respondents giving socially-correct responses.

Some respondents also took longer than expected time to fully complete the questionnaire; the researcher however ensured questionnaire submission was done early enough to allow significant time for completion. Early preparation of questionnaires and pre-testing of the same also helped the researcher time for analysis and presentation.

### **5.6 Areas for Further Research**

The study sought to determine the the influence of TBSS on competitive advantage of the five star hotels in Nairobi County. The study recommends that an in-depth study should be done on challenges facing the adoption of TBSS in other categories of hotels. The study also recommends that the influence of control variables such as the macroeconomic factors including interest rates, inflation and foreign exchange rates should be examined, since that was not within the scope of the current study

## REFERENCES

- Ayele, G. A. (2012). Positioning strategies adopted by five star hotels in Nairobi, Kenya. *Journal of Marketing Management*, 2(3), 83-88.
- Beatson, A., Coote, L. & Rudd, J. (2006). Determining consumer satisfaction and commitment through self-service technology and personal service usage. *Journal of Marketing Management*, 22(1), 853-882.
- Beatson, A., Lee, N., & Coote, L. (2007) Self-service technology and the service encounter. *Service Industries Journal*, 16(1), 96-108.
- Berdine, M., Parrish, E., Cassill, N.L. & Oxenham, W. (2008). *Measuring the Competitive Advantage of the US Textile and Apparel Industry*. Alfred P. Sloan Foundation. A conference paper. Boston.
- Berry, L., Seiders, K. & Grewal, D. (2002). Understanding service convenience. *Journal of Marketing*, 66(1), 1-17.
- Bogers, M. (2012). Knowledge sharing in open innovation: An overview of theoretical perspectives on collaborative innovation. *Journal of Management*, 36(4), 857–875.
- Bruce, A. (2003). *Building a High Morale Workplace*. New York, NY: McGraw-Hill.
- Chen, W. (2011). *Technology base self-service in hospitality industry*. UNLV Theses/Dissertations/Professional Papers/Capstones. Paper available at <http://digitalscholarship.unlv.edu/thesedisser-tations/1094>
- Chuttur, M.Y. (2009). Overview of the Technology Acceptance Model: Origins, Developments and Future Directions, Indiana University, USA . *Sprouts: Working Papers on Information Systems*, 9(37). <http://sprouts.aisnet.org/9-37>
- Connolly, D. (2005). *In Self-Service Takeoff: Hospitality Industry Self-Service Technology Study*. Randolph: Edgell Communication

- Cooper, D. R., & Schindler, P. (2006). *Business Research Methods*. 9<sup>th</sup> ed. Boston: McGraw-Hill.
- Davis, P. (1985). A technology acceptance model for empirical testing new end user information systems: theory and results. *Unpublished doctoral dissertation*, MIT Sloan School of Management, Cambridge, MA.
- Divandri, A. & Yousefi, H. (2011). Balanced Scorecard: A Tool for Measuring Competitive Advantage of Ports with Focus on Container Terminals. *International Journal of Trade, Economics and Finance*, 2(6), 3-15.
- East Africa Community (2009). Hospitality Sector Report. *Annual Economic Report*.
- El-Said, O.A. (2013). Customers' preferences for new technology-based self-services versus human interaction services in hotels. *Tourism and Hospitality Research*, 13(2), 67-82.
- Gupta, V., Venn, R., & Berg, N. (2013). Building competitive advantage through social intrapreneurship. *South Asian Journal of Global Business Research*, 2(1), 104.
- Harris, P. & Mongiello, M. (2001). Key performance in European hotel properties: general managers' choices and company profile. *International Journal of Contemporary Hospitality Management*, 13 (3), 120-127.
- Jo Bitner, M., Ostrom, A. & Meuter, M. (2000). Implementing successful self-service technologies. *Academy of Management Executive*, 16(1), 96-108.
- K'Obonyo, P., & Mugambi, G.K. (2011). Market strategy and corporate performance: The contextual application of PIMS principles in Kenya. *Africa Management Review*, 1(1), 1-12.
- Kim, J., Christodoulidou, N. & Brewer, P. (2012). Impact of individual differences and consumers' readiness on likelihood of using self-service technologies at hospitality settings. *Journal of Hospitality and Tourism Research*, 36(1), 12-50.

- Kit, U. (2011). *Using self-service technologies to solve the problem of labor shortage in Macau's lodging industry*. UNLV Theses/Dissertations/ Professional. Available at <http://digitalscholarship.unlv.edu/the-dissertations/1-163>
- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. New Age International.
- Lema, J. (2009). Preparing hospitality organizations for self-service technology. *Journal of Human Resources in Hospitality and Tourism*, 8(1), 153-169.
- Meuter, M., Ostrom, L., & Roundtree, R., et al. (2000). Self-service technologies: Understanding customer satisfaction with technology-based service encounters. *Journal of Marketing*, 4(9), 1169-1179.
- Mose, J. A. (2015). The influence of industry competition on the performance of hotel firms in Kenya. *Prime Journal of Social Science*, 4(9), 1169-1179.
- Mugenda, O.M., & Mugenda, A.G. (2003). *Research Methods: Quantitative and qualitative approaches*. African Centre for Technology Studies, Nairobi, Kenya.
- Mzera, U. J. M. (2012). The effect of strategic value-based management on the performance of organizations in Coast Province, Kenya. *International Journal of Business and Social Science*, 3(16), 112-128.
- Njeru, W. G., & Kibera, F. N. (2014). The perceived effects of the three components of market orientation on the performance of tour firms in Kenya. *European Scientific Journal*, 10(25), 266-285.
- Oketch R., Wadawi K., Brester N., & Needetea, A. (2010). The role of hotels in consumption of cultural tourism in Kenya. *Journal of Tourism*, 4(8), 34-39.
- Ong, L. (2010). *Can self-service technologies work in the hotel industry in Singapore? A conceptual framework for adopting self-service technology*. UNLV Theses/Dissertations/Professional Papers/Capstones. Available at <http://digitalscholarship.unlv.edu/theses-dissertations/694>

- Otieno, N. C. & Iravo, M. A. (2014). Effects of e-procurement on the efficiency of supply chain management in five star hotels in Nairobi City, Kenya. *International Journal of Current Business and Social Sciences*, 1 (2), 271-288.
- Salem, I.E. (2014). Toward better understanding of knowledge management: Correlation to hotel performance and innovation in five-star chain hotels in Egypt. *Tourism and Hospitality Research*, 14(4) 176-196.
- Salomann, H., Kolbe, L. & Brenner, W. (2006). Self-services in customer relationships: Balancing high-tech and high-touch today and tomorrow. *E-Service Journal*, 4(1), 65-84.
- Saunders, M., Lewis, P., & Thornhill, A. (2007). *Research methods for business students*. 5<sup>th</sup> ed. Essex: Pearson Education Limited.
- Saura, I.G., & Šerić, M. (2012). New technologies and information management in the hospitality industry: Analysis between upscale hotels in Italy and Croatia. *Acta Turistica*, 24(1), 7-38.
- Shaw, R. (2004). Hotels test self-serve kiosk acceptance. *Hotel and Motel Management* 21(9), 1-10.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal*, 18(1), 509–533.
- Tsuma, S. (2014). Global sourcing practices in five star hotels in Nairobi County, Kenya. *Unpublished MBA Research Project*. University of Nairobi: Nairobi.
- West, J., Chesbrough, H., Vanhaverbeke, W., and (2015). *Open innovation: Researching a new paradigm*. Oxford, UK: Oxford University Press.
- Yin, R. K. (2013). *Case study research: Design and methods*. Sage publications.

## APPENDICES

### Appendix I: Questionnaire

#### Section A: Demographic Information

Please respond to the following questions by ticking (✓) appropriate box or writing your answer in the space provided.

1. Name of the organization..... (Optional)
2. What is your position in the organization?.....
3. What is your cumulative experience in the hospitality industry?.....
4. What is your cumulative experience in this organization?.....
5. Please specify your gender. (Please tick one)
  - i. Male ( )
  - ii. Female ( )
6. What is your highest level of education?
  - i. Certificate ( )
  - ii. Diploma ( )
  - iii. Bachelors ( )
  - iv. Masters ( )
  - v. PhD ( )



**Section B: Technology Based Self-Service (TBSS)**

7. This section seeks to elicit data on the use of Technology-Based Self-Service (TBSS) in your organization. Kindly indicate your degree of disagreement or agreement with the below statements in a scale of 1 to 5, where 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Stongly agree. Please tick (✓) the most appropriate response from the list provided.

	1	2	3	4	5
<b>(a) Customer Service</b>					
My organization receives and handles most customer enquiries about accounts using technology platforms					
My organization handles most bill payments using technology platforms					
My organization has availed a list of frequently asked questions (FAQs) on-line with their responses					
My organization monitors most delivery audits using an on-line platform					
<b>(b) Direct Transactions</b>					
My organization does most product/service deliveries using the technology platforms					
My organization does most service/product exchanges with other organizations on-line					

My organization has an integrated system for most of the services					
<b>(c) Self-Help</b>					
My organization has availed an on-line training guide for the customers on self-service					
My organization has availed a trouble-shooting system for customers to support on-line self-service					
My organization has provided most customer solutions on the on-line platform					

### Section C: Competitive Advantage

This section seeks to elicit data on the state of competitive advantage in your organization. Kindly indicate your degree of disagreement or agreement with the below statements in a scale of 1 to 5, where 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Stongly agree. Please tick (✓) the most appropriate response from the list provided.

Items	1	2	3	4	5
<b>Customer service</b>					
Our average customer satisfaction rate is very high					
Our daily average customer complaints are very low					
We detect changes in customer preferences very fast					
We communicate with customers very regularly					
Our daily average customer compliments are very high					

Our response to customer requests is normally very fast					
<b>Cost Effectiveness</b>					
Our costs of new product development are very low					
We have very low cost of in-bound inventory					
Our transportation costs are very low					
We have very low inventory holding costs					
Our costs of research and development are very low					
<b>Production/Service Efficiency</b>					
We experience very low returns in-wards due to quality					
Our firm has very low wastes and scraps in the processing chain					
Our firm has a very efficient process design					
We normally have very short order fulfillment lead times					
We practice lean production					
We have very short production cycle times					
<b>Service Quality</b>					
Our products/services are highly distinguished from those of competitors					
Our products/services are of very high quality					
We practice Total Quality Management					

**Thank you**

**Appendix II: List of Five Star Hotels in Nairobi County**

<b>S/NO</b>	<b>NAME</b>	<b>BED CAPACITY</b>
1	Fairmont Norfolk Hotel	200
2	Inter-Continental Hotel	372
3	Tribe Hotel	154
4	Dusit D2	122
5	Sarova Stanley Hotel	440
6	Boma Hotel	178
7	Hemingway's Hotel	50
8	Radisson Blu Hotel	354
9	Sankara Hotel	167
10	Villa Rosa Kempinski	216

**Source: Tourism Regulatory Authority, Kenya (2018)**