

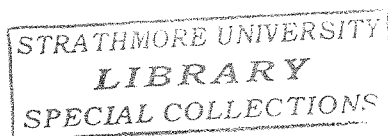
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Movements in Foreign Currency Exchange Rates and Operational Performance:
A Study of Hotels in Nairobi



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Submitted in partial fulfillment of the requirements for the Degree of Master of
Commerce at Strathmore University



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June, 2012

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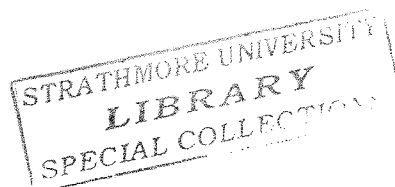
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ACKNOWLEDGMENTS

I thank God for having guided me through the entire process of this study. I would also like to extend my sincere appreciation to several people who made it possible for this study to be completed. First and foremost, I would like to thank my supervisor, Dr. Mboya, for his valueable advice, guidance and criticism which was useful in the entire research process.

I am also grateful to my classmates for their valuable contributions and support in terms of suggestions and criticism. Special thanks to John Wachudi, Peter Ochuodho and Geoffrey Gikonyo who encouraged me through out the process.

Lastly, I would like to thank my husband Peter Mwita, and my family for their patience, support and continuous encouragement.



ABSTRACT

This study examined the relationship between changes in foreign currency exchange rates and operational performance of hotels in Nairobi. In doing so, it sought to determine whether operational controls can be used to reduce foreign currency exchange risks in hotels in a developing country. The population for the study was the five-star hotels in Nairobi. Data on hotel occupancy, currency exchange rates, market interest rates and inflation was collected from a sample of hotels in Nairobi, Central Bank of Kenya and the Kenya Bureau of Statistics over a period of four years (2007-2010). A survey was also carried out. Step-wise regression model was used in analyzing the data. The key finding in this study showed that there was a significant positive relationship between operational performance and movements in currency exchange rates. The study also found that interest rates were not an important factor in determining operational performance of hotels in developing countries.

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List of Abbreviations

KSH – Kenya shilling

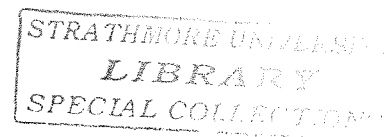
NEER – Nominal effective exchange rate index

RevPAR – Revenue per available room

INT - Interest

INF - Inflation

CHAPTER 1: INTRODUCTION



1.1 Background

Variability in foreign currency exchange rates is one of the major business risks faced by multinational corporations today. This is because it is a key factor in the process of planning and forecasting cashflows in organisations which trade with foreign currencies. Available literature document the existence of a relationship between operational performance and changes in foreign currency exchange rates (Campa, 1994; Faff, Robert & Marshall, 2005).

Operational performance has been defined by Ahmada and Schroeder (2003) as the quality, delivery and flexibility of production. Kaplan and Norton (1992) define it as a measure of the cycle time and defects rate in production. The business dictionary on the other hand, defines operational performance as an organization's performance measured against prescribed standards of effectiveness and efficiency such as cycle time and productivity. In hotels, operational performance is often defined as a measure of the number of rooms occupied as compared to the total number of rooms in the hotel, the average daily rate charged on each room that is occupied, and/ or the revenue collections as compared to the total number of rooms available for sale. The most widely used performance measure; however, is the revenue per room available for sale (Brown & Chekitan, 1999; Slattery, 2002; Cross, Jon & David, 2009). This study follows the performance measure above and defines operational performance as the average revenue per room available for sale.

Foreign currency exchange risk has also been defined in many ways. For instance, Adler and Dumas (1984) define it as the sensitivity of the value of the firm to unexpected changes in exchange rates. Levi (2005) defines foreign currency exchange risk as the sensitivity of

changes in the real domestic-currency value of assets or liabilities to changes in exchange rates. Francis, Hassan and Pantzalis (2007) on the other hand define it as the impact of unexpected changes in the real exchange rate on an organisation. This study follows these definitions and defines currency exchange risk as the possibility of loss of revenue arising from adverse movements in currency exchange rates.

Multinationals and organizations in the hospitality industry are exposed to currency risks because, they often receive payments in form of foreign currencies which are later on converted to the local currency for reporting purposes (Ngugi, 2007; Chang, 2009). Local currency relates to the currency denomination used in the country where the management office (head quarters) of an organization is based. Due to the different currencies received, managers in these organizations are faced with the problem of how to deal with the foreign currency risk exposure especially in instances where the exchange rates keep fluctuating. That is why hedging and foreign currency risk management is of great importance to these organizations (Chang, 2009).

There are mainly three forms of foreign currency risk exposures (Eliot, 2010; El-Masry & Abdel, 2007; Eiteman, Stonehill & Moffett, 1993). Firstly, there is translation exposure, sometimes called the accounting exposure, which arises when the financial accounting statements of foreign subsidiaries are translated into the currency of the parent company. The second form of exposure is the transaction exposure which arises from possible changes in the value of future cash flows as a result of financial obligations incurred prior to a change in the exchange rate, but which is settled after a change in the exchange rate. The third form of exposure is the operating exposure, sometimes called the economic exposure, which arises from possible change in the value of the firm due to changes in the future operating cash flow

(due to changes in future sales volumes, prices and costs) as a result of unexpected changes in the exchange rate.

The effects of these risks and the ability to effectively address them are issues which have increasingly received attention in the corporate world. The major concern is how an organization which is exposed to these risks can effectively manage them, and thereby reduce any possible losses arising from adverse exchange rate movements.

In order to reduce the level of exposure to currency risks, organizations often use financial hedging instruments like foreign exchange options which include forward and futures contracts. However, some organizations may be limited in their access to the existing financial derivative instruments for hedging purposes. This makes it necessary for them to explore the use of operational hedging strategies to reduce the level of exposure to currency risks (Chang, 2009).

Operational hedging is defined by Bartram and Bodner (2007) as the system of controlling the exchange rate risks of a firm through flexibility in production, or sourcing, or reactive changes in activities such as pricing practices and marketing decisions. El-Masry et al., (2007) define operational hedging as the alteration of production sites and sources of input, so as to manage the exposure to real exchange rate changes. In this paper, operational hedging is defined as the operational activities of an organization in relation to pricing policies and production capacities which help in reducing the level of foreign currency exchange risks.

Several studies done have contributed to the development of the theory on foreign currency exchange risk management, and also provide an insight into the hedging practices adopted in the corporate world. For instance, Pantzalis, Simkins and Laux (2001) in their study focused on operational hedges in multinationals while Allayannis and Ofek (2001) in their study focused on exchange rate risk management strategies. These studies, however, were mostly carried out in developed countries and were based on multinational corporations. Although Faff et al., (2005) document that multinational companies have a greater exchange rate exposure than firms with only domestic properties, it is important to note that, organizations which do not have foreign operations or accounts also face foreign currency risks. This arises if their activities, demand and competition are also affected by foreign currency exchange rates (Adler et al., 1984). Hence, organizations which are not multinationals, but make payments or receive revenue in foreign currency are also exposed to risks arising from fluctuations in currency exchange rates. Such organizations include hotels which may not necessarily be multinational companies, but will receive payments in form of foreign currencies. The foreign currency receipts arise from clients who opt to make payments in foreign currencies acceptable in Kenya. It is for this reason that hotels are exposed to risks relating to movements in foreign currency exchange rates.

According to Central Bank (2007), hotels in Kenya reached their peak performance in the year 2007 in which they reported the highest bed occupancy level. Ministry of Tourism (2010) agrees. During the same period, Central Bank (2007) documents that the Kenya shilling appreciated against other major currencies and, the average interest rates on the 91 day treasury bills declined. However, the strengthening of the local currency against some of the major currencies led to dilution of revenue when the foreign currency collections were converted to the local currency (TPS, 2007).

After the elections in 2007, the economy experienced depreciation in the value of the Kenya shilling and a rise in inflation rates (Central Bank, 2008). The tourism sector was hardest hit as the occupancy levels dropped to 26% (Ministry of Tourism, 2010). The drop in occupancy levels was attributed to the changes in the economy and also on the effects of the global financial crisis (TPS, 2008). In 2008, the cost of doing business was high due to high inflation rates which resulted in increased prices of most commodities (TPS, 2008).

In 2009, the industry recorded improved business as compared to 2008. However, the high inflation rates and uncertainty in the foreign currency exchange rate continued to be a challenge due to high cost of doing business and decreased disposable income (TPS 2009). TPS (2010) notes that, in 2010, the tourism sector improved due to positive political and economic factors. However, the high inflation rates continued to be a challenge and, the exchange rate fluctuations added to the general uncertainty of doing business.

Given the changes in the economy, hotels may find it difficult to improve their performance especially when the industry experiences financial downturns due to a reduction in the number of clients or, when the business economy stagnates such that room rates cannot be raised to offset rising costs (Brown et al., 2009). Further, hotel contract rates (especially those issued to tour operators) are often issued months in advance, and hotel bookings are made a number of days before the actual arrival date. Hence, the hotel executives are continuously worried about the exchange rate ruling at any given time as it determines the final revenue balance reported in the home currency.

To help in addressing these challenges, this study examines the relationship between variations in foreign currency exchange rates and operational performance. In doing so, it

also assesses whether or not operational hedging activities can be used in hotels so as to reduce the level of exposure to foreign currency risks.

1.2 Problem statement

Foreign currency exchange rates are often monitored by organizations which trade with international clients. This is because the exchange rates have a direct effect on the returns reported and the valuation of these organizations. Observations and statistics done in the recent past have shown that the value of the Kenya Shilling (KSH) keeps fluctuating against other currencies on a daily basis (Central Bank, 2010). This may be attributed to various reasons which include inflation, political instability and the prevailing market interest rates. Due to the fluctuations, the exchange rate in the future may not be predicted with certainty. Hence, it will often form a basis of discussion among hotel executives when planning and when preparing budgets because, it affects the forecasted cash flows and the operations of the hotel. To ensure that operations run smoothly, it is important that cash flows be predicted with certainty.

The main challenge, however, is how to address risks which arise from fluctuations in currency exchange rates and thereby enhance the budgeting process. Although the risks may be managed through financial hedging activities, these hedging facilities may not be available to all hotels. Hence, there is concern on how operational activities can be used to address currency exchange rate risks. However, to address this issue, it is important to understand how movements in currency exchange rates affect operational performance in the hotels.

Studies on operational performance and currency exchange rate movements have been carried out in developed economies, and they are based on multinational companies. In

Kenya, little has been done in other industries on movements in foreign currency exchange rates and operational performance of organizations. For example, Chiira (2009) reviewed the exchange rate risk management practices in the oil industry in Kenya while Kagai (2009) found that apparel firms had problems in managing foreign exchange risks. However, no empirical evidence has been documented on movements in foreign currency exchange rates and operational performance in the hotel industry in Kenya, which is a developing country. This study therefore sought to fill in this gap through examining the nature of the relationship between movements in foreign currency exchange rates and operational performance of hotels in Kenya.

1.3 Research objectives

The main objective of this study was to examine the nature of the relationship between movements in foreign currency exchange rates and operational performance of hotels in Nairobi.

The specific objectives were:

- 1) To examine whether there is a relationship between movements in foreign currency exchange rates and operational performance in hotels.
- 2) To establish whether hotels use any hedging methods and if they do, the type of hedging method used.

1.4 Research questions

The purpose of this study was to answer the following questions:

- 1) Is there a relationship between the movements in foreign currency exchange rates and the operational performance measures of hotels?
- 2) If there is a relationship, what is the nature of the relationship?

3) What type of hedging methods do the hotels use?

1.5 Significance of the study

The findings of this study are of relevance to the following people:

1.5.1 Finance Managers

The findings in this study may help Finance Managers at the hotels in assessing the extent to which operational activities can be used as a hedging tool in hotels. This in effect, will enhance the management of revenue reported in the local currency in relation to the currency exchange rates at a given point in time. It may also help in forecasting cash flows and also in preparing budgets.

1.5.2 Researchers

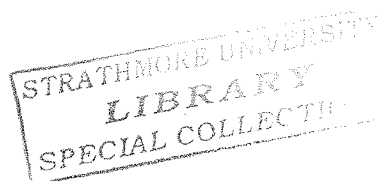
The findings of this study may form a basis for further discussion by researchers on the different operational performance activities in organizations and, on the use of operational hedging as a method of reducing the level of exposure to foreign currency exchange risks in the hotel industry. It will also assist other researchers in forming research questions relating to risks affecting the hospitality industry and operational hedging strategies.

1.6 Scope of the research

The scope of this study was the five-star hotels in Nairobi and was based on the classification done by the Hotels and Restaurants Authority. The five-star hotels were selected because they accept a wide range of foreign currencies.

This study covered a period of four years (2007 – 2010) because the KSH experienced fluctuations against other currencies during this period (Central Bank, 2008; Nation reporter, 2008) and also, because data from the hotels was only available for the four year period.

The rest of the document is organized as follows: chapter two presents the literature review and a summary of the conceptual framework. This is followed by chapter three which covers the research methodology and outlines the research design and the data analysis methods used during the research. Chapter four presents a summary of the findings while chapter five presents the discussions, the conclusions and the recommendations made on the findings.



CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature on foreign currency exchange risk exposure. This includes other studies on the concepts of foreign currency exchange risks and, the theories on the relationship between currency movements and performance of an organization. This is followed by a review of the economic variables that affect the exchange rate. The final section presents the conceptual framework.

2.2 Operational performance

Operational performance in a hotel can be measured in three ways. That is the occupancy level, the average daily rate (ADR) and the revenue per available room (RevPAR). However, according to Brown and Chekitan (1999), the most widely used performance measure in hotels today is RevPAR, which is a combination of the level of occupancy and the average daily room rate of a hotel. Slattery (2002) and Cross, Jon and David (2009) agree that RevPAR is a better measure of performance because it includes both the occupancy level and the average daily room rate.

Lim (1997) further showed that tourism arrivals were inversely related to currency strength. Hence, countries with weaker currencies enjoy stronger tourism demand. As a result, the average daily rates can be increased in response to the high demand thereby increasing the RevPAR. Elliot (2010) further documents that a currency is exposed to exchange rate fluctuations to the extent that it is used to conduct transactions with external markets. The greater the proportions of inter-currency exchange to total monetary transactions for a given market, the greater the exposure to changes in exchange rates.

2.3 Currency movements and organizational performance

Studies done show that organizations with foreign assets and transactions are exposed to foreign currency risks (Jorion, 1990; Allayannis & Ihrig, 2001; Dominguez & Tesar, 2001; Campa 1994; El Masry et al., 2007). Geczy, Minton and Schrand (1997), Jorion (1990) and Dominguez et al., (2001) document that fluctuations in foreign currency exchange rates have a direct effect on the value of stock returns and the profits of an organization reported in the home currency. Faseruk and Mishra (2008) agree and further document that there is a relationship between foreign currency sales and firm exposure to foreign currency exchange risks. Jorion (1990) further presents evidence that the relationship between stock returns and foreign currency exchange rate movements differ from one multinational to another.

Documented literature, however, also shows that movements in currency exchange rates may not have an effect on the performance of a firm. In the study done by Dominguez et al., (2001), only a small number of firms in their study demonstrated significant sensitivity to foreign currency exchange rate movements. Bartov and Bodnar (1994) also documented that there was no correlation between abnormal returns in a firm and changes in the value of the dollar. They showed that very little in abnormal stock returns can be explained by movements in the value of the dollar. Jin and Jorion (2004) also found that there was no relationship between hedging and firm value in the oil and gas industry. This is an indication that movements in foreign currency exchange rates do not affect the value of firms in the industry. Studies done also show that organisations with branches spread in many different countries tend to be less exposed to foreign currency risks as compared to organisations with several branches operating in a few countries (Pantzalis et al., 2001; Francis et al., 2007; Bartram et al., 2007). Foreign exchange risk exposure also depends on the degree of foreign involvement or, the percentage of revenue received from foreign investments (Jorion, 1990; Faff et al.,

2005; El-Masry et al., 2007).

Allayannis et al., (2001), however, present a different view. They show that dispersion of branches of a multinational company among several countries does not always reduce the level of exposure to foreign currency exchange risks.

2.4 Currency movements and operational performance

Available literature (Campa, 1994; Allayanis et al., 2001; Francis et al., 2007); Chowdhry & Howe, 1999 and Chang, 2009) shows that movements in exchange rates have an effect on the operational decisions and performance of an organization. For instance, Campa (1994) documents that in the chemical industry, decisions on expansion are affected by uncertainty in fluctuations of foreign currency values. The link between performance, operational activities and currency movements is also seen through the ability of a firm to effectively use operational hedging activities to manage currency risks (Allayanis et al., 2001; Francis et al., 2007); Chowdhry & Howe, 1999 and Chang, 2009). Pantzalis et al., (2001) finds that a multinational company can best manage its currency risks by adjusting operating policies across its business network because, unlike domestic firms, they have a high level of operational flexibility. The relationship is also noted in the study done by Faseruk et al., (2008) who document that a firm can maximize its value through operational and financial hedging activities. Chowdhry et al., (1999) further notes that movement in exchange rates affect demand for some products in the market and that the operating policies implemented could affect the expected profits. However, they also note that firms will only establish plants in foreign locations if the variability in exchange rates are high. Bartram et al., (2007) find that in the long term, non-financial firms can reduce the effect of exchange rate changes on the firm's value through operational hedging.

2.5 Currency exchange risk and hedging

Adverse movements in foreign currency exchange rates expose organizations to the risk of possible losses depending on whether the company imports or exports its services. To manage these risks, Mascarenhas (1982) suggests the use of financial flexibility and hedging in the money market. Chowdhry et al., (1999) and Bartram et al., (2007) agree and further argue that multinational organisations will use financial hedging strategies in the short term and operational hedging strategies in the long term to enhance the value of the firm. Batra (1982) further shows that currency risks can be reduced through transactions in the forward exchange market.

However, empirical evidence shows that operational hedging strategies are not sufficient when used on their own. Allayannis, Ihrig and Weston (2001) in their study of U.S. multinational firms found that operational hedging on its own cannot be effectively used as a substitute for financial risk management strategies. They further argue that operational hedging strategies will only benefit the shareholders when used together with financial hedging strategies. Faseruk et al., (2008) agree that the firm's value increases when a combination of operational and hedging techniques are used to manage fluctuations in the value of foreign currencies.

Research has also been done challenging the importance of hedging in organizations. Grant, Robert and Soenen (1993) argue that hedging does not always protect firms from losses arising from exchange rate fluctuations. This is especially if the firm has a continuous inflow of foreign currency, if the exchange risks relate to general and relative price risks and, if the hedged firm faces competition from other hedged firms.

Abor (2005) in his study on Ghanaian firms found that firms involved in international trade did not use hedging instruments in managing foreign exchange risks. Instead, they managed their risks by buying and saving foreign currencies in advance. Overall, Ghanaian firms involved in international trade exhibited a low level of use of hedging instruments for managing foreign exchange risks.

2.6 Economic factors

2.6.1 Inflation

Studies have also been done on other economic factors that affect the exchange rate and the performance of a firm. Chang (2009), Perry and Grier (2000) and Schwert (1981) document that inflation is an important factor when studying foreign currency exchange rate movements and performance of organizations. For instance, Chang (2009) considers inflation to be an important factor in determining a hotel's performance because it is a factor that is common in demand models. Hence, it has an effect on the demand for goods and subsequent performance of an organization. Inflation is also considered to be an important economic factor that has an effect on stock market returns (Schwert, 1981). Perry and Grier (2000) further find that in the United States, increases in inflation uncertainty are significantly associated with lower rates of real output growth. Chen and Kim (2006) further found that inflation had a negative impact on hotel stock prices.

Shapiro (1984) also demonstrates that a strong link exists between inflation risk and changes in the real exchange rate. In particular, relative price risk and inflation risk appear to be dependent on each other as a high and variable rate of inflation is often associated with large relative price changes (Shapiro, 1984). Bradford (1980) agrees and further states that a firm operating in a closed economy is exposed to risks caused by changes in relative prices and

varying inflation rates. Adler and Dumas (1984) further document that when currency exchange rates are uncertain and/ or, when inflation risk is present, the determinant of the risk exposure is the correlation between the currency exchange risk and the interest rate risk. This is because the correlation properties of exchange rate and inflation rate are embodied in the interest rate. Cumby and Obstfeld (1984), however, found that expected inflation differentials are unrelated to the expected exchange rate changes.

2.6.2 Interest rates

Chang (2009), Jorion (1990) and Chen et al., (2006) in their studies show that the market interest rate has an effect on the exchange rate and the performance of a firm. In the study done by Jorion (1990), he documented that, movements in currency exchange rates were affected by the return on the market index. Chang (2009), Pantzalis et al., (2001), Carter, Rogers and Simkins (2006) and Bill, Iftekhar and Christos (2007) agree as presented in their studies on foreign currency risk exposure. Mello and Parsons (2000) document that high interest rates reduce the value of a firm as it increases the cost of financing existing liabilities.

However, although interest rates are considered a macroeconomic variable that has an effect on demand for goods, Smith (2007) finds that RevPAR of hotels in the UK is not affected by a rise in inflation rates. Jorion (1990) also finds that inflation cannot account for movements in the foreign currency exchange rates because the volatility in exchange rates is almost 10 times the volatility of inflation rates. Carter et al., (2006) further document that although the interest risk is important in a highly levered industry, it is of a lower magnitude than price risk.

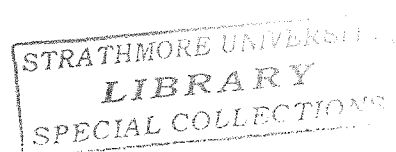
2.6.3 Exchange rate

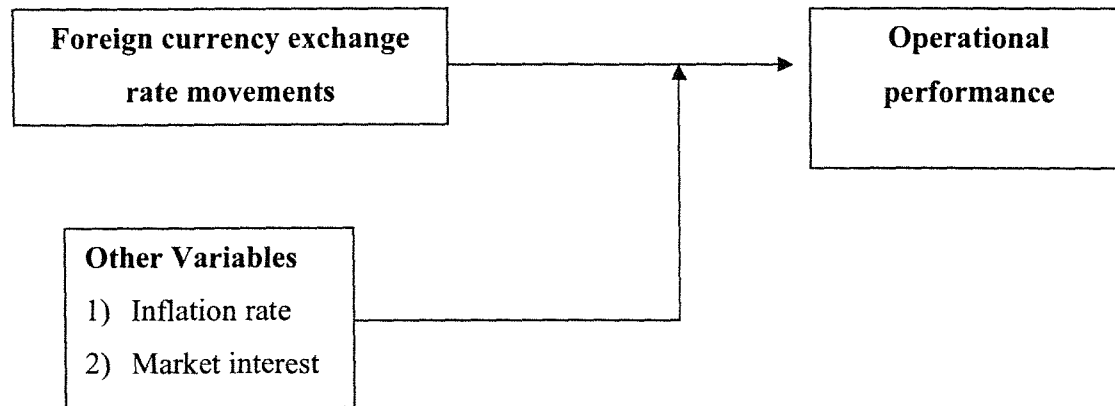
Documented literature on currency risk exposure (Pantzalis et al., 2001; Jorion, 1990; Allayannis, 2001; Bill 2007) also shows that the strength of the local currency in multinational companies is measured with a weighted exchange rate index because of the several currencies involved. This is mainly because firms which use hedging strategies often hedge against nominal currency exchange risk exposure. Jorion (1990) further adds that the use of a trade weighted exchange rate reduces the problem of multi-collinearity which may arise as many cross exchange rates are fixed relative to each other.

Studies done, however, also show that the weighted exchange rate index may not be a good measure. For instance, El-Masry et al., (2007) present evidence that UK firms are affected by movements in unit exchange rates rather than a basket of currencies from 20 countries. Dominguez et al., (2001) agree and document that the use of a trade weighted exchange rate to measure exposure would pose a problem if the nature of the firm's exposure does not correspond to the exchange rates included in the basket of currencies.

2.7 Conceptual framework

The conceptual framework shown below was partly derived from studies done by Brown et al., (1999), Slattery (2002), Cross et al., (2009), Chang (2009), Jorion (1990), Pantzalis et al., (2001), Allayannis et al., (2001) and Francis et al., (2007).





Independent variable

Dependent variables

Fig 2.1: Conceptual frame work of the relationship between currency movements and operational performance

2.7.1 Operationalization of the variables

In order to examine the relationship between the changes in currency exchange rates and performance of the hotels, the dependent variable which is operational performance was measured by RevPAR (Brown et al., 1999; Slattery, 2002; Cross et al., 2009; Chang 2009).

Foreign currency exchange rate, which is the independent variable, was measured by the nominal effective exchange rate index (NEER) (Jorion, 1990; Pantzalis et al., 2001; Allayannis et al., 2001; Francis et al., 2007). NEER is the unadjusted weighted average value of a country's currency relative to all major currencies being traded within a pool of currencies. The weights are determined by the importance a country places on all other currencies traded within the pool as measured by the balance of trade. It is provided by the Central Bank of Kenya.

Inflation rate, which is an independent variable, was measured by the percentage change on the consumer price index between the current month and the same month a year ago (Chang

2009; Perry and Grier, 2000). Inflation is the weighted average change in the price of goods and services.

The market interest rate, which is also an independent variable, is a measure of the price of borrowing funds. It was measured as the monthly average interest rate on the 91 day Treasury bill (Jorion, 1990; Chang, 2009; Allayannis et al., 2001; Francis et al., 2007).

A summary of the operational framework is shown on table 2.1.

Table 2. 1: Summary of operational framework

Variable	Meaning/ Measure	Theoretical Support
Revenue per available room for occupancy (RevPAR)	It is a measure of revenue on the number of rooms available for occupancy. It is obtained by dividing the revenue collections by the cumulative number of rooms available for sale on a monthly basis.	Brown et al., (1999), Slattery (2002), Cross et al., (2009), Chang (2009).
Foreign currency exchange rate expressed as the Nominal Effective Exchange Rate Index (NEER).	It is the weighted average value of the KSH relative to all major currencies being traded within a pool of currencies. The index was calculated at the end of each month on a monthly basis.	Jorion (1990), Pantzalis et al., (2001), Allayannis et al., (2001), Francis et al., (2007).
Inflation (INF)	It is a measure of changes in the consumer price index on a monthly basis. This measure is provided by the Central Bureau of Statistics on a monthly basis.	Chang (2009)
Market Interest Rates (INT)	It is based on the 90 day treasury bill rates and is provided by the Central Bank of Kenya on a monthly basis.	Jorion (1990), Chang (2009), Allayannis et al., (2001), Francis et al., 2007

The general regression equation is as shown below:

$$RevPAR = f(NEER, INT, INF)$$

The reduced form of the equation is as follows:

$$RevPAR_{it} = \alpha_i + \beta_1 NEER_t + \beta_2 INT_t - \beta_3 INF_t + e_{it}$$

Where:

- $RevPAR_{it}$. Revenue per room available for occupancy of company i in month t .
- $NEER$ - Nominal effective exchange rate index in month t . It measures the KSH price of foreign currencies. A positive value indicates an appreciation of the KSH.
- INT - Interest rate in month t . It is a control variable
- INF - Inflation rate in month t . It is also a control variable
- e_{it} - Idiosyncratic error term.

The regression model is similar to that used in other papers on foreign currency exchange risk. For instance, Jorion (1990) used a similar model when studying the level of exposure of US multinationals to currency exchange rate risks. He found that the relationship between returns on stocks and the exchange rates differed across the multinationals. El-Masry et al., (2007) used a similar model in their research on whether the size of foreign operations was important in determining exchange rate exposure. They found that foreign currency risk exposure was higher in larger firms which generate a high percentage of revenue from abroad.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, the target population, sources of data, the data collected and the tools used in collecting this data. It also discusses the methods used in analyzing the data collected.

3.2 Research design

The data for this study was quantitative in nature and the stepwise regression model was used to analyze the relationship between the variables under study (Jorion, 1990; El-Masry et al., 2007). This made the study correlational in nature. The study also had some qualitative features as a survey was carried out.

The study was also longitudinal in nature as data was collected on a monthly basis over a period of four years (2007 – 2010). This was the period for which secondary data from the hotels was available.

3.3 Population and sample size

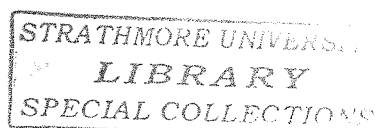
The target population for this study was the five-star hotels in Nairobi (Appendix C). The sample was picked based on the classification of hotels by the Hotels and Restaurants Regulatory Authority through The Kenya Gazette (special issue) notice. The last classification, which was done in the year 2003, listed 7 five-star hotels in Nairobi. Secondary data was collected from all the hotels as they were few in number and had consistent data for the four year period (January 2007 to December 2010). Out of the seven hotels, six hotels returned the questionnaires used for the survey. This represented an 86%

response rate.

Five-star hotels in Nairobi were selected because of several reasons. Firstly, being the capital city, it is a business hub which is frequented by business people from all over the world all year round. This is because several international organisations in Kenya have their country and/ or regional offices located in Nairobi. The expatriates who visit these organisations are hosted in the five star hotels. As a result, Nairobi hotels are occupied all year round making it possible to get consistent data for the period being studied. This was important for the study as observations were made in a consistent manner due to availability of data throughout the period. The five-star hotels in other destinations, for example Mombasa, were considered to have seasonal data as they are considered to be holiday destinations and hence have seasonal occupancies. Secondly, Nairobi was selected to ease the process of collecting data and to cut down on costs associated with the process as the hotels are located within one city.

Five-star hotels were selected because they all accept several different foreign currencies from the foreign clients hosted in the hotels. This was important for the study as the foreign currency received is affected by the exchange rate when converted to the local currency.

The period between 2007 and 2010 was selected because according to Central Bank (2008), the value of the KSH experienced fluctuations against other currencies during this period. The fluctuations in the exchange rates mainly arose from inflation and political instability which arose after the general elections carried out in 2007 (Central Bank, 2008; Nation reporter, 2008).



3.4 Data and data collection procedures

The main data for this study was the secondary data. This consisted of data relating to revenue per available room, foreign currency exchange rates, interest rates and inflation rates. Data relating to revenue per available room was obtained from the hotels' occupancy statistics on a monthly basis. The data was obtained from the hotel's front office managers through personal visits. A check list was used when collecting the data. Each hotel maintains this data so as to assess their individual performance. Data relating to the foreign currency exchange rates and market interest rates was collected on a monthly basis from the Central Bank of Kenya through personal visits and through their web site. Data on inflation rates was also collected on a monthly basis from the Kenya Bureau of Statistics through their web site.

A survey was also conducted and self administered questionnaires were used to obtain data from the hotels. The main officers who responded to the questionnaires were the Sales Managers and the Management Accountants as they manage the budget and cash flow of the hotels.

3.5 Data analysis techniques and presentation

In order to assess the relationship between the foreign exchange fluctuations and the organizations' performance, step-wise regression analysis model was used (El-Masry et al., 2007; Bartov et al., 1994). The model was useful in obtaining the analysis of variance (ANOVA) which includes the t-statistic and the coefficient of determination. This was useful in establishing the presence of a relationship and in showing the nature and significance of the relationship between the independent and the dependent variables. The results received were reviewed against literature to ascertain consistency with the theory on the relationship between operational performance and fluctuation of foreign currency exchange rates.

Since the researcher suspected the presence of multi-collinearity between every pair of the variables (Shapiro, 1984; Bradford, 1980), the Pearson's correlation test and the variance inflation factor test was carried. The findings of these tests are presented in the next chapter.

Data collected through the questionnaires was analyzed using percentages and was presented in tables. This data was useful in addressing the second objective on hedging methods used by hotels.

CHAPTER 4: PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This chapter presents the results of the data analysis and the research findings of the study. It begins by presenting the results for the multi-collinearity tests which were carried out. This is followed by the results obtained from the regression analysis and, the results obtained from the survey. These results are based data received from six hotels.

4.2 Data analysis

4.2.1 Multi-collinearity

Pearson correlation test was done to determine the degree of association between every pair of the independent variables in the model. This test was done because the researcher suspected that some of the independent variables were related (Shapiro, 1984; Bradford, 1980). The test results for the Pearson's correlation test are as shown on Table 4.1 below:

Table 4. 1: Results of Pearson correlation test

	NEER	INT	INF
NEER	1.000 (0.000*)		
INT	-0.535 (0.000*)	1.000 (0.000*)	
INF	-0.446 (0.001*)	0.628 (0.000*)	1.000 (0.000*)
Durbin-Watson statistic = 0.988398			

*Note: * Indicates that the correlation is significant at 1% level of significance.
** Indicates that the correlation is significant at 5% level of significance.
***Indicates that the correlation is significant at 10% level of significance.*

Source: Researcher's computation

The results shown on Table 4.1 suggest the presence of correlation between every pair of the independent variables. The results show a negative moderate degree of correlation between the foreign currency exchange rate (NEER) and interest (INT). The p-value (0.000) further shows that this relationship is significant at a 1% level of significance. This result is consistent with the view that high interest rates may reflect expectations of relatively high inflation and depreciating currency (Dornbusch et al., 2008).

It also shows a moderate negative degree of correlation between the foreign currency exchange rate (NEER) and inflation (INF) which is significant at a level of 1%. This too is expected because when the inflation rate in a country is high, the value of the home currency is expected to depreciate compared to other foreign currencies (Dornbusch et al., 2008).

The test results for the degree of correlation between inflation and interest rate shows a positive and moderate correlation between the two variables. The result may be explained by the fact that a rise in inflation rates is expected to trigger a rise in interest rates so as to address the inflation problem (Central Bank, 2008). Hence, high inflation countries tend to have high interest rates.

The test results also generate a durbin-watson statistic of 0.9884 which is less than 2, an indication that a positive auto-correlation exists (Keller, 2001) between every pair of the independent variables. The results indicate that the independent variables may mask on each other making it difficult to assess the effect of each variable on the dependent variable. To validate this findings, the variance inflation factor (VIF) was computed as shown on paragraph 4.2.2.

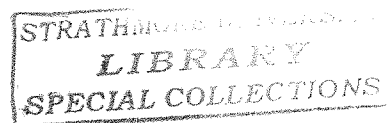
4.2.2 Variance Inflation Factor (VIF)

To clear any doubts on the presence of multicollinearity between every pair of the independent variables as discussed in paragraph 4.2.1, a further test showing the variance inflation factor was carried out. The test measures the extent of correlation between each of the variables (Chartleree & Price, 1977; Montgomery, Peck & Vining, 1982).

A variance inflation factor that is greater than one ($VIF > 1$) but less than five ($VIF < 5$) indicates that the independent variables are correlated while a variance inflation factor that is greater than five ($VIF > 5-10$) indicates that the regression coefficients are poorly estimated (Chartleree & Price, 1977; Montgomery, Peck & Vining, 1982). The findings of the variance inflation factor test are as shown on table 4.2 below:

Table 4. 2: Results of Variance Inflation Factor (VIF) test

	VIF
NEER	1.4
INT	1.9
INF	1.7



The results on table 4.2 show that the variance inflation factor in each case was greater than one, an indication that each variable is correlated with the other predictor variables in the model. This implies that the independent variables may mask on each other making it difficult to assess the effect of each independent variable on the dependent variable. This further confirms the findings in paragraph 4.2.1 that the dependent variables are correlated. In order to address this statistical problem, stepwise regression model was used.

4.2.3 Regression results

4.2.3.1 Currency exchange rate (NEER) and operational performance (RevPAR)

Stepwise regression model was used to resolve the correlation problem discussed in paragraph 4.2.1 and 4.2.2 . The model is useful when some of the independent variables are correlated as it tries to explain the most possible variation in the dependent variable using the fewest possible independent variables (Weiers, 2002). It is applied to determine the set of independent variables that most closely affect the dependent variable. For instance, if two independent variables are highly correlated, one of them will enter the equation. Once the first one is included, the added explanatory power of the second variable will be minimal and, the variables which are not statistically significant will not be included in the stepwise regression result. In this way, multicollinearity is reduced. (Keller, 1994).

Stepwise regression was also used to estimate the causal relationship between RevPAR and NEER. The results of the regression are as shown on table 4.3 below.

Table 4. 3: Results of step-wise regression test

	Beta Coefficient	P- Value	T- Value
NEER	106	0.000*	3.81
INF	-45	0.035**	-2.18
Constant	-4523		
S	1170		
R- Sq	42.55		
R-Sq (Adj)	40.00		
Mallows C-p	2.0		

*Note: * Indicates significance at 1% level of significance.*

*** Indicates significance at 5% level of significance.*

****Indicates significance at 10% level of significance.*

Source: Researcher's computation

The results indicate a significant relationship between operational performance (RevPAR) and foreign currency exchange rates (NEER) as indicated by the p-value of 0.000 at 1% significance level. The results also show a positive beta co-efficient of 106 between RevPAR and NEER. This means that a unit increase in the foreign currency exchange rate will lead to an increase of 106 units in the revenue per room available for occupancy if all other factors are held constant.

This is consistent with the operations of hotels because, room rates in five-star hotels are often quoted in foreign currencies, but the revenue received is reported in the home currency. Hence, when the foreign currency exchange rate increases, the hotels will report higher revenue than previously expected in terms of the home currency (Chang, 2009). Since the relationship is positive, it suggests that an increase in the value of the foreign currency will also result in an increase in the value of revenue reported in the home currency.

The regression results also indicate a significant relationship between the revenue per room available for occupancy (RevPAR) and inflation (INF) as indicated by the p-value (0.035) with a 5% level of significance. The beta coefficient is negative suggesting that a unit increase in inflation will result in a decrease of 45 units in the revenue per room available for sale, all other factors held constant.

The regression output did not include results for interest rate (INT) which is an indication that it was masked by inflation which was the dominant variable. Hence, its effect is not seen in the model. This may imply that the interest rate is not a significant factor in determining the RevPAR of hotels as it was eliminated by the stepwise regression. It is therefore difficult to

determine the nature of the relationship between the revenue per room available for sale in hotels and movements in interest rates and, the significance level of this relationship.

The results also show an R-sq (adjusted) of 40% which is an indication that the independent variables are related to the dependent variable. This means that 40% of the variations in operational performance are explained by the independent variables in the regression output.

4.2.4 Survey results and interpretation

4.2.4.1 Hedging methods used in hotels

A survey analysis was also carried out so as to find out the hedging methods used in hotels. Data was collected through questionnaires and was analysed through tabulation of the frequency of responses received. The findings are as presented in table 4.4 below:

Table 4. 4: Survey results of hedging methods used in hotels

Details	Hedging method	Frequency
Hedging methods used at the hotel	Financial strategies	0%
	Operational strategies	0%
	Both financial and operational strategies	67%
	None of the above	33%
	Total	100%

The responses to the survey show that 67% of the respondents use both financial and operational hedging strategies while 33% do not use any hedging strategy. These results suggest that a larger percentage of the hotels are aware of the inherent risk that may arise from adverse movements in foreign currency exchange rates. To control this risks, the hotels use both financial and operational hedging strategies. However, there is a section of the hotels represented by 33% of the respondents who do not use any financial or operational hedging strategy. This suggest that they may not be aware of any hedging strategies and/ or how to apply them.

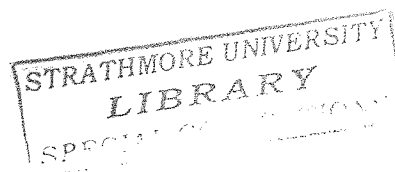
4.2.4.2 Operational performance and the exchange rate

The survey was also carried out to determine whether the sales managers and the management accountants consider the exchange rate as a factor that influences their operational performance. The responses were analysed through tabulation of the frequency of the response received. The results are as shown on table 4.5 below:

Table 4. 5: Survey results for performance measure affected by the exchange rate

Details	Response	Frequency
Hotel performance that varies with currency exchange rates	Occupany	0%
	Room rate	33%
	Revenue collections	33%
	Both the room rate and revenue collections	33%
	Total	100%

The survey results show that the room rate of 33% of the respondents varies with the exchange rate, the revenue collections of 33% of the respondents vary with the exchange rate, while in the case of the remaining 33% of the respondents, both the room rate and the revenue collections vary with the exchange rate. These suggests that both the room rate and the revenue collections, which make up the operational performance measure (RevPAR) depend on the exchange rate ruling at a given time. It also suggests that the Management accountants and the sales managers are aware of the inherent risk relating to adverse movements in foreign currency exchange rates. However, given the results in table 4.4, not all the hotels use financial and/ or operational hedging methods to control this risk even though they are aware of it.



CHAPTER 5: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discusses the results of the study in relation to the research objectives, and links the results to other empirical findings discussed in the literature review. The objectives included examining the relationship between operational performance and movements in currency exchange rates and, the hedging methods used in hotels.

The second part of this chapter outlines the conclusions drawn from the research findings. This is followed by a discussion on the recommendations made and the limitations of the study.

5.2 Discussion on findings

5.2.1 Currency exchange rates (NEER) and operational performance (RevPAR)

In order to address objective one in this study, an analysis of the relationship between movements in exchange rates (measured by NEER) and operational performance (measured by RevPAR) was carried out. As shown on table 4.3, there is a relationship between movements in currency exchange rates and operational performance. The relationship is positive in nature and is also significant at a 1% level of significance. The results show that a unit increase in the exchange rate (NEER) will lead to an increase in the value of operational performance (RevPAR) by 106 units when all other factors are held constant. This suggests that currency exchange risks can be partly managed through flexibility of operational activities in hotels, such as the room rate, which makes up the RevPAR. For example, when the value of the home currency strengthens, this may affect the revenue per available room in

the home currency. Management may respond by increasing the average daily rate in the home currency while maintaining and/ or increasing occupancy.

This finding is consistent with that in previous studies carried out in developed economies which show that operational activities can be used to manage exposure to foreign currency exchange risks (Allayanis et al., 2001; Francis et al., 2007; Chowdhry et al., 1999 and Chang, 2009). It is also consistent with Campa (1994) who found a positive relationship between movements in currency exchange rates and expansion decisions in the chemical industry. The findings also agree with studies carried out on multinationals (Pantzalis et al., 2001; Allayanis et al., 2001) which show a strong positive relationship between currency exchange rates and firm performance indicating that currency exchange risks can be managed by adjusting operating policies in the business network.

5.2.2 Operational performance (RevPAR) and inflation (INF)

The study results indicate an inverse relationship between revenue per available room and inflation as shown on table 4.3. The relationship is also significant ($p\text{-value} < 0.005$). This means that when inflation increases by one unit, revenue per available room decreases by 45 units when all other factors are held constant. This finding is odd because when inflation increases, the value of the home currency is expected to depreciate. When the home currency depreciates, the hotels are expected to report a higher revenue when the foreign currencies are converted to the home currency.

The findings, however, agree with Chen and Kim (2006) who found that in Taiwan, inflation had a negative impact on hotel stock prices. However, it contradicts Chang (2009) who found that revenue per room available for sale is not significantly related to inflation.

This may have risen because of the difference in the economies of the sample population studied. In Chang (2009), the sample population was drawn from developed countries which tend to have stable inflation rates. In this study, however, the population is drawn from a developing country whose inflation rates tend to fluctuate often. This suggests that the effect of inflation rates on operational performance of hotels in developing countries differs with that in developed countries.

5.2.2 Operational performance (RevPAR) and interest rates (INT)

The market interest rate was included in the study, however, it was eliminated during the regression process. As discussed in paragraph 4.2.1, interest rate and inflation are correlated. Hence, the effect of the interest rate may have been masked by inflation during the regression process. This implies that the effect of the market interest rate on the revenue per available room is minimal and hence, it may not be a statistically significant variable in determining the revenue per available room in a hotel.

This contradicts the findings in Chen and Kim (2006) who found a positive relationship between the interest rates and the stock price index of hotels in Taiwan. It also contradicts Chang (2009) and Chen et al., (2006) who show that the interest rate has an effect on the performance of an organisation.

5.2.3 Hedging methods used in hotels

The second objective was addressed by the survey results shown on paragraph 4.2.4. The results indicate that the respondents believe that risks arising from movements in foreign currency exchange rates can be reduced through hedging. The results further show that

majority of the respondents use a combination of both financial and operational hedging methods.

These findings are in line with Allayannis et al., (2001) and Faseruk et al., (2008) who showed that the value of the firm increases when operational hedging is used together with financial hedging techniques. It also complements the findings in Chowdhry et al., (1999) and Bartram et al., (2007) who argued that firms use both financial and operational hedging strategies to improve the value of the firm, as financial hedging strategies are used in the short term while operational hedging strategies are used in the long term.

However, the results also show that 33% of the respondents do not use either financial or operational strategies to hedge against currency exchange risks. This confirms the finding in Abor (2005) that firms may not use hedging instruments to manage foreign currency exchange risks.

The results shown on table 4.5 suggest that the hotel executives are aware of the possible risks relating to foreign currency movements. This is evident from the frequency of response on the hotel performance measure which is affected by movements in currency exchange rates. The results in table 4.4 and 4.5 suggest that not all hotels hedge against currency exchange rate risks even though they are aware of the risks. This may be due to the absence of a treasury department in the hotels or due to lack of adequate knowledge on hedging strategies. This, however, can be verified through further research.

5.2.4 Summary of discussions

The findings of this study are consistent with that in the literature review as they show a positive relationship between operational performance and movements in currency exchange rates. Inflation is also an important factor in determining operational performance as it has an inverse relationship with RevPAR. The regression results, however, went against previous studies by showing that the interest rate, which is an economic factor which affects the exchange rate, is not an important factor in determining the revenue per available room (operational performance) of five-hotels.

5.3 Conclusion

Based on the findings and the discussions of the study, several conclusions are made. To begin with, the study finds that there is a positive relationship between operational performance in hotels and movements in foreign currency exchange rates. This finding suggests that hotels may use their operational activities to hedge against risks arising from movements in currency exchange rates.

The survey analysis, however, shows that currency movements also affect financial performance. This suggests that it is important to use operational hedging strategies together with financial hedging strategies.

The study also concludes that inflation plays a role in determining the operational performance of the hotel. The finding suggests that inflation should be taken into consideration when altering operational policies so as to hedge currency risks. Inflation may be a key factor due to its effect on the value of the local currency and the currency exchange

rate. The results of the study however, suggest that interest rate is not a strong factor in determining operational performance as it is removed from the regression during the analysis.

5.4 Recommendations and areas for further research

Based on the conclusions made, the study recommends that the hotel executives should use operational activities to hedge against risks arising from movements in currency exchange rates. The executives will however need to monitor the inflation rates in addition to the foreign currency exchange rates. Operational hedging, however, would be ideal if used together with financial hedging techniques.

Further research should be carried out on other economic factors such as money supply, unemployment rate and the stock market index that may have an effect on the operational performance of hotels. This would help in evaluating the level of risk exposure in hotels and how best they can be managed so as to enhance their performance.

It would also be interesting to find out the extent to which hedging strategies are applied in hotels and, the effectiveness of the hedging methods implemented by the hotels. In the instances where hedging strategies are not used, it would be important to find out the steps taken to manage currency exchange risks in the hotels.

Research should also be carried out in other industries to assess whether movements in currency exchange rates have the same effect on their operational performance. An analysis will help in assessing the possibility of using operational hedging strategies in other industries.

5.5 Limitations of the study

There were limitations during the study. To begin with, the study did not include an exhaustive list of variables that affect the foreign currency exchange rate due to unavailability of data. However, the key variables identified in the literature review were included in the study. Secondly, the researcher recognizes that data from the hotels relating to revenue per room available for sale was only available for a short period, which is four years. Hence, the research was restricted to this period.

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APPENDIX A: LETTER OF INTRODUCTION

STRATHMORE UNIVERSITY

[Date]

[Addressee]

[Company name]

[Company address]

Dear Sir/Madam,

REF: RESEARCH ON FOREIGN CURRENCY RISK MANAGEMENT

I am a postgraduate student at Strathmore University pursuing a Master of Commerce degree. I am carrying out a research on the operational foreign currency risk management practices in hotels in Nairobi.

Your hotel is among the hotels selected for this study. I am requesting that you complete the attached brief questionnaire. The process should take about 10 minutes of your time. Please note that participation in this study is voluntary and all information received will be treated as confidential.

Incase of any question or clarification on this study, please contact me through mtonyango@gmail.com. You may also contact my university supervisor through Jmboya@strathmore.edu.

Thanks in advance for your participation in this study.

Yours sincerely,

Mary Onyango.

APPENDIX B: QUESTIONNAIRE

HEDGING METHODS USED BY HOTELS IN NAIROBI

SECTION A: GENERAL INFORMATION

- 1) Name of the hotel (optional) _____
- 2) Position of respondent _____

SECTION B: FOREIGN CURRENCY RISKS

- 3) How often is the exchange rate monitored?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Other

If other, specify

- 4) What is the source of the exchange rate used for trading purposes at the hotel?

- ☐ Central Bank of Kenya
- ☐ Rates from the hotel's banker
- ☐ Rates from a forex bureau

- 5) Which of the following vary with the exchange rate?

- ☐ Occupancy
- ☐ Room rate
- ☐ Revenue collections

6) Does the room rate for any given period depend on the exchange rate ruling at the time?

☐ Yes

☐ No

7) Which exchange rate is used in the financial records?

☐ Rate ruling at the beginning of the month

☐ Rate ruling at the end of the month

☐ Mean rate at the end of the month

8) Which hedging methods are used by the hotel?

☐ Financial hedging tools

☐ Operational hedging tools

☐ Both financial and operational hedging tools

☐ None of the above

THANK YOU.

APPENDIX C: LIST OF HOTELS UNDER STUDY

- 1) Nairobi Serena Hotel
- 2) Grand Regency Hotel
- 3) Hotel Intercontinental
- 4) The Stanley Hotel
- 5) Hilton Hotel
- 6) The Norfolk Hotel
- 7) Safari Park Hotel

APPENDIX D: DATA FOR CURRENCY EXCHANGE RATE MOVEMENTS

Month	NEER Index	Month	NEER Index
Jan-07	96.19	Jan-09	107.06
Feb-07	96.06	Feb-09	106.67
Mar-07	95.91	Mar-09	107.42
Apr-07	95.92	Apr-09	107.40
May-07	94.25	May-09	106.69
Jun-07	93.17	Jun-09	108.03
Jul-07	94.77	Jul-09	106.75
Aug-07	94.16	Aug-09	106.63
Sep-07	94.91	Sep-09	106.52
Oct-07	95.72	Oct-09	106.75
Nov-07	95.08	Nov-09	106.54
Dec-07	91.32	Dec-09	106.79
Jan-08	98.38	Jan-10	106.69
Feb-08	101.52	Feb-10	106.57
Mar-08	94.79	Mar-10	106.60
Apr-08	91.27	Apr-10	106.94
May-08	90.17	May-10	106.52
Jun-08	92.63	Jun-10	109.13
Jul-08	97.47	Jul-10	111.14
Aug-08	97.24	Aug-10	110.58
Sep-08	100.78	Sep-10	111.79
Oct-08	104.52	Oct-10	113.90
Nov-08	104.84	Nov-10	113.01
Dec-08	104.72	Dec-10	112.19

Source: Central Bank of Kenya (2007-2011)

APPENDIX E: DATA FOR INTEREST RATES (INT)

Month	INT (%)	Month	INT (%)
Jan-07	6.00	Jan-09	8.46
Feb-07	6.22	Feb-09	7.55
Mar-07	6.32	Mar-09	7.31
Apr-07	6.65	Apr-09	7.34
May-07	6.77	May-09	7.45
Jun-07	6.53	Jun-09	7.33
Jul-07	6.52	Jul-09	7.24
Aug-07	7.30	Aug-09	7.25
Sep-07	7.35	Sep-09	7.29
Oct-07	7.55	Oct-09	7.26
Nov-07	7.52	Nov-09	7.22
Dec-07	6.87	Dec-09	6.82
Jan-08	6.95	Jan-10	6.56
Feb-08	7.28	Feb-10	6.21
Mar-08	6.90	Mar-10	5.98
Apr-08	7.35	Apr-10	5.17
May-08	7.76	May-10	4.21
Jun-08	7.73	Jun-10	2.98
Jul-08	8.03	Jul-10	1.60
Aug-08	8.02	Aug-10	1.83
Sep-08	7.69	Sep-10	2.04
Oct-08	7.75	Oct-10	2.12
Nov-08	8.39	Nov-10	2.21
Dec-08	8.59	Dec-10	2.28

Source: Central Bank of Kenya (2007-2010)

APPENDIX F: DATA FOR INFLATION RATES (INF)

Month	INF	Month	INF
Jan-07	9.70	Jan-09	21.90
Feb-07	6.80	Feb-09	25.10
Mar-07	5.90	Mar-09	14.60
Apr-07	5.70	Apr-09	12.40
May-07	6.30	May-09	9.60
Jun-07	11.10	Jun-09	8.60
Jul-07	13.60	Jul-09	8.40
Aug-07	12.40	Aug-09	7.30
Sep-07	11.70	Sep-09	6.70
Oct-07	10.60	Oct-09	6.60
Nov-07	11.80	Nov-09	5.00
Dec-07	12.00	Dec-09	5.30
Jan-08	18.20	Jan-10	4.70
Feb-08	19.10	Feb-10	5.18
Mar-08	21.80	Mar-10	3.97
Apr-08	26.60	Apr-10	3.66
May-08	31.50	May-10	3.88
Jun-08	29.30	Jun-10	3.49
Jul-08	26.50	Jul-10	3.57
Aug-08	27.60	Aug-10	3.22
Sep-08	28.20	Sep-10	3.21
Oct-08	28.40	Oct-10	3.18
Nov-08	29.40	Nov-10	3.84
Dec-08	27.70	Dec-10	4.51

Source: Kenya Bureau of Statistics (2007-2010)

APPENDIX G: DATA FOR REVENUE PER AVAILABLE ROOM (RevPAR)

Month	RevPAR	Month	RevPAR
Jan-07	5584.851	Jan-09	3911.941
Feb-07	6536.106	Feb-09	5335.768
Mar-07	5688.709	Mar-09	6707.628
Apr-07	3782.157	Apr-09	5790.371
May-07	5078.695	May-09	6384.917
Jun-07	5202.057	Jun-09	6105.913
Jul-07	5506.840	Jul-09	6232.891
Aug-07	5365.685	Aug-09	6912.056
Sep-07	6085.070	Sep-09	7215.318
Oct-07	5904.044	Oct-09	7653.502
Nov-07	5463.066	Nov-09	8114.775
Dec-07	3689.467	Dec-09	5687.731
Jan-08	1802.030	Jan-10	5398.185
Feb-08	2538.029	Feb-10	6867.131
Mar-08	2668.616	Mar-10	7646.705
Apr-08	3173.334	Apr-10	6377.431
May-08	4183.620	May-10	7400.159
Jun-08	4885.312	Jun-10	7386.297
Jul-08	5583.228	Jul-10	7186.927
Aug-08	5488.938	Aug-10	6932.119
Sep-08	6194.446	Sep-10	9097.692
Oct-08	6178.783	Oct-10	7263.024
Nov-08	6980.123	Nov-10	7588.292
Dec-08	5188.035	Dec-10	4857.777

Source: Five-star hotels (2007-2010)

