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THE IMPACT OF CRM DIMENSIONS ON THE PERFORMANCE OF HOTEL INDUSTRY IN EGYPT: A CASE OF CAIRO HOTELS

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ABSTRACT: *The purpose of this research was to examine the effect of customer relationship management dimensions on the performance of hotels in Egypt a case of Cairo hotels. The general objective of the study was to examine the role of customer relationship management dimensions on the performance of hotels in Cairo. The dimensions selected for this study and which formed the specific objectives of the study were: to find out the effect of customer retention(CR), customer satisfaction(CS), customer feedback(CF), and data warehousing(DW) on the performance of hotel industry in Cairo. The study adopted a mixed research approach which was both quantitative and qualitative using descriptive survey. The population of the study was 150 managers of classified hotels in Cairo. The sampling technique that was used was random sampling. Data collection methods involved primary and secondary data. The empirical research is undertaken via a survey of one to five-star hotels around Cairo. The questionnaire which was used to collect data after it had been piloted for validity and reliability. In this study 123 hotels were surveyed to ascertain their level of use of strategic management dimensions of hotels performance. The correlations between the four strategic drivers were evaluated by using various statics tools and instruments. The main finding of this research is CRM dimensions had a positive influence on hotel performance. The overall results indicated that there was a highly significant linear relationship between customer retention (CR) strategy and hotel performance and a moderately significant linear relationship between customer satisfaction (CS), customer feedback (CF) and hotel performance and a moderately low significant relationship between data warehousing (DW) and hotel performance. The study recognized CRM dimensions as some of the tools that enhance performance in the hotel industry. It recommended to hotels that they should embrace the adoption of CRM dimensions. This research will go a long way in assisting hotels in identifying and adopting CRM dimensions in order to enhance their performance. Enhanced performance through the adoption of CRM dimensions will help hotels to create jobs, improve the economy as well as making Egypt hotels more competitive in the global hotel industry.*

KEYWORDS: Customer Relationship Management Dimensions, Egypt Hotels, Hotel Performance

INTRODUCTION

Tourism industry involving multiple sectors and all of these sectors contribute an effective role on this industry such as transportation, hotel management, human resources, and information technology. The most important area in tourism sector is hotel industry, and its services which reflect the needs of tourists and the market. Mohamed & Rashid (2012) mentioned that hotel industry, like any business sector has to be highly competitive to be able to do well in the business environment; therefore, it is of vital importance for it to encourage behavioral patterns of continuous re-purchase and to retain customers last longer. The hotel industry has been identified as one of the most important sectors that have a positive correlation to tourism

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industry because no country or region can expect to attract tourists unless it has hotels. The general pressures which have been brought about by globalization and internationalization coupled with star-ratings and membership to international hotel associations, have also challenged hotels to improve on their performance (Mureithi et al. 2009).

Over the past six decades, tourism has experienced continued expansion and diversification to become one of the largest and fastest-growing economic sectors in the world. Many new destinations have emerged in addition to the traditional favorites of Europe and North America. World Tourism Organization [UNWTO] (2017).Tourism has boasted virtually uninterrupted growth over time, despite occasional shocks, demonstrating the sector's strength and resilience. International tourist arrivals have increased from 25 million globally in 1950 to 278 million in 1980, 674 million in 2000, and 1,235 million in 2016.

By Table 1, UNWTO (2017) region, Asia and the Pacific led growth in 2016 with a 9% increase in international arrivals, followed by Africa (+8%) and the Americas (+3%). The world's most visited region, Europe (+2%) showed mixed results, while available data for the Middle East (-4%) points to a decline in arrivals.

Table1. International tourist arrivals by region–percentage growth (Global average 3.9%)

Region	Growth Rate
Europe	2%
Americas	3%
Asia/Pacific	9%
Middle East	-4%
Africa	8%

There is no doubt that despite the key role played by the global hotel sector the industry is facing tough times ahead. The Travel and Tourism sector in 2016 accounted for 10.2% of global Gross Domestic Product (GDP) and it contributed over 292m jobs. It is projected that by 2027 the tourism sector will increase by 11.4% of global GDP and over 380m jobs thereby ejecting about USD 11,512.9bn in the world economy (The World Travel and Tourism Council, 2017). Hotels are expected to contribute the biggest share of employment opportunities as a result of new ventures. Kandampully & Hu (2007) state that, the global hotel industry has become very competitive and is considered to be in the mature stage of its lifecycle.

International arrivals in the Middle East are estimated to have decreased by 4% in 2016. The region welcomed 54 million international tourists in 2016, or 4% of the world total, and earned US$ 58 billion in tourism receipts (5% share); a 2% decline in real terms from 2015.Lebanon 11% reported growth in arrivals in 2016, following strong results a year earlier. The United Arab Emirate of Dubai recorded a 5% increase in arrivals, while Jordan (+3%) started to rebound from its weaker performance a year earlier. The region's average (-4%) was driven down by the sharp decline in Egypt (-42%) following the security incidents and negative travel advisories issued by some source markets. However, arrivals started to recover at the end of 2016 following important promotional efforts, and coinciding with the winter season in European markets.

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Table2. International tourist arrivals by region (Middle East)–percentage growth

	(1000)			Change
Destinations	2014	2015	2016	16/15
Lebanon	1,355	1,518	1,688	11,2
Emirates	13,200	14,200	14,910	5,0
Jordan	3,990	3,761	3,858	2,6
Saudi Arabia	18,260	17,994	18,049	0,3
Qatar	2,862	2,930	2,906	-0,8
Palestine	556	432	400	-7,4
Egypt	9,628	9,139	5,258	-42,5

Source: World Tourism Organization (UNWTO), 2017

Tourism sector in Egypt accounts for about 10% of the economy. This sector has been affected by many factors some of them are external such as in the Middle East wars, turmoil and, most recently, the Arab Spring. The internal factors such as the scrapping tours, warnings against travelling to Egypt, and the most important factor is violence against tourists especially after the boom in charter flights from Russia and Ukraine.

Travel and Tourism sector in 2016 accounted for 7.2% of global Gross Domestic Product (GDP) rise by 1.3% to in 2017 and it contributed over 1,763,000 jobs in 2016 raise 2017 to1,639,000 jobs. It is projected that by 2027 the tourism sector will increase by 8.9% of global GDP and over 2,573,000 jobs thereby ejecting about EGP153.8bn in the world economy (The World Travel and Tourism Council, 2017). This primarily reflects the economic activity generated by industries such as hotels, travel agents, airlines. But it also includes, for example, the activities of the restaurant and leisure industries directly supported by tourists.

LITERATURE REVIEW

Conceptual framework

In this study, the independent variables were customer relationship management dimensions included customer retention (CR), customer satisfaction (CS), customer feedback (CF) and data warehousing (DW). The dependent variable was hotel performance (HP).

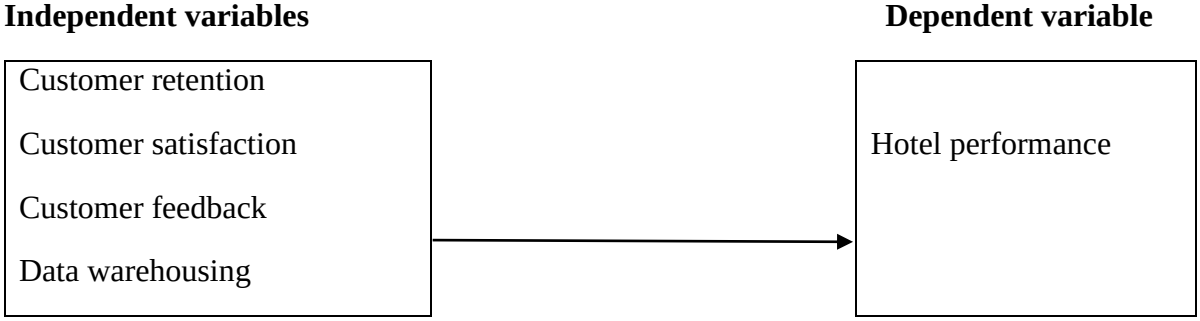

Figure 1: Conceptual Framework

Customer Retention (CR) and hotel performance

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(Chatura, 2003) defines customer retention is the propensity of the customer to stay with their service provider. It is very important for the hotel to maintain the old customer and attract the new customer. This is very difficult job for the hotels and for each company to retain the old customer and for that reason the hotel offers different package for their customers to retain. Therefore customer retention in an organization and its customers by maintaining, customer loyalty is tested. Customer retention increases profits for the success of the hospitality industry is very tough. Hotel staffs to maintain or gain loyal customers need to present a positive business image. The retention of customers depends on the business image of the hotel or organization. Customer retention in hotels is a major factor to be considered because lack of customers in the hotels will lead to lower sales thus closing up of the establishment (Schulz & Omweri, 2012).

Customer retention is therefore sustaining the customers in an organization and through this, customer loyalty is experienced. It is paramount for the success of the hospitality industry on increased profitability; also in hotels is a major factor to be considered because lack of customers in the hotels will lead to lower sales thus closing up of the establishment (Khan, 2013). To increase customer retention at authorized workshops, continuous evaluation of the provision of services to customers must be put in place by companies (Kumar, 2017). Monitoring customer retention is the main focus for managers in the hotel industry. Restructuring marketing strategies could be essential and existing customer could be a priory in surviving competitive hotel industry. It's easier and cheaper to keep a customer than find a new one (Syaqirah & Faizurrahman, 2013). Customer churn is not easily observed, which presents difficulty for estimating customer retention (Chang & Zhang, 2016).

Long term customer retention is based on consumer attitudes toward firms (Chang et al. 2014). Increasingly, the organizations are using Customer Relationship Management (CRM) to help boost sales and revenues by focusing on customer retention and customer loyalty (Chadha, 2015). In order to enhance the retention of customers, it is essential for hotel managers to understand the relationship between customers' satisfaction and customer retention (Sim, et al., 2008).

Abhamid &Cheng (2011) illustrated that there are 14 salient factors which affect consumer retention of hotels web sites that would attract consumers to return. Among the factors that hotel service providers should be concerned about the use of social media. Petzer et al., (2009) recommended that hotels should have processes in place to be able to measure their customer retention rates and then develop strategies to improve their customer retention rates by concentrating on maintaining their share of business sector guests and on improving their retention of guests who stay for leisure purposes.

Customer Satisfaction and hotel performance

Customer satisfaction became among the most important antecedent that the hotel management needs to achieve while delivering services to customers (Lahap et al., 2016). In other word, service provider of hotel industry should put a priority in fulfilling customer's need as their main objectives. Furthermore, customer satisfaction has become the determinant and predictable aspects of success, therefore, hotels are not able to compete with their rivals without satisfying customers (Forozia et al., 2013). Customer satisfaction analysis helps hotel operators to assess their weaknesses and flaws, ergo solving customer's real needs and wants (Lahap et al., 2016). It is also a business belief which leads to the creation of value for customers, anticipating and managing their expectations, demonstrating ability, and responsibility to

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satisfy their needs (Dominici & Guzzo, 2010). Customer satisfaction plays an important role in enhancing a hotel's demand, which leads to improved financial performance (Sun &Kim, 2013) and higher efficiency (Assaf & Magnini, 2012).

In addition, (Mohajerani & Miremadi, 2012), postulated that customers' satisfaction will occur when customers' perception are met or exceeds customer's expectation. Using a suitable customer satisfaction index to understand the state of customer satisfaction and post-purchase behaviors is a crucial management issue for hotels (Deng et al., 2013). If the hotel industry can easily understand and satisfy customer needs, they will conceivably make greater profits than those who fail to satisfy them. Managers must focus on retaining the existing customers by improving policies and procedure in managing customer satisfaction and customer loyalty (Lahap et al. 2016). Customer satisfaction is also an important determinant of long term survival, and it is the customer-based measurement system for assessing and improving the service of a hotel (Assaf & Magnini, 2012).

The customer satisfaction index is one effective way to measure customer satisfaction in the hotel context (Deng et al., 2013). Many key factors lead to customer satisfaction (Gu & Ryan, 2008), found seven elements that positively influence customers' overall satisfaction: bed comfort, cleanliness of bathroom facilities, size of room and condition of facilities, location and accessibility, quality of food and drink, ancillary service, and staff performance. The determinants of customer satisfaction were more general and showed the core of hotel services such as location and accessibility, staff performance, and room quality. Location was the most influential factor in determining customer satisfaction toward full-service hotels, limited-service hotels, and suite hotels with food and beverage. Room quality played the most influential role in customer satisfaction toward suite hotels without food and beverage (xu & li, 2016). Customer satisfaction is also a given or expected factor in some service industries. In the hotel industry, for example, high satisfaction does not necessarily result in higher performance because customers expect to be satisfied when choosing one hotel over another (Gursoy &Swanger, 2007). Managers of larger hotels should particularly allocate resources to managing customer satisfaction, and managers of smaller hotels should minimize complaints rather than increase satisfaction. Hotel managers should also consider ratings. Customer satisfaction should be a focus for highly rated hotels, and customer complaints are equally important for all hotels, those with both low and high ratings (Assaf et al. 2015). By using marketing communication to attract individuals with higher scores on agreeableness and extraversion, the hoteliers can be assured of higher guest satisfaction (Jani & Han, 2014). Customer satisfaction which is defined as a highly personalized assessment of a services experience lack of customer oriented culture poses as a big challenge to attaining customer satisfaction (Kangogo, 2013).

hotels use many resources to improve customer satisfaction and attract retain customers with the purpose of increasing performance, but the literature offers contradicting evidence regarding the impact of customer satisfaction on hotel performance (Barsky, 1992; Chi & Gursoy, 2009; Sun & Kim, 2013). Customer satisfaction leads to a higher level of perceived CRM quality. It is based on direct past experience with a firm, it is expected that the satisfaction-loyalty link can be mediated by other variables, such as CRM quality (Nyadzayo & Khajehzadeh, 2016). On the other hand, others have perceived satisfaction to be a precursor for image and image together with satisfaction being factors impacting loyalty (Helgesen & Nesset, 2007; Kandampully & Hu, 2007). It is not necessarily the case that customer

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satisfaction leads to improved firm performance; many reasons exist to suggest customer satisfaction does not improve firm performance (Anderson et al., 1997).

Customer feedback and hotel performance

Customer feedback is data from customers about their experiences gathered by companies or outsourced or market research firms. It can take different forms and cover a lot of topics. It is often gathered via surveys conducted by mail, phone, over the web or personally. It is focused on aspects of the customer experience believed to be most critical to customer satisfaction and their loyalty. Customer feedback provides the information which successful organizations are built. It delivers strategic guidance that enable companies to improve marketing and customer service, to deliver better customer experiences, to develop their products and services. For many years, hotels paid close attention to evaluations from experts, such as those from formalized hotel rating systems and mystery shoppers. Today, a new stream of information is available to the public: consumer-generated feedback. Today, consumer-generated feedback provides detailed information to prospective travelers about their choice of hotel. This information might be more relatable, as it is written by travelers who might have similar characteristics (Torres et al., 2014). Park and Allen (2013) identified three groups of companies with regards to their customer responses: frequent responders, infrequent responders, and non-responders. Responding to feedback can also create a positive image.

Hotel General Managers receive information from experts and consumers. However, general managers are also constantly exposed to a third source of feedback: internal. Several tools are available to General Managers for collecting such feedback. Today's General Managers have a variety of feedback at their disposal. Consumer feedback has always been available, however in today's electronic word; management has access to more consumer feedback than ever. Experts also provide feedback in the way of hotel rating systems, mystery shopping and other similar reviews. Finally, hotels receive information from internal sources. Such feedback can provide valuable information on potential improvements to service quality. (Torres et al., 2014)

Feedback from consumers could arguably bring about positive results for business organizations. Ye et al., (2009) developed a mathematical model that explains the impact of user generated comments on hotel sales and profitability. According to the model, a 10% improvement in reviews led to a 4.4% increase in sales. Currently every consumer has access to the internet and can easily express either positive or negative feedback Henning et al., (2004). Recent studies highlight the importance of appropriately responding to electronic feedback. Wei et al., (2013) highlighted several elements of a hotel's response to feedback including the motivational drivers as well as the specificity of the response. In contrast, consumer feedback is becoming widespread. In fact, a certain degree of clutter exists with travel websites (O'Mahony&Smyth, 2010).Online reviews have been exponentially increasing its use and impact in the hospitality industry over the last years, due to the social media and technological evolution. In fact, nowadays potential hotel customers search for online feedback before travelling and base their purchase decisions on online reviews Mauri & Minazzi, (2013).Service quality is a determinant of the customer's perceptions and their feedback. It is currently unquestionable that online feedback reviews in tourism have the power to influence to a certain degree forthcoming tourists (Moro et al., 2017).

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Data Warehousing and hotel performance

In order to provide information for predicting patterns and trends more convincingly and for analyzing a problem or a situation more efficiently, a data warehouse for this particular purpose is needed. The data warehouse is an environment, not a product. It is an architectural construct of information systems that provides tourism managers 'users' with current and historical decision support information that is hard to access or present in traditional operational data stores. In fact, the data warehouse is a cornerstone of the organization's ability to do effective information processing, which. With the continuous growth in the amount of data, data storage systems have come a long way from flat files systems to Data Warehousing and Distributed DW systems. The Distributed DW facilitates the policy and decision makers, by providing a coherent and single view of data. It does so in spite of the fact that data are physically distributed across multiple DW's in multiple systems at different branches (Agarwal&Badal, 2016). The basic definition of DW was given by (Inmonin, 1996) that DW is a subject-oriented, integrated, time-varying and nonvolatile collection of data in support of the management's decision-making process. Generally, an organization starts with the centralized DW system. This centralized DW is responsible, for storing the entire data of the organization, answering all the queries and for decision making. A data warehouse is a corporate wide database – management system that allows accompany to manipulate large volumes of data in ways that are useful to the company: establishing sources, cleansing, organizing, summarizing , describing and storing large amounts of data to be transformed, analyzed, and reported . Data warehouses are built to serve the information needs of an entire organization, data warehouses reduce redundancy of data storage among different departments while at the same time allowing many users to perform a wide variety of analyses (griffin, 1998).Current technologies such as data warehouses continue to be met with limited implementation success. When organizations seek to implement these technologies and deploy an outsourcing strategy, implementation success can be further complicated (Payton &Handfield 2003).

Data warehousing is a traditional domain of relational databases, and there are two main reasons for that: (1) data warehouses mostly are used in enterprises with large-scale data sets created in different legacy systems with relational data storages, (2) though rapidly developing non-relational databases are still rather unusual in data processing tasks. The benefit of the classical DW technology in comparison to any self-made data integration is the built-in functionality to combine facts with dimensions. Therefore DW users might not even need to have deep business knowledge to get benefits from it (Bicevska & Oditis, 2017). One of the big strength of classical DW technology is the flexibility regarding the reporting (Chaudhuri &Dayal, 1997). Data Warehouse (DW) is widely accepted as the core of current decision support systems. Therefore, it is vital to incorporate security requirements from the early stages of the DW projects and enforce them in the further design phases (Soler, 2008). DW playas a central role in current decision support systems because they provide crucial business information through which to improve strategic decision-making processes (Inmon, 2002).

In principles, the data warehouse can meet informational needs of knowledge workers and can provide strategic business opportunities by allowing tourism experts to access to corporate data while maintaining security measures. There are several reasons why the tourism organization in Egypt considers data warehousing a critical need. From the business perspective, in order to survive and succeed in today's highly competitive global environment, the following should be taken into consideration: - Decisions need to be made quickly and correctly, using all available data. - Users are tourism business domain experts, not computer professionals. - The amount

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of data doubles in short time period, which affects response time and the sheer ability to comprehend its content. - Competition is heating up in the areas of business intelligence and added information value. So decision makers in the tourism industry need more and more analytical information to capture the whole picture of their tourism environment, and it is exactly the role of DW to give them this global view and wide capability for analysis (Hendawi& El-Shishiny, 2014).

Organizations have begun to adopt more and more computerized information systems, which rely upon databases and DWs that require more security, because the very survival of the organization depends on the appropriate manipulation, security and confidentiality of information (Dhillon& Backhouse, 2000). The Egyptian tourism sector is dealing with large volumes of different valuable tourism data. These data include tourist numbers, tourism nights, percentage of hotel occupations, the total revenue from the tourism sector at the national level, etc. These data are normally stored in hard copies with different formats and in operational databases, which are not easily or timely accessible to decision makers. According to the aforementioned facts, decision makers in Egypt need accurate, up-to-date information to face such challenges and to develop this vital sector. This demonstrates the importance of building a data warehouse system for the tourism sector, which can integrate all the available data sources into a unified and consistent data warehouse (Abdulaziz et al., 2015).

In recent years, due to increase in data complexity and manageability issues, data warehousing has attracted a great deal of interest in real life applications especially in business, finance, healthcare and industries. Data warehouse is accepted as the heart of the latest decision support systems. Due to the eagerness of data warehouse in real life, the need for the design and implementation of data warehouse in different applications is becoming crucial (Shahid. et al., 2016). DW is necessary to produce high quality business intelligence and analytics (Ramos, et al., 2015).

Hotel Performance

The hotel industry is a service sector with inseparable products which demand for different methods of measurement (Enz, 2008). Wadongo et al., (2010) states the firm performance should not be measured by financial performance but also operational and market indicators. Performance is regarded as an output which is aligned to objectives or simply profitability and is explained in terms of expected behavioral output and also results. Performance may be measured by both quantitative and qualitative methods (uzel, 2015). This study used financial measures such as profits and non-financial measures such as market share and service quality. Non-financial measures are better performance indicators in the service industry than financial measures. This is because non-financial measures are better measures of value and motivation which complement short-run financial figures as indicators of long term goals (Richard et al., 2009). A non-operating hotel owner can, indeed, have significant impact on the performance of its hotels through implementing a number of corporate-level strategies (Xiao et al., 2011).

Hotel type is an important strategic variable that is directly related to hotel service, facilities, operation, and target market segments, which may in turn result in different hotel performance levels. The primary determinants of hotel performance can be categorized into two groups: strategic and service-profit chain frameworks (Kim et al., 2013). Claver et al., (2007) showed that hotel management, category (hotel type), and hotel size are strategic determinants of hotel performance. Larger-sized and higher-category hotels, those belonging to a chain and those which base their competitive advantage on

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improvement and dimension achieve the best performance levels. Hotel managers need to use an appropriate strategy and practice to develop their performance (Alshourah, 2012). Assaf et al., (2015) suggest increasing customer satisfaction affects firm performance positively, and increasing customer complaints has a negative effect on firm performance. Regarding hotel size, results show that the impact of customer satisfaction on firm performance was stronger for larger hotels. customer complaints have a stronger effect on hotel performance than satisfaction allows hotel managers to allocate limited service management resources better. Mohammed et al., (2013) said that Performance is a multi-dimensional construct that cannot be adequately reflected in a single performance item. then used the balance score card (BSC) approach to measure hotel performance through three categories: customers (measures are concerned with what really matters to the customers); internal process (measures related to the critical internal processes in which the organization must excel to implement strategy); and learning and growth perspectives: (measures focused on building continuous improvement in relation to products and processes, and to also create long-term growth).

RESEARCH METHODOLOGY

Research Design

A research design is a grand plan of approach to a research topic (Greener, 2008). It is a strategy which approach will be used for gathering and analyzing the data (Sreevidya et al., 2011). A cross-sectional survey design was the specific design that was used in the research. The advantage of this design is that data can be collected less expensively and within a short time. This is important because the characteristics of variables do not change much in the short period of data collection.

The study adopted a mixed research design which included qualitative and quantitative research. Qualitative data was collected by face to face interviews to get the opinions, perceptions and experiences of the managers in the hospitality industry. The purpose of the cross-sectional design was to establish relationships between dimensions and the results of performance for hotels in Cairo.

Sampling technique and sample size

This study worked with a fixed sample size of 123 hotels from a total population of 150 hotels. Stratified sampling was used to select the hotels classified with one to five star hotels. Kothari (2012) suggested that stratified sampling is used when a population from which a sample is to be drawn does not constitute a homogeneous group.

Table 3 illustrates the calculated sample size.

Classification	Population Size	Sample Size
5 star	40	38
4 star	36	32
3 star	32	24
2 star	27	20
1 star	15	9
Total	150	123

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Data analysis and presentation

The collected data was coded and entered into SPSS to create a data sheet that was used for analysis. The variables that were measured were defined and labeled. The responses were coded with numbers. Data was analyzed using quantitative techniques. Descriptive statistics was used to describe the characteristics of collected data. Pearson's Correlation, Analysis of variance (ANOVA) and Multiple Regression Analysis using Logit model were used to establish the relationships among the study variables. The entire hypotheses were tested at 95% confidence level.The questionnaires were edited for completeness and consistency to ensure that respondents completed them as required. The collected data was tested for normality using Kolmogorrov-Smirrov (KJ) one sample test. After data was collected it was screened and cleaned to find out whether there were errors that could be corrected. Responses were assigned numerical values which were consistent with numerical codes.

Quantitative Analysis

The data analysis processes for quantitative items was done using various statistical tools including (SPSS) version 22. The data from the answered questionnaires was analyzed using descriptive statistics such as mean, t-tests and standard deviation which described the characteristics of the collected data. Data was also measured using inferential statistics such as correlation coefficient to establish initial relationships between variables. Karl Pearson's zero order coefficient of correlation, ANOVA, and T-test were used to test the relationships between variables. The model that was used to test hypotheses was multiple regression linear to establish relationships between variables (Kraus, 2006).

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+ \beta_3X_3+\beta_4X_4 +\varepsilon$$

Where:

Y= Dependent variable (Hotel Performance)

X_1 = Independent variable #1 (customer retention)

X_2 = Independent variable #2 (customer satisfaction)

X_3= Independent variable #3 (customer feedback)

X_4 = Independent variable #4 (Data warehouse)

β_1 _β_4= Regression coefficient for independent variable

ε =Random or stochastic term

β_0 = constant or intercept [value of dependent variable when all independent variables are zero]

Hypothesis was tested at 95% confidence level ($\alpha = 0.05$). A two tailed test was carried out.

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DATA ANALYSIS AND DISCUSSION

Test of the hypotheses

The study was based on customer relationship management dimensions (independent variable) influence hotel performance (dependent variable). As a result of this, four null hypotheses were constructed to guide the study as highlighted in the conceptual framework. Simple regression analysis was used to statistically test the hypotheses. The hypothesis was tested at 95 percent confidence level ($\alpha = 0.05$).

Effect of Customer retention on Hotel performance

In order to assess the influence of Customer retention on hotel performance, the study had set the following null hypothesis; H_{01} There is no relationship between Customer retention and the performance of hotels in Cairo. The aggregate mean score of CR measures (Independent variable) were regressed on the aggregate mean score of the hotel performance measures (dependent variable) and the relevant results presented in Table 4.

Table 4 Regression Results of CR against Hotel Performance

Model Summary

N	R	R Square	Adjusted R Square	Std. Error of the Estimate
123	.608	.370	.365	.37518

Predictors: (Constant), Aggregate mean score of Customer retention

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.998	1	9.998	71.026	.000
	Residual	17.032	121	.141		
	Total	27.030	122			

Predictors: (Constant), Aggregate mean score of Customer Retention
Dependent Variable: Aggregate mean score of Hotel Performance

Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.281	.106		12.064	.000
	CR	.570	.068	.608	8.428	.000

Dependent Variable: Aggregate mean score of Organizational Performance
Lever of significance, $\alpha = 0.05$

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Source: Research Data

From the Table 4, the regression results reveal statistically significant positive linear relationship between customer retention and hotel performance (β= .570, p-value = 0.000). The hypothesis criteria was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p-value $\leq \alpha$ otherwise fail to reject H_0 if the p-value > α. From the above regression results, p-value = 0.000 ≤ α, the study therefore rejects the null hypothesis since β≠0 and p-value < α and conclude that customer retention significantly affected hotel performance. The regression results also shows that CR had moderate explanatory power on hotel performance in that it accounted for 37.0 percent of its variability (R square = 0.370). Arising from the results in Table 4.6, the following simple regression equation that may be used to estimate hotel performance in Cairo given level of customer retention can be stated as follows;

HP =1.281+ 0.570CR+ ε

Where:

1.281= y-intercept constant,

HP= is the Hotel Performance

0.570 = an estimate of the expected increase in hotel performance corresponding to an increase in customer retention.

CR= Customer Retention

ε = the error term- random variation due to other unmeasured factors.

Effect of customer satisfaction on hotel performance

In order to assess the influence of customer satisfaction on hotel performance, the study had formulated the following null hypothesis;

H_{02}: There is no relationship between customer satisfaction and the performance of hotels in Cairo. The aggregate mean score of customer satisfaction measures (Independent variable) were regressed on the aggregate mean score of the hotel performance measures (dependent variable) and the relevant research findings are presented in Table.4.2. From the Table 4.2, the regression results reveal statistically significant positive linear relationship between customer satisfaction and hotel performance (β = 0.482, p-value = 0.000). The hypothesis criteria was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p-value $\leq \alpha$ otherwise fail to reject H_0 if the p-value > α. From the above regression results, $\beta \neq 0$ and p value < α, the study therefore rejects the null hypothesis. The regression results also shows that customer satisfaction had moderate explanatory power on organizational performance in that it accounted for 34.8 percent of its variability (R square = 0.348).

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Table 4.2 Regression results of customer satisfaction against Performance

Model Summary

N	R	R Square	Adjusted R Square	Std. Error of the Estimate
123	.590	.348	.342	.38172

Predictor Variable: Aggregate Mean Score of customer satisfaction

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.399	1	9.399	64.504	.000
	Residual	17.631	121	.146		
	Total	27.030	122			

Predictors: (Constant): Aggregate Mean Score of customer satisfaction
Dependant Variable: Aggregate Mean Score of hotel Performance

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.381	.099		13.895	.000
	CS	.482	.060	.590	8.031	.000

Dependant Variable: Aggregate Mean Score of hotel Performance
Lever of significance, $\alpha = 0.05$
Source: Research data, 2017

Arising from the results in Table 4.2, the following simple regression equation that may be used to estimate hotel performance of hotels in Cairo given level of customer satisfaction can be stated as follows;

$HP = 1.381 + 0.482CS + \varepsilon$

Where:

1.381 is the y-intercept; constant,

HP is the Hotel performance

0.482= an estimate of the expected increase in hotel performance corresponding to an increase in use of customer satisfaction.

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CS is customer satisfaction

ε is the error term- random variation due to other unmeasured factors.

Effect of Customer Feedback on Hotel Performance

To assess the effect of customer feedback on hotel performance of hotels in Cairo, the study had set the following null hypothesis:

H_{03}: There is no relationship between customer feedback and the performance of hotels in Cairo.

The aggregate mean score of customer feedback measures (Independent variable) were regressed on the aggregate mean score of the hotel performance measures (dependent variable) and the relevant research findings are presented in Table.4.3.

From the Table 4.3, the regression results reveal statistically significant positive linear relationship between customer feedback and hotel performance ($\beta = 0.482$, p-value = 0.000). The hypothesis criteria was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p-value $\leq \alpha$ otherwise fail to reject H_0 if the p-value $> \alpha$. From the above regression results, $\beta \neq 0$ and p-value $< \alpha$, the study therefore rejects the null hypothesis. The regression results also shows that customer feedback had explanatory power on organizational performance in that it accounted for 26.3 percent of its variability (R square = 0.263).

Table 4.3: Results of Regression of customer feedback against Performance

Model Summary

N	R	R Square	Adjusted R Square	Std. Error of the Estimate
123	.513	.263	.257	.40569

Dependent Variable: Aggregate Mean Score of customer feedback

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.115	1	7.115	43.233	.000
	Residual	19.914	121	.165		
	Total	27.030	122			

Predictors: (Constant): customer feedback
Dependent Variable: Aggregate mean score of Performance

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Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.299	.132		9.872	.000
	CF	.482	.073	.513	6.575	.000

Dependent Variable: Aggregate mean score of Performance
Lever of significance, α = 0.05
Source: Research data

The regression results in table 4.3 shows that on overall significance, there is statistical positive linear relationship between customer feedback and hotel performance (β=0.482) and the relationship is statistically significant because the p-value is less than the set value of α (p – value = 0.000). The hypothesis test criterion was that the null hypothesis which is H_0 should be rejected if $\beta \neq 0$ and p-value < α otherwise fail to reject if $\beta = 0$ and p-value > α. From the regression results, $\beta = 0.482$ and p – value = 0.000, the study therefore rejects the null hypothesis and concludes that there is significant effect of customer feedback on hotel performance. The regression results also show that 26.3 percent of hotel performance can be explained by strategic competitive positioning (R square = 0.263). Arising from the research results in Table 4.3, a simple regression equation that may be used to estimate hotel performance in Cairo given their existing customer feedback can be stated as follows;

$HP = 1.299 + 0.482CF + \varepsilon$

Where:

HP is the Hotel Performance

1.299 is the constant intercept of the term (α = 1.299), or the slope coefficient,

0.482 is the beta or the slope coefficient, (estimates of the expected increase in hotel performance corresponding to an increase in use of customer feedback).

CF is customer feedback

ε is the error term- random variation due to other unmeasured factors.

Effect of Data Warehousing on performance of hotels in Cairo

To assess the effect of DW on the hotel performance of hotels in the Cairo, the study formulated the following null hypothesis;

H_{04} There is no relationship between adoption of DW and the performance of hotels in Cairo.

The aggregate mean score of DW (Independent variable) were regressed on the aggregate mean score of the hotel performance measures (dependent variable) and the relevant research findings are presented in Table.4.4 .From the Table 4.4, the regression results reveal statistically significant positive linear relationship between DW and hotel performance ($\beta = 0.395$, p-value = 0.000). The hypothesis criteria was that the null hypothesis H_0 should be rejected if $\beta \neq 0$ and p-value ≤ α otherwise fail to reject H_0 if the p value > α. From the above regression results, $\beta \neq 0$ and p-value < α, the study therefore rejects the null hypothesis.

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The regression results also shows that data warehouse had explanatory power on hotel performance in that it accounted for 22.3 percent of its variability (R square = 0.223).

Table 4.4 Regression results of DW against hotel performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.472[a]	.223	.217	.41661

Predictors: (Constant): Aggregate Mean Score of DW

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.029	1	6.029	34.736	.000
	Residual	21.001	121	.174		
	Total	27.030	122			

Predictors: (Constant): Aggregate Mean Score of DW.

Dependent Variable: Aggregate mean score of Performance

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.552	.105		14.765	.000
	DW	.395	.067	.472	5.894	.000

Dependent Variable: Aggregate mean score of Performance
Lever of significance, $\alpha = 0.05$
Source: Research data

From the Table 4.4, the regression results reveal that DW had overall significant positive relationship with the performance of the hotels ($\beta = 0.395$, p-value = 0.000). Hence the study therefore rejects the null hypothesis since $\beta \neq 0$ and p-value $\leq \alpha$ and concludes that DW affected performance of hotels in Cairo. The regression results also shows that 22.3 percent of the hotel performance can be explained by DW (R square = 0.223). Arising from the research

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results in Table 4.4, a simple regression equation that may be used to estimate hotels performance in Cairo given its existing DW level can be stated as follows;

HP = 1.552+ 0.395DW+ ε

Where:

1.552 = y-intercept constant,

HP = Hotel Performance

0.395= an estimate of the expected increase in hotel performance corresponding to an increase in use of DW.

DW is data warehouse

ε is the error term- random variation due to other unmeasured factors.

In order to determine the effect of customer relationship management dimensions on the organizational performance of hotels in Cairo, the researcher conducted a multi-regression analysis and individual customer relationship management dimensions measures were regressed against the aggregate mean score of hotel performance and the results are shown in Table 4.5below.

Table 4.5: Regression Results of Customer Relationship Management dimensions against Performance

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742	.550	.535	.32106

Predictors: (Constant): Customer Relationship Management dimensions

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14.867	4	3.717	36.057	.000
	Residual	12.163	118	.103		
	Total	27.030	122			

Predictors: (Constant), Customer Relationship management dimensions.
Dependent Variable: Hotel performance.

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Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.759	.122		6.225	.000
	CR	.256	.075	.273	3.435	.001
	CS	.228	.063	.279	3.638	.000
	CF	.216	.066	.229	3.264	.001
	DW	.180	.057	.215	3.175	.002

Dependent Variable: Aggregate means of Hotel performance.
Lever of significance, $\alpha = 0.05$
Source; Research data, 2017

From Table 4.5, the regression results reveal that customer relationship management dimensions overall effect on performance was statistically significant (overall p-value = 0.000). At the individual level, all the customer relationship management drivers had positive and significant effect on hotel performance as follows, CR had positively influenced performance ($\beta = 0.570$ and p-value = 0.000). CS also positively affected performance ($\beta = 0.482$, p-value = 0.000). CF had a positive effect on the performance ($\beta = 0.482$, p-value = 0.000) and DW on the other hand had also positive impact on performance ($\beta = 0.359$, p-value = 0.000). In the table, the regression results shows that the regression of customer relationship management dimensions measures against the mean of hotel performance measures had a beta term, $\beta 5 = 0.742$. The regression results shows that hotel performance largely depends on the customer relationship management dimensions with 55.0 percent of hotel performance being explained by customer relationship management drivers (R squared = 0.550).

Arising from the research results in Table 4.5, a simple regression equation that may be used to estimate performance of hotels in Cairo given its existing customer relationship management dimensions can be stated as follows:

$$HP = 0.759 + 0.742CR + 0.742CS + 0.742CF + 0.742DW + \varepsilon$$

Where:

HP = Hotel performance

0.759 = the y- intercept constant ($\alpha = 0.759$)

0.742 = an estimate of the expected increase in hotel performance corresponding to an increase in use of customer relationship management dimensions.

CR= Customer Retention.

CS= Customer Satisfaction.

CF= Customer Feedback

DW= Data Warehousing

ε= the slandered error term random- variation due to other unmeasured factors.

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Regression results in Table 4.5 show that a unit change in CR results in 27.3 percent (β=0.273) change in hotel performance while a unit change in CS results in 27.9 percent (β=0.279) change in hotel performance .On the other hand, a unit change in CF results in 22.9 percent (β=0.229) change in hotel performance and DW if implemented well will affect hotel performance by 21.5 percent. The study results presented in this chapter have utilized a variety of descriptive and inferential statistics.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary and Key Findings

This study on the effect of customer relationship management dimensions on hotel performance in Cairo had four specific objectives which were developed into null hypotheses and statistically tested using the Karl Pearson's zero order. The discussions in the following sections highlight the key findings of the study based on the hypotheses.

The first objective was to establish the effect of customer retention on hotel performance. The study found out that CR significantly and positively affected on hotel performance with 37.0 percent of the hotel performance (R squared = 0.370) being explained by CR.

The second objective was to determine the effect of customer satisfaction on performance of hotels in Cairo. The study found out that CS significantly and positively affected hotel performance with 34.8 percent of the hotel performance (R squared = 0.348) being explained by customer satisfaction.

The third objective was to establish the effect of customer feedback (CF) on hotel performance in Cairo. The study found out that CF had significant and positive effect on hotel performance with 26.3 percent of the hotel performance (R squared = 0.263) being explained by customer feedback.

The fourth objective was to establish the effect of DW on hotel performance in Cairo. The study found out that DW had significant and positive effect on hotel performance with 22.3 percent of the hotel performance (R squared = 0.223) being explained by data warehousing.

CONCLUSION

This research offers some important insights into customer relationship management dimensions in the hotel industry. The findings of this research have revealed several important implications for management and managerial practitioners in the Egyptian hotel industry. The study results supported this premise in that customer relationship management dimensions (CR, CS, CF, and DW) were found to significantly and positively affect hotel performance. Managers should pay more attention to the impertinence of CRM dimensions such as customer retention, customer satisfaction, customer feedback, and data warehouse. The use of these dimensions is believed to be useful for hotels' activities in a high-uncertainty environment.

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RECOMMENDATIONS

Based on the findings and conclusions of the study, the recommendations made were that there is need for the hotels in Cairo to employ customer relationship management dimensions in their operations as this improves their level of performance. Customer relationship management dimensions have been found by this study to have a great effect on improving hotel performance.

LIMITATIONS OF THE STUDY AND SUGGESTIONS FOR FURTHER RESEARCH

The study found out customer relationship management dimensions improves hotel performance, but did not come up with any optimum point at which the hotel should employ them. This study recommends further studies to establish an optimum point or the CRM dimensions' index for the hotels. The study also relied on self reported data from only one industry. Further research could use multiple industries to conduct their studies and this would enhance the validity of the research findings. The study will be a reference for future studies on customer relationship management dimensions and hotel performance.

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