

Do CRM dimensions improve Hotels occupancy rates? Evidence from the Moroccan Hospitality Sector

Youssef Chetoui^{1*}, Dr. Hassan Abbar², Dr. Zahra Benabbou

Professor, School of Business Administration, Al Akhawayn University in Ifrane-Morocco¹

Associate Professor, Ecole Nationale de commerce et de Gestion in Settlat (ENCG-Settat), Hassan 1st
University in Settlat-Morocco²

Professor, Ecole Nationale de commerce et de Gestion in Settlat (ENCG-Settat) Hassan 1st University in
Settat-Morocco³

Youssef.chetoui.isga@gmail.com¹

abbarhassan@hotmail.com²

jo.benabbou@gmail.com³

*Corresponding author

Abstract - The noticeable lack of accepted and unified models of Customer Relationship Management generally leads to failures in the implementation of CRM projects, particularly when organizations adopt the limited technology perspective. In an attempt to evaluate the different perspectives of CRM, this research paper focus on the perspective that proposes that effective CRM implementations typically involve the four dimensions: (1) customer orientation (2) knowledge management (3) CRM organization, and (4) CRM technology. Our study evaluates the impact of CRM dimensions and hotel performance (occupancy rate) in Morocco. A sample of 80 Moroccan hotels was surveyed. Regression and other tests were used for analyses and interpretation. Our results reveal a significant positive impact of customer orientation, knowledge management, and CRM organization on occupancy rate. While CRM technology has been demonstrated to not significantly affect hotels' occupancy rate.

JEL classification- G32

Keywords- Customer Relationship Management; customer orientation; knowledge management; CRM organization; CRM technology; customer retention; customer satisfaction; occupancy rate

1. INTRODUCTION

The paradigm of CRM is the basic belief that customer relationships, like any other valuable assets in the business, can be effectively developed and managed. A better customization of product and service offerings for individual customers leads to increasing customer retention and profitability (Stefanou, Sarmaniotis, and Stafyla 2003[59]; Sheth and Sisodia 2001). Accordingly, CRM is regarded as one of the best practices for businesses in order to develop their performance and thus to ensure long-term survival and profitability (Kasim & Minai, 2009[30]; Sigala, 2005[54]; Wu & Lu, 2012)[65]. Though claims about the favorable effects of CRM on business performance are commonly adopted in CRM literature (Crosby and Johnson 2001[19]; Gruen, Summers, and Acito 2000)[24], recent results in the business world remain ambiguous regarding the real outcomes of CRM and its effects firm performance (Payant 2004[44]; Rigby, Reichheld, and Schefter 2002). Widespread application of CRM programs has not led to significantly higher customer retention rates (Thomas, Blattberg, and Fox 2004)[61]. A review of CRM literature discloses that ambiguous results may be attributed to *disagreement and confusion* regarding the exact domain of CRM (Rigby, Reichheld, and Schefter 2002). Jeffery and Leliveld (2004) illustrates that organizations'

investments in CRM projects are generally made in uncoordinated ways. These unrealized expectations for CRM implementations led many researchers and executives to try to learn from mistakes and to look for new manners to refine their CRM activities and therefore achieve their objectives (Sheth 2002)[53].

CRM is largely viewed as a technology-focused database management approach to gathering and analyzing information about customers (Krauss 2002)[35]. Broader perspectives tend to view CRM as an overall mix of marketing strategy, organizational structure, processes, and technology—all revolved around customer for a better management and customer satisfaction (Hair, Bush, and Ortinau 2003)[25]. Confronted with uncertainty regarding to the precise meaning and domain of application of CRM, many organizations are conflicted and unsure about how to properly implement CRM (Myron and Ganeshram 2002)[42]. Such organizations may be disappointed, or even embarrassed, by unimpressive results in improving customer relationships and profitability (James 2002)[28].

CRM, like most initiatives that are poorly understood, improperly applied, and incorrectly measured and managed, may suffer and struggle to survive (Peppers and Rogers 2004, p. 7). Such improper implementations and unsatisfying results in improving customer relationships

led some researchers to propose new models for CRM applications. James (2002)[28] identified four key areas necessary for a successful CRM implementation: (1) *strategy*, (2) *people*, (3) *processes*, and (4) *technology*. He suggests that CRM can only be effective if all four parts work in harmony. Other studies suggest four dimensions for a successful implementation of CRM projects (Chetioui & Abbar, 2017)[17]. These dimensions involve (1) customer-oriented strategies (Srivastava, Shervani, and Fahey 1999[58]; Vandermerwe 2004)[62], (2) knowledge management (Stefanou, Sarmaniotis, and Stafyla 2003)[59], (3) CRM organization (Langerak and Verhoef 2003)[37], and (4) CRM based technologies (Bhaskar 2004[11]; Chen and Ching 2004)[16]. Recent studies on CRM focused on many service sectors, yet literature related to CRM in the hospitality sector is still limited (Wu and Lu, 2012)[65]. Many researches illustrated the importance of making studies on CRM dimensions in the hospitality sector (Akroush et al., 2011[5]; Sadek et al., 2011[52]; Sin et al., 2005)[55]. In Morocco, hotels operates in a business environment characterized by a strong competition. Besides, the occupancy rates of hotels in Morocco have varied significantly in recent years (Annuaire Statistique du Tourisme 2015, observatoire du tourisme, Morocco). Alshourah, (2012)[6] conveys that hotel managers need to use appropriate strategies and tools to develop their hotels performance. Accordingly, this research paper tends to examine the application of CRM dimensions in the hospitality industry. A survey of 80 hotels executives was conducted on Moroccan hotels to examine the impact of CRM dimensions on hotels occupancy rates.

2. CRM DIMENSIONS

In an attempt to summarize the different definitions of CRM, Chetioui & Abbar (2017)[17] suggested a model that include four CRM dimensions. These dimensions involve: (1) focusing on customer-oriented strategies (Srivastava, Shervani, and Fahey 1999[58]; Vandermerwe 2004)[62], (2) managing knowledge (Stefanou, Sarmaniotis, and Stafyla 2003), (3) organizing around CRM (Homburg, Workman, and Jensen 2000[26]; Langerak and Verhoef 2003)[37], and (4) incorporating CRM based technology (Bhaskar 2004[11]; Chen and Ching 2004)[16].

The multi- dimensions concept of CRM can be considered relatively new, because of the limited studies focusing on CRM dimensions. The mentioned dimensions must be used in harmony in an organization in order to guarantee better outcomes (Yim et al., 2005)[66].

2.1 Focusing on Key Customers

Several studies demonstrate that customer-focused structure, culture, policy, and reward system are crucial for successful implementations of CRM projects (Ryals and Knox 2001)[51]. Jain and Singh (2002)[27] reveal that all interactions with customers must fully reflect this company-wide CRM emphasis. Actually, the main

objective of customer orientation is to achieve profound customer relationships through which the seller organization becomes indispensable to its profitable customers (Vandermerwe 2004). Srinivasan, Anderson et al. (2002)[57] argue that the sales force is generally better enabled and motivated to cultivate long-term customer relationships if equipped with company-wide understanding and internal support for key customer relationships. Understanding customers helps the company in offering personalized products and services, which leads to increasing customer satisfaction and profitability (Armstrong and Kotler 2003)[8]. Several other researches have demonstrated that customer orientation leads to a better organizational performance (Asikhia, 2010[9]; Liu et al., 2003[40]; Zhou et al, 2009)[67]. King and Burgess (2008) [33]convey that customer orientation is an essential element in the success of CRM projects. In addition to the positive effect of customer orientated strategies on CRM projects performance, these practices also influence the successful implementations of marketing actions and innovations (Slater and Narver, 1998)[56]. Despite the numerous positive impacts of customer orientation on organizations performance, there is still a shortage of literature about customer orientation in the hospitality industry (Tajeddini, 2010)[60].

2.2 Managing Knowledge

For a better use of CRM, customer information need to be transformed to customer knowledge (Freeland 2003[21]; Plessis and Boon 2004)[47]. Fan and Ku (2010)[20] indicate that customer knowledge management significantly improves organizations 'ability to take strategic managerial decisions that improve customer relationships and profitability. Information about customers should be gathered through all touch points across the functions of the firm (Brohman et al. 2003)[12]. Customer knowledge is generally used by Salespeople in order to adjust marketing offers to fit the individual needs and expectations of each customer (Armstrong and Kotler 2003)[8]. Plessis and Boon (2004)[47] convey that the ability of the organization to effectively transform customer information into customer knowledge is essential for deciding whether CRM is successful or not. Accordingly, knowledge management can significantly help an organization to build better customer relationship leading to a positive impact on the organization performance (Abdulateef et al., 2010[3]; Akroush et al., 2011)[5].

With regard to the hospitality industry, there is a great shortage of literature about knowledge management. Lo et al., (2010)[41] recommended more studies about knowledge management in the hospitality industry in future research. Noble and Mokwa (1999) convey that hotels with a better management of customer information are more likely to implement successful marketing activities and for meeting their customers 'needs.

2.3 CRM Organization

Customer relationship management organization is a key factor for successful implementation of CRM projects. The entire organization should be structured around cultivating valuable customer relationships with a strong focus on key profitable customers throughout its CRM system. For a better use of CRM technologies, the organizational structure needs to be reconstructed to generate customer-centric values (Homburg et al.2000)[26]. The organization needs also to improve the coordination of its customer-focused, cross-functional teams (Brown 2000)[13]. There also must be a wide commitment of resources by the organization. All organizational functions must continuously participate in providing value and customer outcomes (Ahmed and Rafiq 2003[4]; Grönroos 1990).Ku (2010) [36]confirms that CRM success does not only require technological quality or systems, but suitable operation procedures as well. In other words, all the organization resources and functions have to work in harmony in order to implement CRM successfully.

2.4 Incorporating CRM Technology

Appropriate CRM technologies are essential for the optimization and the success of CRM-oriented activities. Many CRM-oriented activities, such as knowledge management, cannot be optimized without using convenient technologies. These technologies help organizations in collecting and analyzing data about customers' attitudes and preferences, respond with timely and effective customized communications, and efficiently deliver personalized offerings to their customers (Peppard 2000[45]; Vrechopoulos 2004)[63]. Nowadays, organizations make heavy investments on the latest software programs to build long-lasting customer relationships and to better respond to their customers' needs and expectations. Butler (2000)[14] reveals that CRM technologies help organizations to enhance customer satisfaction, increase customer retention, and strengthen profitable long-term customer relationships. Indeed, most CRM applications use the latest technology innovations. With the development of sophisticated information management tools, such as database marketing, data warehousing, data mining, and push technology, companies have a tendency to incorporate the latest technologies into their CRM systems (Kotler 2003)[34]. CRM technologies help companies collect, analyze, and distribute information for a better prospecting, improved communication and personalized offerings. These technologies also help salespeople in detecting greater sales opportunities (Widmier et al. 2002)[64].

In summary, successful CRM implementations depend on the combination of the four aforementioned dimensions: customer orientation, knowledge management, CRM organization, and the incorporation of CRM technologies in an overall CRM strategy. Insufficiencies in any of these areas can negatively impact CRM performance.

3. MEASURING HOTEL PERFORMANCE

Previous studies evaluated CRM performance in many ways, including customer satisfaction (Abdulateef et al., 2010)[3], market effectiveness and financial performance (Sin et al., 2005)[55], customer performance and financial performance (Akroush et al., 2011)[5], and customer retention and sales growth (Yim et al., 2005)[66]. Sin et al. (2005)[55] suggested that the use of other performance measurements can be valuable.

Performance measurement in service firms and more particularly in hotels is not as simple as measuring the performance in industrialized firms. The quality of products and services delivered by employees of service companies significantly influence the level of customer satisfaction (Poon & Low, 2005)[48]. Satisfied customers are most likely to return and might bring in new customers as well. Relatively, hotels performance depend heavily on customers 'satisfaction. Though customer service quality is not the only determining factor in hotel choice, customers would surely return to the hotel if satisfied with the services. Reichheld (1996)[49] argues that satisfaction measures account for up to 40 percent of the variance in models of customer retention. High levels of customer satisfaction generally are considered essential to customer retention. Such satisfied customers will eventually spread positive word-of-mouth to their friends and relatives, which leads to increasing the occupancy rate of appreciated hotels (Poon & Low, 2005). The increase in occupancy rates generally translate into growth in revenue (Poon & Low, 2005). Occupancy Rates are considered of major importance for hotel's management in general, and for sales department in particular. Consequently, the present study will use occupancy rates as a measure to evaluate hotel performance.

4. THEORETICAL MODEL AND HYPOTHESIS DEVELOPMENT

The relationship between CRM dimensions and hotels performance is based on the resource based view that suggests that the use of CRM strategies positively affect firm performance. As mentioned earlier, CRM implementation cannot be successful without the combination of the its four dimensions—customer orientation, knowledge management, CRM organization, and CRM-based technology—into an effective overall CRM strategy (Chetoui & Abbar, 2017[17]; Abdullateef et al., 2010[3]; Chang et al., 2010; Sin et al., 2005; Wu and Lu, 2012; Abdul Alem & Basri, 2012)[2]. Hence, this model involves the four dimensions of CRM previously mentioned. And is based on previous studies (Abdullateef et al., 2010; Wu and Lu, 2012[65]; Abdul Alem & Basri, 2012). The model of our research paper (as shown in figure 1) is based on Resource-based-theory (RBV theory) that conveys that organizations with valuable

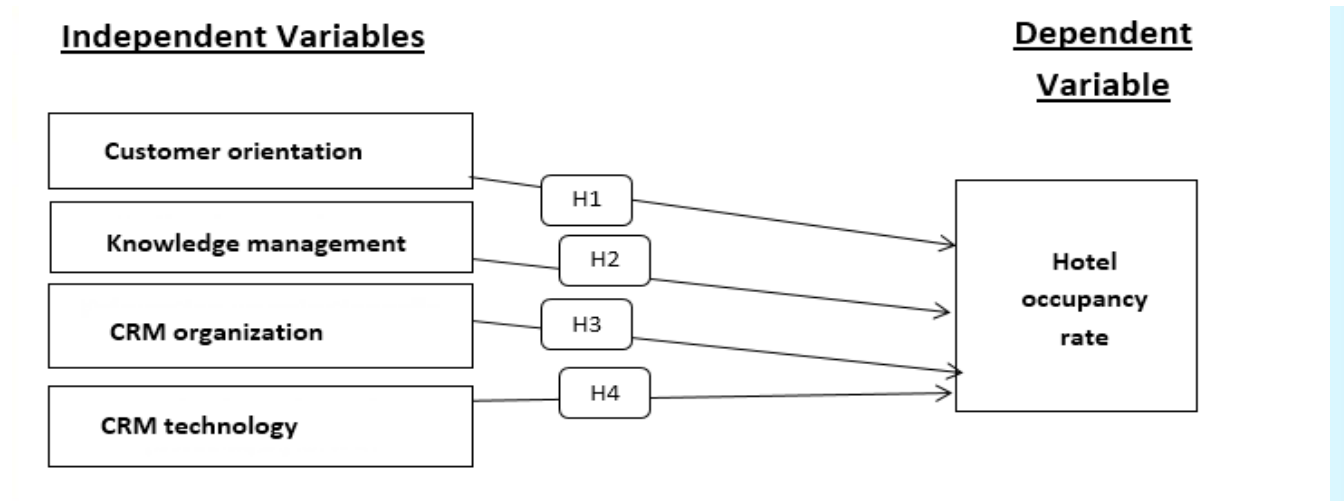
resources can successfully create competitive advantage and therefore improve organization performance (Barney

and

Delwyn,

2007)[10].

Figure 1: Theoretical framework



Therefore, the present study will use occupancy rates as a measure to evaluate hotel performance. From this perspective, the following relationships are hypothesized:

H1. Customer orientation has a positive impact on hotels occupancy rate.

H2. Knowledge management has a positive impact on hotels occupancy rate.

H3. CRM organization has a positive impact on hotels occupancy rate.

H4. The incorporation of a CRM technology has a positive impact on hotels occupancy rate.

Taking into consideration the four previous hypotheses to test each of the four CRM dimensions impact on hotel performance, we, therefore, set the following hypothesis to test CRM dimensions impact on hotel performance:

H5. CRM dimensions have a positive impact on hotels occupancy rate.

5. METHODOLOGY

5.1 Sample and Data Collection Procedure

To investigate hypotheses for this research, self-administered questionnaire were used for data collection. The quantitative research technique is considered as the best method to examine the relationship between measurable factors with the intention of explaining, predicting and managing phenomena (Leedy and Ormrod, 2005)[39]. These methods are also useful to analyze and verify theories, discover significant factors for future research and relate factors posed by questions or hypothesis (Creswell, 2009)[18].

This research examines the relationship between CRM dimensions and occupancy rate in Moroccan hotels. Hotels with 3, 4, and 5 stars were selected since these hotels are more likely to use CRM strategies. According

to the Moroccan tourism ministry (2015), there are 180 three stars hotels, 169 four starts hotels, 63 five stars hotels. To ensure a representative sample, a quota sampling was used on a sample of 100 hotels from the three categories and from different regions according to the number and the geographical distribution in each category. Hotels of the sample were selected randomly using Excel. The target respondents were hotels directors and marketing directors. When it was not possible to contact these executives, other most senior person responsible for marketing activities was selected. A total of 88 completed questionnaires were collected, representing an 88% response rate. Eight completed questionnaires were discarded due to missing or extreme values. Eighty questionnaires were retained for analysis. The sample is composed of 60 in-person questionnaires and 20 mail questionnaires. Phone calls were used to explain the purpose of the study and to motivate potential respondents to fill the questionnaires.

5.2 Measurements

The questionnaire contained questions on CRM dimensions and on hotel performance measures, mainly customer retention rate and occupancy rate. Questions about the hotel performance measures were asked before CRM dimensions in order to avoid biased or subjective answers. The CRM dimensions examined in the questionnaire included (a) customer oriented strategies (5 scale items), knowledge management practices (4 scale items), CRM organization (4 scale items), and CRM technology application (a dummy variable with “yes” or “no” was used). For occupancy rates, respondents had to choose from 5 intervals: 0-20%, 21%-40%, 41%-60%, 61%-80%, and 81%-100%. Before the main analysis, numerous statistical tools and techniques were used with

the help of SPSS software, version 20. These contain validity and reliability analyses in order to evaluate the goodness of measures and descriptive statistics, to describe the characteristic of respondents and test of differences, to test non-response bias. Then, multiple regression analysis were used to test the influence of

customer relationship management dimensions on customer retention.

5.3 Descriptive Statistics

Detailed descriptive statistics of each variable can be found in Table 1 that contain means, min, max, and standard deviations as below.

Table 1: Descriptive statistics for CRM dimensions and occupancy rate
The following table documents the descriptive statistics for the variables used in this paper.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Customer orientation	80	2,2000	3,8000	2,997500	,4494652
Knowledge management	80	2,25	4,00	2,9719	,40369
CRM organization	80	2,25	3,75	2,9219	,30188
CRM_technology_dummy	80	0	1	,59	,495
Occupancy rate	80	30,00%	70,00%	50,2500%	15,42438%
Valid N (listwise)	80				

5.4 Reliability Analysis

The CRM dimension variables included in the study are composed of a number of scale items that measure each of these variables. All the scale items (questions evaluating the CRM dimensions in the hotels of our sample) are rated on a five point Likert scales (1=strongly disagree, and, 5= strongly agree). Cronbach's Alpha was used to test whether these scale items go together (interrelate) well enough to add them together for future use as composite variables.

As with other reliability coefficients, alpha should be above .70; however, it is common to see journal articles where one or more scales have somewhat lower alphas

(e.g., in the .60-.69 range), especially if there are only a handful of items in the scale. A very high alpha (e.g., greater than .90) probably means that the items are repetitious or that you have more items in the scale than are really necessary for a reliable measure of the concept (Leech et al. 2005)[38].

5.4.1 Customer orientation reliability test

As shown in table 2, Cronbach's alpha was computed in order to assess whether the 5 scale items of customer orientation formed a reliable scale. Accordingly the alpha for the 5 items was .84, which indicates that the items form a scale that has reasonable internal consistency/reliability.

Table 2: Reliability statistics for customer orientation

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,834	,841	5

5.4.2 Knowledge management items

As shown in table 3, Cronbach's alpha for the 4 scale items of knowledge management was .766, which indicates that good internal consistency.

Table 3: Reliability statistics for Knowledge management

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,766	,766	4

5.4.3 CRM organization items

Cronbach's Alpha was also computed for the four scale items of CRM organization as indicated in table 4, but the

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,613	,625	4

.625 alpha for the CRM organization scale indicated minimally adequate reliability. Even though, this alpha can be accepted as mentioned earlier (Leech et al. 2005).

6. ANALYSIS AND RESULTS

In this research, we examine the impact of CRM dimensions on occupancy rates in Moroccan hotels. As mentioned earlier, previous literature indicate that CRM dimensions positively affect firm performance.

6.1 Customer Orientation Strategies and Occupancy Rate

The first step in our analysis is to test the relationship between customer orientation strategies and customer retention in Moroccan hotels. Prior literature suggests that firms using customer oriented strategies enjoy higher customer satisfaction and therefore we estimate higher occupancy rates (Kim et al., 2006[32]; Sin et al., 2005[55] Asikhia, 2010[9]; Zhou et al, 2009)[67].

In order to test whether using customer oriented strategies leads to higher occupancy rates, we estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and the score of Customer orientation items (the mean of the 5 scale items of customer orientation) as an independent variable as shown in the subsequent regression equation:

$$\text{OCCUPANCY_RATE} = \alpha + \beta_1(\text{CUSTOMER_ORIENTATION}) + \varepsilon \quad (1)$$

The results of the above regression are reported in Table 5. As expected, our results show a significantly positive impact of customer orientation on occupancy rate.

Table 5: Relationship between customer orientation and occupancy rate

The table documents the relationship between Customer orientation and occupancy rate in Moroccan hotels. We estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and the score of Customer orientation items as an independent variable (CUSTOMER_ORIENTATION). For the purpose of completeness, we estimate the subsequent regression equation using Equation (1). A coefficient of 5% is used:

Subsequent Regression Equations

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	,877 ^a	,768	,765	7,47256%		
a. Predictors: (Constant), CUSTOMER_ORIENTATION						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14439,550	1	14439,550	258,592	,000 ^b
	Residual	4355,450	78	55,839		
	Total	18795,000	79			
a. Dependent Variable: OCCUPANCY_RATE						
b. Predictors: (Constant), CUSTOMER_ORIENTATION						
Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-39,913	5,669		-7,041	,000
	CUSTOMER_ORIENTATION	30,079	1,871	,877	16,081	,000
a. Dependent Variable: OCCUPANCY_RATE						

6.2 Knowledge Management and Occupancy Rate

The second step in our analysis is to test the relationship between knowledge management practices and occupancy rate in Moroccan hotels. Prior literature suggests that CRM can be successful only if customer information is effectively transformed to customer knowledge (Freeland 2003[21]; Plessis and Boon 2004)[47]. In order to test whether knowledge management leads to higher occupancy rates, we estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and the score of knowledge management scale items (the mean of the 4 items of knowledge management as used in the questionnaire) as an independent variable as shown in equation 2.

$$\text{OCCUPANCY_RATE} = \alpha + \beta_1(\text{KNOWLEDGE_MANAGEMENT}) + \varepsilon \quad (2)$$

The results of the above set of regressions are reported in Table 6. As expected, our results show a significantly positive impact of knowledge management on occupancy rate.

Table 6: Relationship between knowledge management and occupancy rate

The table documents the relationship between knowledge management and occupancy rate in Moroccan hotels. We estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and the score of knowledge management items as an independent variable (KOWLEDGE_MANAGEMENT) as was shown in equation 2. A coefficient of 5% is used:

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	,824 ^a	,680	,676	8,78446%		
a. Predictors: (Constant), KOWLEDGE_MANAGEMENT						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.

1	Regression	12775,994	1	12775,994	165,563	,000 ^b
	Residual	6019,006	78	77,167		
	Total	18795,000	79			

a. Dependent Variable: OCCUPANCY_RATE

b. Predictors: (Constant), KOWLEDGE_MANAGEMENT

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-43,370	7,342		-5,907	,000
	KOWLEDGE_MANAGEMENT	31,502	2,448	,824	12,867	,000

a. Dependent Variable: OCCUPANCY_RATE

6.3 CRM Organization and Occupancy Rate

The next step in our analysis is to test the relationship between CRM organization and occupancy rate in Moroccan hotels. Yim et al (2005) [66] demonstrate that CRM organization is essential for firms in order to change the way they organize their actual business processes for employees and customers. Prior literature also demonstrate that there is a positive impact of CRM organization on firm performance (Akrouh et al., 2011[5]; Sin et al., 2005).

In order to test whether CRM organization leads to higher occupancy rates, we estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and the score of CRM organization scale items (the mean of the 4 items of CRM organization as used in the questionnaire) as an independent variable (as shown in equation 3).

$$\text{OCCUPANCY_RATE} = \alpha + \beta_1(\text{CRM_ORGANIZATION}) + \varepsilon \quad (3)$$

The results of the above set of regressions are reported in Table 7. As expected, our results show a significantly positive impact of CRM organization on occupancy rate.

Table 7: Relationship between CRM organization and hotels occupancy rate

The tables document the relationship between CRM organization and occupancy rate in Moroccan hotels. We estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and the score of CRM organization items as an independent variable (CRM_ORGANIZATION) as was demonstrated in equation 3. A coefficient of 5% is used:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,670 ^a	,449	,442	11,51955%

a. Predictors: (Constant), CRM_ORGANIZATION

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8444,398	1	8444,398	63,635	,000 ^b
	Residual	10350,602	78	132,700		
	Total	18795,000	79			

a. Dependent Variable: OCCUPANCY_RATE

b. Predictors: (Constant), CRM_ORGANIZATION

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-49,820	12,610		-3,951	,000
	CRM_ORGANIZATION	34,249	4,293	,670	7,977	,000

a. Dependent Variable: OCCUPANCY_RATE

6.4 CRM Technology and Customer Retention

The fourth step in our analysis is to test the relationship between CRM technology use and occupancy rate in Moroccan hotels. CRM technologies help organizations to increase customer satisfaction, improve customer retention rates, and build profitable long-term customer relationships (Butler, 2000)[14].

We estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable, and a dummy variable for the use of CRM technology (yes or no) as an independent variable (CRM_TECHNOLOGY_DUMMY) as shown in equation 4.

$$\text{OCCUPANCY_RATE} = \alpha + \beta_1(\text{CRM_TECHNOLOGY_DUMMY}) + \varepsilon \quad (4)$$

The results of the above set of regressions are reported in Table 8. Our results show a significant positive impact of CRM technology on occupancy rate. These results confirm the findings of Butler (2000).

Table 8: Relationship between CRM technology use and hotels occupancy rate

The tables document the relationship between CRM technology use and occupancy rate in Moroccan hotels.

We estimate a regression with occupancy rate (OCCUPANCY_RATE) as a dependent variable and a dummy variable for the use of CRM technology (yes or no) as an independent variable (CRM_TECHNOLOGY_DUMMY) as shown in equation 4. A coefficient of 5% is used:

Model Summary							
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate			
1	,312 ^a	,097	,086	14,74880%			
a. Predictors: (Constant), CRM_TECHNOLOGY_DUMMY							
ANOVA ^a							
Model		Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	1827,882	1	1827,882	8,403	,005 ^b	
	Residual	16967,118	78	217,527			
	Total	18795,000	79				
a. Dependent Variable: OCCUPANCY_RATE							
b. Predictors: (Constant), CRM_TECHNOLOGY_DUMMY							
Coefficients ^a							
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta			
1	(Constant)		44,545	2,567		17,350	,000
	CRM_TECHNOLOGY_DUMMY		9,710	3,350	,312	2,899	,005
a. Dependent Variable: OCCUPANCY_RATE							

6.5 Robustness of Results

As a last step, we perform our analysis by including all CRM dimensions variables together in a single equation

$$\text{OCCUPANCY_RATE} = \alpha + \beta_1(\text{CUSTOMER_ORIENTATION}) + \beta_2(\text{KNOWLEDGE_MANAGEMENT}) + \beta_3(\text{CRM_ORGANIZATION}) + \beta_4(\text{CRM_TECHNOLOGY_DUMMY}) + \varepsilon$$

(equation 5).

Our regression equation takes the following form:

(5)

The results of the above set of regression are reported in Table 9. The results confirm our previous findings that hotels with better customer orientation strategies have higher occupancy rates. Knowledge management and CRM organization also have a significant positive impact

on occupancy rate in the hotels of our sample. However, we show that CRM technology use does not significantly affect occupancy rate as we test with the other dimensions in the same equation.

Table 9: Relationship between CRM dimensions (customer orientation, knowledge management, CRM organization, CRM technology) and occupancy rate.

The table documents the relationship between CRM dimensions (customer orientation, knowledge management, CRM organization, CRM technology) and occupancy rate in Moroccan hotels. The analysis is performed using Equation (5). A coefficient of 5% is used:

CRM Organization also have a significant positive impact

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	,901 ^a	,812	,802	6,86751%		
a. Predictors: (Constant), CUSTOMER_ORIENTATION, KNOWLEDGE_MANAGEMENT, CRM_ORGANIZATION, CRM_TECHNOLOGY_DUMMY.						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15257,802	4	3814,450	80,879	,000 ^b
	Residual	3537,198	75	47,163		
	Total	18795,000	79			

a. Dependent Variable: OCCUPANCY_RATE					
b. Predictors: (Constant), CUSTOMER_ORIENTATION, KNOWLEDGE_MANAGEMENT, CRM_ORGANIZATION, CRM_TECHNOLOGY_DUMMY.					
Coefficients^a					
Model		Unstandardized Coefficients		Standardized Coefficients	t
		B	Std. Error	Beta	
1	(Constant)	-60,254	7,609		-7,919
	CUSTOMER_ORIENTATION	19,451	3,454	,567	5,631
	KNOWLEDGE_MANAGEMENT	8,404	3,870	,220	2,172
	CRM_ORGANIZATION	9,006	3,400	,176	2,649
	CRM_TECHNOLOGY_DUMMY	1,549	1,684	,050	,920
a. Dependent Variable: OCCUPANCY_RATE					

7. CONCLUSION

This study examines the impact of CRM dimensions on occupancy rate in Moroccan hotels. CRM dimensions involve customer orientation, knowledge management, CRM organization, and CRM technology. Our results show that a better application of some of CRM dimensions leads to increasing occupancy rates, whereas no significant impact for others. We show that customer orientation, knowledge management, and CRM organization positively impact hotels occupancy rate. While CRM technology use has no significant impact on hotels performance (performance is measured by occupancy rate in our case). This confirm the findings of many studies that reveal that CRM is not mainly about technology but other dimensions can be of great significance to the success of CRM projects (Chetioui & Abbar, 2017[17]; Abdel Fattah, 2016[1]; Frederick et al. 2004)[22]

Though the study revealed interesting findings, it has some limitations. First, the measurements of customer retention rate and occupancy rates in the sample were based on hotels managers' answers which might be biased. Second, we used a dummy variable for CRM technology use to test whether the hotel uses or not the technology. So, whether the CRM technology was appropriately used or not and its effect of customer retention is to be examined in a future study.

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