Research Journal of Business Management

ISSN 1819-1932

Academic Journals Inc.

www.academicjournals.com

OPEN ACCESS Research Journal of Business Management

ISSN 1819-1932
DOI: 10.3923/rjbm.2017.28.38

Research Article
Impact of Customer Relationship Management on Brand Equity: Medical Tourist Perspective

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Abstract

Background and Objective: Building and maintaining positive and long-term relationships with customers is progressively significant in the highly stiff competitive marketplace for healthcare providers. Despite the awareness in customer relationship management, limited research has investigated customer relationship management consequences on brand equity. Therefore, the purpose of this study is to empirically examine the impacts of customer relationship management on brand equity building in the Jordanian medical tourism market. **Materials and Methods:** A questionnaire was distributed to 384 medical tourists treated in Amman at large private hospitals. Only 306 were further used for data analysis. The SPSS and structural equation modeling on AMOS were used for data analysis. **Results:** The outcomes of the study indicate that customer relationship dimensions (customer involvement, long-term association and joint problem solving) have a significant and positive impact on overall brand equity, whereas, knowledge management and technology-based CRM have an insignificant effect on overall brand equity. **Conclusion:** The study concludes that customer involvement, long-term association and joint problem solving are the only drivers to overall brand equity. As with most empirical field studies, it is remarkable to replicate this research in different settings. The outcomes indicate that not all customer relationship management activities contribute to the overall brand equity building. The findings of this research contribute practically to the healthcare management regarding the advantages of specific factors of customer relationship management in fostering brand equity building.

Key words: Customer relationships, customer service management, customer-based brand equity, brand equity, customer perception, medical tourism, jordan, SEM analysis

Received: September 22, 2016 Accepted: November 08, 2016 Published: December 15, 2016

Citation: F. Shriedeh and N.H. Abd. Ghani, 2017. Impact of customer relationship management on brand equity: Medical tourist perspective. Res. J. Business Manage., 11: 28-38.

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Competing Interest: The authors have declared that no competing interest exists.

Data Availability: All relevant data are within the paper and its supporting information files.

INTRODUCTION

Now-a-days, because of information technology advances and globalization, in turn, the diversification of customers' behavior, customers' demands and new forms of competition, developing and maintaining positive long-term relationships with customers through Customer Relationship Management (CRM) is becoming an imperative issue for firms, even in medical tourism industry. The ultimate goal of CRM is to quickly respond to changeable customer request and to provide customized and interactive experience, in order to translate significant relationships with customers into higher profits by increasing customer loyalty and improving customer retention[1-4].

In Jordanian private healthcare sector, the sole of medical tourism, works in a highly aggressive competitive business environment, making it vulnerable to regional and international competition[5]. Dubai, Lebanon and KSA are well-placed to attract medical tourists. As a result, Jordan is observing a large drop in medical tourist arrivals since 2013 until now, which is primarily due to the lack of valid relationship with medical tourists[6], specifically in the era of information technology[7]. Thus, to remain competitive, developing strong relationships with customers have been exceedingly recognized as a fruitful competitive strategy to affect medical tourists' perception towards a brand[8,9].

Clearly, a large body of existing literature has recognized the key contribution of CRM. Therefore, the majority of recent research on CRM focused on a particular service setting; where medical tourism is exclusion[2,3]. Consequently, empirical investigation on CRM in the healthcare-medical tourism is still limited[10,11]. In addition, existing studies on CRM has been limited conducted within developed countries, where obviously there is still a marked limited empirical study investigating CRM in developing countries[10,12,13]. Furthermore, a number of literature indicates that CRM is still under development and more studies are still needed in terms of CRM and subjective medical tourism performance, such as brand equity building[12,10,14,15]. Moreover, what exactly encompasses CRM is still under discussion[12,16,17]. Thus, there is a great opportunity for fertilizing literature about CRM dimensions and medical tourism brand equity. Not yet, in a study by Akroush *et al.*[12], they call for creative studies to be employed from customers' perspectives regarding CRM (e.g., medical tourist) and its effect on brand equity building[18].

Based on the preceding discussion, this study looks to fill up the gap by combining the most popular CRM activities in one research framework and investigating the effect of CRM and its dimensions on Jordanian medical tourism-brand equity, medical tourist's perspective.

Customer relationship management: Developing favorable relationships with customers have made significant contribution toward customer-based brand equity theory in different research settings[9]. In particular, establishing long-lasting relationships with customers provides a powerful platform for attaining competitive advantage and brand success[19,20]. However, with increasing interest in CRM, there is still no commonly agreed concept of CRM[12,16,21], pertaining on context and viewed perspective (e.g., technology, philosophy, strategy, process, capability). For example, Wang and Feng[22] defined CRM as "A core organizational process that focuses on establishing, maintaining and enhancing long-term associations with selective customers to create superior value for the company and the customer". According to them, CRM is viewed as a multi-dimensional construct made up of knowledge management, interaction, relationship upgrading and win-back. Sin *et al.*[17] referred CRM to "Comprehensive strategy and process that enables an organization to identify, acquire, retain and nurture profitable customers by building and maintaining long-term relationships with them". This definition indicated that CRM is a multi-dimensional construct covering: Customer focus, knowledge management, technology-based CRM and CRM organization[12].

Abdullateef *et al.*[21] defined CRM as "Organization's ability to efficiently integrate people, process and technology in maximizing positive relationships with both current and potential customers". In this line, customer orientation dimension was identified and added to CRM dimensions. From this perspective, CRM includes customer orientation, knowledge management, technology-based CRM and CRM organization[2]. According to Lin *et al.*[23], CRM is closely related to several activities to foster customer relationships and to gain competitive capabilities. Theses activities are customer involvement, information sharing, technology-based CRM, problem solving and long-term association with customers. It is noteworthy that information sharing is an underlying activity of knowledge management[12,17]. Various studies have reported the vital role of knowledge management as an important element of CRM[21,12,22]. Therefore, this study integrated the most popular activities of CRM (customer involvement, knowledge management, technology-based CRM, joint problem solving and long-term association) in one construct as important components of CRM in the context of healthcare-medical tourism. This thinking is in line with the general idea that successful CRM is basically "Based on the premise of integrating people, processes and technology throughout the value chain to understand and deliver customer value better[24]". The CRM dimensions are to be described briefly below:

Knowledge management: It describes the process that is directed toward acquiring information about customer's needs through interaction or touch points, sharing customer knowledge throughout different departments and acting on the knowledge generated and disseminated[12]. These functions corresponded to knowledge learning and generation, knowledge dissemination and sharing and knowledge responsiveness[17]. Managing customer knowledge effectively is a critical element for building strong relationships with customers, which also would have a positive impact on a business's success[12,25].

Technology-based CRM: Accurate customer data is fundamental driver to significant CRM performance[21,26], for which, technology had played a great role in CRM applications through adding value to a firm's intelligence performance[26,27]. Actually, with the advancement in information technology, organizations are striving to consolidate the latest computer technology into CRM[27], which would offer not only a technical assistance to customers, but also a better responding to the needs of customers and therefore, building and retaining enduring customer relationships[21,27]. The end results sought by technology-based CRM would be superior customer value, which in turn would enhance the firm performance[2,21,28].

Customer involvement: Involving customers in the business activities would normally provide firms with a better understanding of future demands[12,23,29]. More recently, business firms have started to involve customers in the market evaluation, idea generation, product development and marketing process, which should enhance business profitability and customer loyalty, particularly in a high contact environment[12].

Long-term association: Developing and maintaining long-term associations entail high degrees of mutual trust and commitment between involved parties[23,29]. In this relationship, both parties must enjoy similar goals and hold mutual profits in a fair and reliable manner[29,23]. In such way, effective long-term business performance is assured[17].

Joint problem solving: It depends on mutual collaboration between two parties in solving the existing problems and sharing unexpected situations[30]. From this perspective, joint problem solving is associated with better customer satisfaction and enhances relationship performance[31].

Brand equity: Branding is one of the most central dominant construct in the medical tourism industry. This is because a strong brand represents an important valuable intangible asset for businesses to differentiate their services and to create competitive advantage in a highly crowded environment[32-34]. Among the other branding key concepts is brand equity. No doubt, building strong brand equity makes medical tourism industry able to gain higher rates of customer satisfaction and customer loyalty, higher profit margins and decreases marketing expenses[35,36]. In addition, a brand with strong equity is crucial factor for building competitive medical tourism advanatges and also a marketing strategy of differentiation[37]. These benefits would reflect the added value of brand equity for the company and for the customer[38].

With original study of Farquhar[38] and Aaker[39] defined brand equity as the mix of assets that are attached with the brand name, such as loyalty, perceived quality, awareness and other proprietary assets. On the other hand, Keller[36] stated that brand equity lies in brand knowledge and its positive associations. Nevertheless, Aaker[39] and Keller[36] definitions were based on the agreement that the power of a brand resides in the customer minds as known as "Customer-based brand equity[40,35]". In this line, Yoo and Donthu[41] and Yoo *et al.*[42] referred brand equity to different customers' response between a branded and unbranded product, when both of them have the same degree of marketing motive and product attributes. On the other hand, brand equity was conceptualized according to the financial value or monetary of a brand, as known as "Financial-based brand equity[43]".

Previous studies used a set of dimensions to measure customer-based brand equity. Among the most used dimensions that were recommended by Aaker[39] and gained a considerable attention in the literature include: Brand awareness, brand association, perceived quality and brand loyalty. Keller[36] stated that brand equity can be measured in terms of brand knowledge, such as brand awareness and associations. Collectively, Yoo *et al.*[42] focused on Aaker[39] and Keller[36] brand equity dimensions and proposed brand equity model that combined brand loyalty, perceived quality and brand awareness/associations in one construct termed overall brand equity[41]. Their model was the first empirically investigating the effect of the marketing mix (4Ps) on brand equity building. However, due to their study limitations, they recommended that an investigation of further marketing activities is essential to enhance the exploration of brand equity development in contexts other than students and product category. Therefore, this study aims to focus on customer-based overall brand equity model. This model has been previously used by many scholars in the literature[30,44-46].

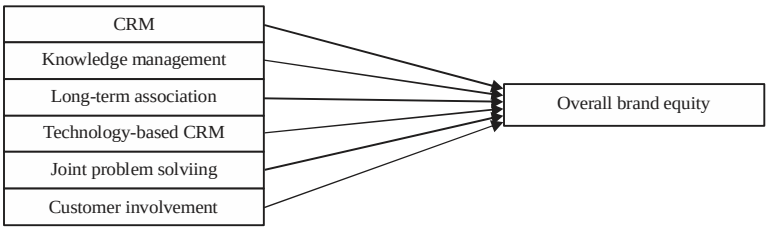

Fig. 1: Research model

Customer relationship management and brand equity: As stated above, this study is the first attempt to explore the role of CRM and its combined dimensions on overall brand equity into a consolidated framework in the context of medical tourism brands, depending on medical tourist's perspective, as shown in Fig. 1, CRM and its dimensions demonstrates the independent variable whereas, overall brand equity demonstrates the dependent variable. Realizing the direct relationships between the provided variables would offer valuable indications and guidelines for practitioners and future study.

Based on the review of the previous literature, it concluded that CRM had a significant effect on overall brand equity[6]. Furthermore, certain empirical studies found that CRM had significant impact on brand equity dimensions, such as brand loyalty[47] and brand image[48]. Moreover, in a many previous studies by Hajikhani *et al*.[49] and Amir *et al*.[50] they had demonstrated that the relationship between knowledge management and technology-based CRM toward brand loyalty was positive and significant. Similarly, Wang *et al*.[51] stated that knowledge management towards brand equity is statistically significant. In addition, trust and commitment of long-term association were found to have a positive effect on brand loyalty and brand awareness[52]. The above discussion claimed that CRM is an important predictor of brand equity. Particularly, service providers that manage customer relationships effectively will profit stronger capabilities in building strong brand equity. Therefore, the following hypothesis are introduced:

H1: The CRM has a positive effect on overall brand equity

H1a: Knowledge management has a positive effect on overall brand equity

H1b: Long-term association has a positive effect on overall brand equity

H1c: Technology-based CRM has a positive effect on overall brand equity

H1d: Joint problem solving has a positive effect on overall brand equity

H1e: Customer involvement has a positive effect on overall brand equity

MATERIALS AND METHODS

A questionnaire was used for data collection purposes, from a number of medical tourists at five biggest private hospitals in the capital of Jordan, Amman, which represents the "Hub of medical tourists". These hospitals were purposively chosen based on their location, multi-purpose medical centers and bed capacity. Only medical tourists were selected to answer the questionnaire, because they have the fresh experience and knowledge about the medical tourism brands. As reported by the private hospital association, the total number of medical tourists in Jordan for the year of 2015 exceeds 100,000. Therefore, a 384 sample size is employed to collect the data from medical tourists[53]. The systematic random sampling approach was further used specifically, every 4th medical tourist receiving medical services in the selected private hospitals from February-April, 2016 was kindly requested to fill the questionnaire according to their perception in relation to the healthcare brand in use. The survey questionnaire was personally delivered to medical tourists during their regular visit to the health care units. However, out of 384 surveys, 45 questionnaires were not returned and 33 were not valid for data analysis. Thus, only 306 surveys were used for data analysis, producing 79.7% response rate. This response rate is considered high due to the self data collection and in line with previous studies[54].

The instrument of constructs in the present study was piloted conducting personal interviews, with professionals in CRM and branding in medical tourism. Furthermore, 100 questionnaires with minor alterations in wording were distributed to medical tourists in order to investigate its appropriateness for the study purposes. All the measurement items are found to have high reliability and high validity for further questionnaire distribution. All of the instruments were constructed on a seven-point Likert scale ranging from strongly disagree to strongly agree. Four items were adapted from Sin *et al*.[17] to measure knowledge management. Six items were adapted from Lin *et al*.[23] to measure long-term association. Technology-based CRM was measured using five items, which were adapted from Sin *et al*.[17] and one more item was adapted from Lin *et al*.[23]. Joint problem solving and

customer involvement were measured using three items and five items, respectively adapted from Lin *et al*.[23]. Besides, the scale used for measuring overall brand equity was based on ten items adapted from Vatjanasaregagul[55] and one more item which was developed with key branding experts in medical tourism.

Characteristics of the respondents: From frequency output, the majority of medical tourists consisted of 170 males (55.6%) and 136 females (44.4%). Further, the majority of them were aged in between 36-45, hold bachelor degree 147 (48%) and married 204 (66.7%). In terms of monthly income, more than 50% were earning less than US $1000 and only 16 of them were earning more than US $3000 (5.2%). As expected, the majority of medical tourists originated from the Middle East and North Africa with 189 (61.7%) from the Middle East and only 101 (33%) from North Africa.

Construct validity and reliability: Different methods were used to assess face validity, content validity and construct validity. The pilot test was conducted to achieve face validity through five academics from the college of business in Jordan, who evaluated the appropriateness of research instrument to research objectives and supporting proof of face validity. For content validity issues, the research instruments that were used in this study were based on previous empirical literature on CRM and brand equity, as well as conducting the pilot study, supporting the validity of research content[56].

Construct validity was assessed through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) as recommended by Hair *et al*.[57]. The key assumptions of EFA were followed using SPSS version 21: Kaiser-Meyer-Olkin (KMO) of sampling adequacy >0.5, eigenvalue per factor >1, noting the sample size, analysis of the factor loading ≥0.50 and varimax rotation approach that simplifies the explanations of factors was also used[58]. For CFA, the goodness of model fit using AMOS version 21 were followed: Factor loading ≥0.5, considering the sample size, regardless of chi-square[59] value at p≥0.05, the Goodness of Fit Index (GFI) >0.80, Average Goodness of Fit Index (AGFI) >0.80, Comparative Fit Index (CFI) >0.9, Tucker-Lewis Index (TLI) >0.9 and Root Mean Square Error of Approximation (RMSEA) <0.08.

RESULTS

The findings of EFA for the CRM measurement scale indicate that only 21 items loaded on five factors namely, technology-based CRM, long-term association, customer involvement, knowledge management and joint problem solving. All items had factor loading above 0.50 (from 0.577-0.849). In addition, KMO value was above 0.5 (0.922) and supported by Bartlett's test of sphericity (Significant = 0.00) confirming that factor analysis is proper for further analysis. Also, the eigenvalue for all components were above 1, the five factors explain 71.819% of the total variance. Besides, the EFA results for overall brand equity showed that all items were loaded perfectly on overall brand equity component and supported with factor loadings above 0.5, ranged from 0.778-0.893. Further, KMO was above 0.5 (0.954) and Bartlett's test of sphericity (Significant = 0.00) supporting that factor analysis is proper for further analysis. Also, the eigenvalue for overall brand equity were above 1, explaining 73.663 % of the total variance. All the above explanations are shown in Appendix 1 and 2, respectively.

The CFA was used in order to validate the results that manifested from EFA for CRM. The results indicated that the goodness-of-fit index were satisfied at chi-square (360.147, p = 0.000), GFI (0.893), AGFI (0.849), TLI (0.916), CFI (0.933) and RMSEA (0.079). All in all, the CFA model fit indices for the CRM indicated that the model fits the data well[57], producing 17 items. Besides, the factor loadings resulted from CFA showed that all items were loaded perfectly on CRM component and supported with factor loadings above 0.5, ranged from 0.552-0.897 as shown in Appendix 3.

In order to validate the results that manifested from EFA for overall brand equity. The results indicated that the goodness-of-fit index were satisfied at chi-square (23,919 p = 0.004), GFI (0.977), AGFI (0.946), TLI (0.984), CFI (0.991) and RMSEA (0.067). The CFA model fit indices for the overall brand equity indicated that the model fits the data well[57], producing 6 items with factor loadings above 0.50 (from 0.775-0.845) as shown in Appendix 4.

Convergent validity has been supported since the composite reliability for each construct was above 0.70 as well as the Average Variance-Extracted (AVE) was also above 0.50 as suggested by Bagozzi[60], producing proof of convergent validity as shown in Table 1.

Table 1: Convergent validity test

Construct	Cronbach's alpha	Composite reliability	AVE
Joint Problem Solving (JPS)	0.887	0.887	0.724
Technology-based CRM (TBC)	0.827	0.842	0.576
Long-Term Association (LTA)	0.833	0.845	0.578
Customer involvement (CUI)	0.852	0.852	0.657
Knowledge management (KMG)	0.848	0.852	0.659
Overall Brand Equity (OBE)	0.927	0.870	0.690

Cronbach's alpha was employed to evaluate the internal consistency of the individual constructs. In Table 2, the results supporting the constructs reliability since all Cronbach's alpha values were above the threshold value[57] 0.70. Also, all composite reliability values were above the threshold value 0.70, supporting the reliability.

Structural analysis and hypotheses testing: In order to test the effect of CRM dimensions on overall brand equity (H1a-H1e), the first order structural model-goodness-of-fit index was evaluated, providing a good model fit. For example, chi-square value was 554.062 at (p = 0.000), GFI value (0.876), AGFI value (0.841), CFI value (0.939), TLI value (0.929) and RMSEA value (0.066). These findings suggested that the structural model fits the data well[57]. The structural path results demonstrated that all the hypotheses were supported, except Ha1 and H1c as seen in Table 3.

Discriminant validity is supported by the fact that the square root of AVE value for a given construct was higher than the absolute correlations of that construct and all other constructs[61]. Table 2 provides an evidence of discriminant validity.

From AMOS output, the results revealed that long-term association has a significant and positive effect on overall brand equity (β = 0.326, t-value = 2.688, p<0.01) thus H1b is confirmed. The impact of joint problem solving on overall brand equity also has a positive and significant effect (β = 0.243, t-value = 3.301, p<0.001), hence, H1d is also supported. Moreover, the results revealed that customer involvement has significant positive impact on overall brand equity (β = 0.332, t-value = 2.144, p < 0.05), therefore, H1e is confirmed. In contrast with the above mentioned results, knowledge management (β = 0.071, t-value = 0.861, p>0.05) and technology-based CRM (β = 0.019, t-value = 0.295, p>0.05) were found to be not significant. Therefore, H1a and H1c are not supported. Besides, customer involvement has the strongest effect on overall brand equity (β = 0.332), followed by long-term association (β = 0.326) and joint problem solving (β = 0.243).

Furthermore, the second order structural model-goodness-of-fit index was evaluated to test the effect of an overall CRM on overall brand equity, providing a good model. For instance, chi-square value was 573.141 at (p = 0.000), GFI value (0.872), AGFI value (0.843), CFI value (0.938), TLI value (0.930) and RMSEA value (0.065).These findings suggested that the structural model fits the data well[57]. From AMOS output, the structural path result indicates that overall CRM has a significant and positive effect on overall brand equity (β = 0.829, t-value = 11.840, p<0.001), thus, H1 is supported.

Table 2: Discriminant validity test

Construct	JPS	TBC	LTA	CUI	KMG	OBE
JPS	0.851*					
TBC	0.546	0.759*				
LTA	0.696	0.536	0.760*			
CUI	0.678	0.458	0.742	0.811*		
KMG	0.645	0.528	0.721	0.616	0.812*	
OBE	0.618	0.423	0.655	0.594	0.575	0.831*

*Diagonal items are square root of AVE's, below diagonal are absolute correlations

DISCUSSION

This study ultimately participated to the customer-based brand equity theory. Specifically, the implementation of CRM in building brand equity further enhances the brand equity model of Yoo *et al.*[42]. In addition, a vital insight into CRM (the other marketing efforts) with the capability to enhance the development of brand equity, particularly from channel setting has been established. Further, the employment of this study in Jordanian medical tourists highlights another perspective of measuring overall brand equity rather than consumers and products.

Besides, the significant contribution of CRM provides a pure implication for medical tourism providers to practice the CRM approach in their building medical destination brand equity, a result that is harmonic with previous study[20,4]. Therefore, the suggestion that CRM is a vital source of competitive advantage through brand equity[62] was enhanced in this study. However, healthcare providers seeking to maintain medical tourists' brand equity must obviously realize that not all CRM activities contribute to the desired level of brand equity. A strong emphasis for the customer involvement activity, such as meeting with patients to explore their preferences, offers healthcare more outstanding and

Table 3: Regression analysis results

Hypothesis	Estimate	t-value	p-value
H1: CRM has a positive effect on overall brand equity	0.829	11.84	-
H1a: Knowledge management has a positive effect on overall brand equity	0.071	0.861	0.941
H1b: Long-term association has a positive effect on overall brand equity	0.326	2.688	0.005
H1c: Technology-based CRM has a positive effect on overall brand equity	0.019	0.295	0.541
H1d: Joint problem solving has a positive effect on overall brand equity	0.243	3.301	0.001
H1e: Customer involvement has a positive effect on overall brand equity	0.332	2.144	0.013

fosters their knowledge of their patients' behavioral aspects, particularly in terms of their brand preferences and actual brand selection. This result is in line with Jalali and Sardari[63] who indicated that customer involvement had a significant effect on brand leadership. Besides, this result clearly supports the argument by Sharma *et al*.[64] who stated that medical tourism heads' concern with patient involvement will directly affect the patient behavior consequences such as brand equity, due to the greater communication that connected with the greater level of healthcare contact environment.

Furthermore, long-term association of CRM emerged as another key determinant of brand equity. This outcome further supports the observation made by Toma *et al*.[30] that is the long-term performance (e.g., brand equity) is more closely to the firm where long-term association is an important element. This result is in contrast with Lin *et al*.[23] who found that long-term association had an insignificant effect on supply chain performance. Moreover, the presentation of joint problem solving as an important dimension strengthens the argument by Toma *et al*.[30] and Jalali and Saradari[63], stressing the significant role of joint problem solving in developing the performance of the firm. Hence, the above findings provide remarkable evidence of the significant effect, specifically for the Jordanian medical tourism. This further explains that a good focus on patient-oriented practices by a healthcare in terms of patient involvement, long-term association and joint problem solving will enhance the development of brand equity carried by a healthcare.

Paradoxically, technology-based CRM showed insignificant influence on the performance metric. This finding resists the general belief that CRM mostly depends upon the technology. This highlights the voice that CRM is beyond technology and approaching CRM from the technology perspective only, can contribute to CRM failure[65]. Thus, technology is just a tool that only makes the business efforts more dynamic. As Osarenkhoe and Bennani[66] warned: "CRM is a strategic business and process issue, not merely a technology solution as most often conceived in practice". Moreover, Gummesson[67] stated that "By boosting the role of IT too far, marketing becomes technology and production obsessed and loses in customer orientation". Surprisingly, knowledge management also showed insignificant influence on the brand equity. Despite the vital role of knowledge management in supporting CRM success, service providers may face struggles in building a knowledge environment because of the lack of sufficient culture, such as business values and adequate learning methods[68,69]. The insignificant role of knowledge management supports the results postulated by Akroush *et al*.[12] in their CRM-business performance investigation. In addition, viewing knowledge management from a limited IT perspective can lead to the damage of knowledge management projects. This view is also stated by Davenport and Prusak[70] and Lee and Choi[71], approaching knowledge management only through IT can be risky.

This important result mainly presents marked indications of the non-significant effect, specifically for the Jordanian medical tourism context. Accordingly, the result enhances the cognition that technology-based CRM and knowledge management are not direct donators of brand equity in medical tourism in Jordan. Besides, the technology advancement (e.g., IT and IS) may differ from context to context, therefore, the findings may also be different. However, the insignificant effect of such variables on brand equity when investigated in a multivariate context does not denote they are not remarkable, "For relationships among the independent variables may mask relationships that are not needed for predictive purpose but nonetheless, present key findings[1]".

A number of contributions are presented in this study. First, despite the importance of CRM for gaining superior performance (e.g., brand equity), still a limited empirical research linking CRM with brand equity in medical tourism industry using medical tourist perspective. Second, this study integrated most popular CRM mechanisms in one framework. This model is considered as a novel stepping stone for further research in medical tourism services on CRM. Third, this study was capable to provide a better understanding for CRM implementation in healthcare services, dimensions such as customer involvement associated with long-term and problem solving, which are essential for the effective CRM success and for building strong brands. Fourth, this study was the first study committed to test CRM practices and subjective business performance in healthcare-medical tourism services, in emerging markets particularly in Jordan.

CONCLUSION AND LIMITATIONS OF STUDY

This study has some limitations. First, this study is limited to five CRM dimensions, future research may add more dimensions. Second, this study is limited to a single service context in Jordan, future researches are recommended to investigate these dimensions on different contexts, different cultures and different perspectives. Third, this study is limited to only CRM and brand equity building and therefore, future research is suggested to test antecedents and consequences of both strategic factors and their effects on performance. Finally, this research is limited to the direct effect of CRM on brand equity, future studies are suggested to investigate the indirect path between CRM and brand equity building.

In the excessively competitive medical tourism industry, CRM is one of the most imperative competitive existence strategies to enhance a medical tourism's brand equity and to improve a medical tourism's competitive advantage. However, a comprehensive framework that is empirically employed to identify the linkages between the multidimensional concept of CRM toward brand equity is still missing. Therefore, this study the first empirically examines the effect of five CRM dimensions on medical tourism overall brand equity in Jordan.

The findings highlight that only three activities of CRM contribute to brand equity building. Customer involvement has the strongest influence, followed by long-term association and joint problem solving. In contrast, technology-based CRM and knowledge management do not contribute to brand equity building. Therefore, decision makers in medical tourism industry must pay attention to the medical tourist behavioral activities to foster their brand equity and thus, to maintain a competitive advantage.

ACKNOWLEDGMENT

We would like to thank those who participated in this study for sharing their experiences with us, field experts, private hospital and medical tourists.

Appendix 1: EFA results of CRM

Items	TBC	LTA	CUI	KMG	JPS	Eigenvalues	Variance (%)
TBC2	0.824					9.607	71.819
TBC1	0.806						
TBC3	0.796						
TBC5	0.680						
TBC4	0.604						
LTA5		0.738				1.954	
LTA4		0.712					
LTA2		0.705					
LTA3		0.669					
LTA1		0.641					
CUI3			0.849			1.483	
CUI2			0.798				
CUI4			0.728				
CUI1			0.577				
KMG3				0.792		1.115	
KMG4				0.734			
KMG1				0.712			
KMG2				0.615			
JPS1					0.791	1.058	
JPS3					0.779		
JPS2					0.761		
KMO of sampling adequacy						0.922	
Bartlett's test of sphericity				Chi-square		5030.916	
				Degree of freedom		210	
				Significant		0.000	

Appendix 2: EFA results of overall brand equity

Items	OVE	Eigenvalues	Variance (%)
OBE1	0.893	8.103	73.663
OBE7	0.890		
OBE8	0.879		
OBE4	0.878		
OBE2	0.864		
OBE6	0.863		
OBE11	0.859		
OBE3	0.858		
OBE9	0.854		
OBE5	0.819		
OBE10	0.778		
KMO of sampling adequacy			0.954
Bartlett's test of sphericity	Chi-square		4123.576
	Degree of freedom		55
	Significant		0

Appendix 3: CFA results of CRM

Construct	Item	Factor loading
Knowledge management	KMG1	0.766
	KMG3	0.784
	KMG4	0.880
Lont-term association	LTA1	0.817
	LTA2	0.741
	LTA3	0.733
	LTA4	0.747
Technology-based CRM	TBC1	0.817
	TBC2	0.822
	TBC3	0.810
	TBC4	0.552
Joint problem solving	JPS1	0.802
	JPS2	0.897
	JPS3	0.851
Customer involvement	CUI1	0.834
	CUI2	0.844
	CUI3	0.751

Appendix 4: CFA of overall brand equity

Construct	Item	Factor loading
Overall brand equity	OVE2	0.829
	OVE3	0.836
	OVE6	0.827
	OVE9	0.849
	OVE10	0.775
	OVE11	0.845

REFERENCES

1. ElKordy, M., 2014. The impact of CRM capability dimensions on organizational performance. Eur. J. Bus. Social Sci., 2: 128-146.
2. Mohammed, A.A. and B.B. Rashid, 2012. Customer Relationship Management (CRM) in hotel industry: A framework proposal on the relationship among CRM dimensions, marketing capabilities and hotel performance. Int. Rev. Manage. Market., 2: 220-230.
3. Shang, K.C. and C.S. Lu, 2012. Customer relationship management and firm performance: An empirical study of freight forwarder services. J. Mar. Sci. Technol., 20: 64-72.
4. Fozia, R.N., S.M. Shiamwama and K.N. Otiso, 2014. Impact of customer relationship management as a strategy for competitive advantage in Kenyan public Universities: A case study of Moi University. Int. J. Bus. Humanities Technol., 4: 136-145.
5. Al-Azzam, A.F.M., 2016. A study of the impact of marketing mix for attracting medical tourism in Jordan. Int. J. Market. Stud., 8: 139-149.
6. Alabdallat, M., 2015. Medical tourism in Jordan, a rich past and an unknown future. https://www.linkedin.com/pulse/medical-tourism-jordan-rich-past-unknown-future-alabdallat-ph-d-usa
7. Matar, N. and M. Alnabhan, 2014. Evaluating e-health services and patients requirements in Jordanian hospitals. Int. Arab J. e-Technol., 3: 250-257.
8. Abbasi, H., H.R. Abbasi, M. Hajirasouliha and A. Faraji, 2014. Investigating the effects of different levels of CRM investment on development of brand equity. Manage. Sci. Lett., 4: 647-650.
9. Hilman, H. and J. Hanaysha, 2015. The impact of country of origin on relationship quality: Empirical evidence from automotive industry. Mediterranean J. Social Sci., 6: 165-174.
10. Chahal, H., 2010. Two component customer relationship management model for healthcare services. Managing Ser. Qual.: Int. J., 20: 343-365.
11. Chahal, H. and N. Kumari, 2011. Evaluating customer relationship dynamics in healthcare sector through indoor patients' judgement. Manage. Res. Rev., 34: 626-648.
12. Akroush, M.N., S.E. Dahiyat, H.S. Gharaibeh and B.N. Abu-Lail, 2011. Customer relationship management implementation: An investigation of a scale's generalizability and its relationship with business performance in a developing country context. Int. J. Commerce. Manage., 21: 158-190.
13. Alsmadi, S. and I. Alnawas, 2011. Empirical investigation of the CRM concept in the Jordanian context: The case of banks and financial institutions. Int. J. Bus. Manage., 6: 182-195.
14. Chang, H.H., K.H. Wong and P.W. Fang, 2014. The effects of customer relationship management relational information processes on customer-based performance. Decision Support Syst., 66: 146-159.
15. Loureiro, S.M.C., R. Lopes and H.R. Kaufmann, 2014. How brand personality, brand identification and service quality influence service brand equity. Cogent Bus. Manage., Vol. 1. 10.1080/23311975.2014.981329.
16. Gholami, S. and M.S. Rahman, 2012. CRM: A conceptual framework of enablers and perspectives. Bus. Manage. Res., 1: 96-105.
17. Sin, L.Y.M., A.C.B. Tse and F.H.K. Yim, 2005. CRM: Conceptualization and scale development. Eur. J. Market., 39: 1264-1290.
18. Murtiasih, S., S. Sucherly and H. Siringoringo, 2014. Impact of country of origin and word of mouth on brand equity. Market. Intell. Plann., 32: 616-629.
19. Dib, H. and A. Alhaddad, 2014. The hierarchical relationship between brand equity dimensions. Eur. Scient. J., 10: 183-194.
20. Lingavel, D., 2015. Impact of customer relationship management on brand equity: Private hospitals in Jaffna. Eur. J. Bus. Manage., 7: 69-80.
21. Abdullateef, A.O., S.S.M. Mokhtar and R.Z. Yusoff, 2010. The impact of CRM dimensions on call center performance. Int. J. Comput. Sci. Network Secur., 10: 184-194.
22. Wang, Y.G. and H. Feng, 2008. CRM capability in service industries: Conceptualization and scale development. Proceedings of the IEEE International Conference on Service Operations and Logistics and Informatics, October 12-15, 2008, Beijing, pp: 83-88.
23. Lin, R.J., R.H. Chen and K.K.S. Chiu, 2010. Customer relationship management and innovation capability: An empirical study. Ind. Manage. Data Sys., 110: 111-133.

24. Kim, J.W., J. Choi, W. Qualls and J. Park, 2004. The impact of CRM on firm- and relationship-level performance in distributed networks. Commun. Assoc. Infom. Syst., Vol. 14.
25. Mohammad, A.A., B.B. Rashid and S.B. Tahir, 2013. Assessing the influence of Customer Relationship Management (CRM) dimensions on organization performance: An emperical study in the hotel industry. J. Hosp. Tourism Technol., 4: 228-247.
26. Sadek, H., A. Yousef, A. Ghoneim and P. Tantawi, 2011. Measuring the effect of Customer Relationship Management (CRM) components on the non financial performance of commercial bank: Egypt case. Proceedings of the European, Mediterranean and Middle Eastern Conference on Information Systems, May 30-31, 2011, Athens, Greece, pp: 30-31.
27. Yim, F.H.K., R.E. Anderson and S. Swaminathan, 2004. Customer relationship management: Its dimensions and effect on customer outcomes. J. Pers. Selling Sales Manage., 24: 263-278.
28. Ali, N., N.F. Habidin, N.H. Jamaludin, N.A. Khaidir and N.A. Shazali, 2013. Customer relationship management and organizational performance in Malaysian healthcare industry. Int. J. Adv. Res. Technol., 2: 1-5.
29. Ghafari, P., R. Karjalian and A. Mashayekhnia, 2011. Studying the relationship between different dimensions of CRM and innovation capabilities in Melli bank of Iran. World Acad. Sci. Eng. Technol., 60: 906-910.
30. Toma, M., L. Mihoreanu and A. Ionescu, 2014. Innovation capability and customer relationship management: A review. Econ. Manage. Financial Markets, 9: 323-331.
31. McEvily, B. and A. Zaheer, 2006. Does Trust Still Matter? Research on the Role of Trust in Inter-Organizational Exchange. In: Handbook of Trust Research, Bachmann, R. and A. Zaheer (Eds.). Edward Elgar Publishing, USA., pp: 280.
32. Amini, A., M. Darani, M. Afshani and Z. Amini, 2012. Effectiveness of marketing strategies and corporate image on brand equity as a sustainable competitive advantage. Interdisciplin. J. Contemp. Res. Bus., 4: 192-205.
33. Hanaysha, J. and H. Hilman, 2015. Strategic effects of product innovation, service quality and relationship quality on brand equity. Asian Soc. Sci., 11: 56-72.
34. Taleghani, M. and M. Almasi, 2011. Evaluate the factors affecting brand equity from the perspective of customers using Aaker's model. Kuwait Chapter Arabian J. Bus. Manage. Rev., 1: 64-76.
35. Hanaysha, J., 2016. Building brand equity through customer service: A study on restaurant industry in Malaysia. J. Res. Bus. Econ. Manage., 5: 678-685.
36. Keller, K.L., 1993. Conceptualizing, measuring and managing customer-based brand equity. J. Market., 57: 1-22.
37. Kayaman, R. and H. Arasli, 2007. Customer based brand equity: Evidence from the hotel industry. Manage. Serv. Qual., 17: 92-109.
38. Farquhar, P.H., 1989. Managing brand equity. Market. Res., 1: 24-33.
39. Aaker, D.A., 1991. Managing Brand Equity. Free Press, New York, USA., ISBN-13: 978-0029001011, Pages: 299.
40. Buil, I., E. Martinez and L. de Chernatony, 2013. The influence of brand equity on consumer responses. J. Consumer Market., 30: 62-74.
41. Yoo, B. and N. Donthu, 2001. Developing and validating a multidimensional consumer-based brand equity scale. J. Bus. Res., 52: 1-14.
42. Yoo, B., N. Donthu and S. Lee, 2000. An examination of selected marketing mix elements and brand equity. J. Acad. Market. Sci., 28: 195-211.
43. Simon, C.J. and M.W. Sullivan, 1993. The measurement and determinants of brand equity: A financial approach. Market. Sci., 12: 28-53.
44. Mohan, B.C. and A.H. Sequeira, 2016. The impact of customer-based brand equity on the operational performance of FMCG companies in India. IIMB Manage. Rev., 28: 13-19.
45. Mostafa, R.H.A., 2015. The impact of country of origin and country of manufacture of a brand on overall brand equity. Int. J. Market. Stud., 7: 70-83.
46. Zarantonello, L. and B.H. Schmitt, 2013. The impact of event marketing on brand equity: The mediating roles of brand experience and brand attitude. Int. J. Advertising, 32: 255-280.
47. Khedkar, E.B., 2015. Effect of customer relationship management on customer satisfaction and loyalty. Int. J. Manage., 6: 1-7.
48. Hashem, T.N., 2012. The impact of customer relationship marketing on costumers' image for Jordanian five star hotels. Econ. Manage. Financial Mark., 7: 716-725.
49. Hajikhani, S., S.J. Tabibi and L. Riahi, 2016. The relationship between the customer relationship management and patients' loyalty to hospitals. Global J. Health Sci., 8: 65-71.
50. Amir, M., H. Yousof and E. Asma, 2014. The effect of using customer relationship management system on customer loyalty case study: Ansar bank's branches in East Azarbaijan. Indian J. Scient. Res., 8: 98-106.
51. Wang, G.L., Y.J. Lee, M.F. Wu, L.Y. Chang and S.C. Wei, 2012. The influence of knowledge management and brand equity on marketing performance: A case study of a Japanese automaker's branch in Taiwan. J. Bus. Res., 4: 30-51.
52. Kim, K.H., K.S. Kim, D.Y. Kim, J.H. Kim and S.H. Kange, 2008. Brand equity in hospital marketing. J. Bus. Res., 61: 75-82.
53. Krejcie, R.V. and D.W. Morgan, 1970. Determining sample size for research activities. Educ. Psychol. Meas., 30: 607-610.
54. Debata, B.R., B. Patnaik, S.S. Mahapatra and K. Sree, 2015. Interrelations of service quality and service loyalty dimensions in medical tourism: A structural equation modelling approach. Benchmarking: Int. J., 22: 18-55.

55. Vatjanasaregagul, L., 2007. The Relationship of Service Quality, Consumer Decision Factors and Brand Equity. Nova Southeastern University, USA., ISBN: 9780549086642, Pages: 176.
56. Churchill, G., 2001. Basic Marketing Research. 4th Edn., The Dryden Press, Orlando, FL.
57. Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson and R.L. Tatham, 2010. Multivariate Data Analyisis. 7th Edn., Pearson Prentice Hall, USA.
58. Field, A.P., 2000. Discovering Statistics Using SPSS for Windows: Advanced Techniques for the Beginner. Sage Publications, London, UK., ISBN-13: 9780761957553, Pages: 496.
59. Khine, M.S., 2013. Application of Structural Equation Modeling in Educational Research and Practice. Sense Publisher, USA.
60. Bagozzi, R.P., 1980. Causal Models in Marketing. Wiley, New York.
61. Tang, Z., J. Luo and J. Xiao, 2011. Antecedents of intention to purchase mass customized products. J. Prod. Brand Manage., 20: 316-326.
62. Pike, S., 2015. Destination Marketing. Routledge, USA.
63. Jalali, S.M. and M. Sardari, 2015. Study the effect of different aspects of Customer Relationship Management (CRM) on innovation capabilities with mediator role of knowledge management (Case study: Mahram company). Med. J. Social Sci., 6: 343-360.
64. Sharma, S., J. Conduit and S.R. Hill, 2014. Organisational capabilities for customer participation in health care service innovation. Aust. Market. J., 22: 179-188.
65. Payne, A. and P. Frow, 2005. A strategic framework for customer relationship management. J. Marketing, 69: 167-176.
66. Osarenkhoe, A. and A.E. Bennani, 2007. An exploratory study of implementation of customer relationship management strategy. Bus. Process Manage. J., 13: 139-164.
67. Gummesson, E., 2002. Practical value of adequate marketing management theory. Eur. J. Market., 36: 325-349.
68. DeTienne, K.B. and L.A. Jackson, 2001. Knowledge management: Understanding theory and developing strategy. Competitiveness Rev.: Int. Bus. J., 11: 1-11.
69. Lubit, R., 2001. Tacit knowledge and knowledge management: The keys to sustainable competitive advantage. Organiz. Dyn., 29: 164-178.
70. Davenport, T.H. and L. Prusak, 1998. Working Knowledge: How Organizations Manage What They Know. Harvard Business Press, Boston, MA., USA., ISBN-13: 9780875846552, Pages: 199.
71. Lee, H. and B. Choi, 2003. Knowledge management enablers, processes and organizational performance: An integrative view and empirical examination. J. Manage. Inform. Syst., 20: 179-228.