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**THE ROLE OF CUSTOMER RELATIONSHIP MANAGEMENT,
SERVICE QUALITY AND INNOVATION AS SOURCES OF BRAND
EQUITY DEVELOPMENT**

By

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**Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
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in Fulfillment of the Requirement for the Degree of Doctor of Philosophy**

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ABSTRACT

In the highly competitive medical tourism market environment of today, Brand Equity (BE) could become a competitive edge for survival for service providers. In general, medical tourism has been perceived to have a low BE, especially in Jordan. The contribution of Customer Relationship Management (CRM), Service Quality (SQ), and innovation in developing BE, cannot be ignored as far as literature is concerned. However, studies on marketing activities towards building BE remain limited. Hence, this study aims to investigate the contributions of CRM, SQ and innovation in developing BE, to medical tourism service providers. Since a sampling frame was not available, the study obtained its data through systematic sampling using a self-administered questionnaire to build a sampling frame of medical tourists. Some 500 respondents were next selected randomly from the sampling frame using the simple random sampling technique. The Structural Equation Modeling (SEM) procedure in IBM-SPSS-Amos 23.0 was used for data analysis. The findings indicated that both CRM and SQ had significant effects on innovation. Innovation, on the other hand, had a significant effect on BE. However, only SQ had significant direct effects on BE while the direct effects of CRM were not quite significant. The results imply that the mediating innovation plays a full mediation role in linking CRM to BE, while innovation plays a partial mediation role in linking SQ to BE. These findings offer several contributions towards building BE as a competitive edge as far as medical tourism service providers are concerned. Future research should incorporate other constructs that may enhance BE. Other mediators are also recommended for future research on the impacts of both CRM and SQ on the BE.

Keywords: customer relationship management, service quality, innovation, brand equity, medical tourism.

ABSTRAK

Dalam persekitaran pasaran pelancongan perubatan yang mempunyai persaingan sengit hari ini, Ekuiti Jenama (BE) boleh menjadi kelebihan persaingan dalam kalangan pemberi perkhidmatan pelancongan perubatan. Secara umumnya, persepsi BE pelancongan perubatan di Jordan adalah rendah. Mengikut tinjauan literatur, sumbangan Pengurusan Perhubungan Pelanggan (CRM), Kualiti Perkhidmatan (SQ) dan inovasi terhadap pembentukan BE tidak boleh diabaikan. Namun begitu, masih kurang kajian terhadap aktiviti pemasaran bagi membangunkan BE yang dijalankan. Oleh itu, kajian ini ingin menilai pengaruh CRM, SQ serta inovasi terhadap pembentukan BE bagi pemberi perkhidmatan pelancongan perubatan. Oleh kerana tiada rangka persampelan yang tersedia, penyelidik menggunakan kaedah persampelan sistematik bertujuan untuk mengumpul data melalui soal selidik yang ditadbir sendiri bagi membina rangka persampelan ini. Sebanyak 500 responden untuk kajian ini dicerap daripada rangka persampelan menggunakan kaedah persampelan rawak mudah. Data dianalisis melalui kaedah Pemodelan Persamaan Berstruktur (SEM) dengan menggunakan perisian IBM-SPSS-Amos 23.0. Dapatan analisis mendapati konstruk CRM dan SQ mempunyai kesan yang signifikan terhadap inovasi, dan konstruk inovasi pula mempunyai kesan yang signifikan terhadap BE. Walau bagaimanapun hanya konstruk SQ mempunyai kesan langsung ke atas BE manakala CRM pula tidak mempunyai kesan langsung. Ini bermakna konstruk pengantara iaitu inovasi mempunyai kesan pengantaraan penuh dalam menghubungkan konstruk CRM dengan BE, dan mempunyai kesan pengantaraan separa dalam hubungan di antara konstruk SQ dengan BE. Dapatan kajian ini memberi beberapa sumbangan bermakna dalam pembinaan BE sebagai kelebihan persaingan kepada pemberi perkhidmatan dalam industri pelancongan perubatan. Kajian akan datang perlu mengambil kira konstruk lain yang boleh meningkatkan BE. Selain itu, faktor pengantara lain turut disarankan untuk kajian pada masa hadapan bagi mengkaji kesan CRM dan SQ ke atas BE.

Kata kunci: pengurusan perhubungan pelanggan, kualiti perkhidmatan, inovasi, ekuiti jenama, pelancongan perubatan.

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1. Shriedeh, F., & Abd. Ghani, N. H. (2017). Impact of customer relationship management on brand equity: Medical tourist perspective. *Research Journal of Business Management*. 11(1), 28-38.
2. Shriedeh, F. B., & Abd. Ghani, N. H. (2017). Service quality as an antecedent of brand equity: Empirical evidence in the medical tourism from Jordan. *International Review of Management and Marketing*. 7(1), 15-19.

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LIST OF ABBREVIATIONS

(α)	Cronbach's alpha
AGFI	Adjusted Goodness of Fit Index
AMOS	Analysis of Moments Structures
AVE	Average Variance Extracted
BC	Bias-Corrected
BE	Brand Equity
C.R	Critical Ratio
CBBE	Customer Based Brand Equity
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CI	Confidence Intervals
CR	Composite Reliability
CRM	Customer Relationship Management
df	Degree of Freedom
EFA	Exploratory Factor Analysis
GDP	Gross Domestic Product
GFI	Goodness of Fit Index
GOF	Goodness of Fit Indices
HCSQ	Healthcare SQ Model
IFI	Incremental Fit Index
IMTJ	International Medical Travel Journal
JUH	Jordan University Hospital
KAH	King Abdullah Hospital
KM	Knowledge Management
KMO	Kaiser-Meyer-Olkin
MI	Modification Indices
MOH	Ministry of Health
MTA	Ministry of Tourism and Antiquities
MTI	Medical Tourism Index
NGOS	Non Governmental Profit Organization
OLS	Ordinary Least Square
PCA	Principle Component Analysis
PHA	Private Hospitals Association
R ²	Coefficient of Determination
RBV	Resource Based View
RM	Relationship Marketing
RMS	Royal Medical Services
RMSEA	Root Mean Square Error of Approximation
S.E	Standard Error of Regression Weight
SD	Standard Deviation
SEM	Structural Equation Modeling
SERVPERF	Performance-Based Service Quality

SERVQUAL	Service Quality Scale
SMC	Squared Multiple Correlations
SPSS	Statistical Package for Social Sciences
SQ	Service Quality
SRW	Standardized Regression Weights
TLI	Tucker-Lewis Index
VIF	Variance Inflation Factor



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CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION

This chapter starts with a research background to give an idea about the area of the thesis to the reader. This will be followed by the Jordanian healthcare scenario, problem statement, research questions, and research objectives. These are followed by an explanation of the significance of the study and scope, as well as definitions of the key terms. Finally, this chapter ends with a discussion on the organization of the remaining chapters.

1.2 BACKGROUND OF THE STUDY

The global growth in the flow of patients across borders to obtain medical treatment such as fertility treatment, dental care, elective surgery, and cosmetic surgery has given rise to new patterns of consumption and production of healthcare services over recent decades (Connell, 2013). The new moniker for this type of travel “medical tourism” has become big business, involving millions of travelers annually and one of the most rapidly growing global multi-billion dollar healthcare-industry for many developed and developing countries (Guiry, Scott, & Vequist, 2013).

According to Watson and Stolley (2012), medical tourism is the fastest growing segment of the tourist market. Globally, as an export category, it has been ranked as the fourth fastest growing industry after fuel, food and automobile, in volume (Ağaoğlu, 2015). For example, global medical tourism

receipts reached approximately USD 100 billion globally in 2012, up from USD 79 billion in 2010 (KPMG, 2011) and it is expected to reach more than USD 130 billion in 2015 (Singh, 2014), USD 1 trillion in 2020 (Ağaoğlu, 2015) and USD 3 trillion in 2025 (Ile & Tigu, 2017). Approximations may vary, nevertheless, the number of medical tourists reached one billion in 2010 and it is expected to reach around 1.6 billion in 2020 (Ağaoğlu, 2015; Izadi *et al.*, 2014). Moreover, it enables the creation of many jobs and encourages progress in developing countries. For instance, medical tourism is expected to increase more than 9% of the total jobs and it is expected to create over 300 million jobs at the end of 2020 (Ağaoğlu, 2015; Noor, 2013).

Nevertheless, the global medical tourism worldwide is expected to continue leading the growth, and the emerging destinations, especially in Asia, the Pacific region and the Middle East, are expected to register the strongest arrival trends with a 5% annual growth for the period 2010 to 2020 compared to a 2.5% for traditional medical tourist destinations (Malcolm, 2015). For example, in 2020, the Asian region is forecast to have the most rapid growth at rates of more than 7% a year, compared to a world average of 4.5%, with a market share of 26.6% followed by the Middle East (6.7%) with a share of 4.4% and Africa (5.1%) with a share of a 5% as seen in Table 1.1.

Table 1.1
Medical Tourist Arrivals by Region (million)

	Base Year	Actual		Forecasts		Average Annual Growth Rate (%)	Market Share (%)	
	2000	2005	2010	2015	2020	2000-2020	2000	2020
Total	667.7	798.0	1006.4	1046.8	1561.1	4.5	100	100
Africa	27.4	35.4	47.0	49.4	77.3	5.1	4.1	5.0
Americas	130.2	133.3	190.4	196.1	282.3	4.0	19.5	18.1
Asia-Pacific	98.4	153.6	205.8	220.2	416.0	7.4	14.7	26.6
Europe	393.4	439.4	527.3	543.1	717.0	3.1	58.9	45.9
Middle East	18.3	36.3	35.9	38.1	68.5	6.7	2.7	4.4

Source: Ağaoğlu (2015, p. 2)

Given the fact that the medical tourism industry is growing fast and is potentially profitable for countries and businesses involved in this industry, particularly developing ones (Han & Hyun, 2015), the competition in the international medical tourism marketplace is becoming intense and the medical tourist options and destination choices have been expanded. In such a competitive environment, the main concern for healthcare providers is to differentiate their health services from competitors. Therefore, branding has become an increasingly important marketing strategy in the tourism industry as one of the main valuable assets in the marketplace and a primary source of differentiation and competitiveness (Das & Mukherjee, 2016).

Importantly, the power of the brand originates from the superior trust that customers put in a chosen brand than in competitor brands (Berry, 2000; Gheysari & Bemani, 2013). As a result, this confidence translates into a number of possible benefits to the organization in terms of greater margins, greater brand loyalty and increased market share (Kim, Kim, & An, 2003; Moradi & Zarei, 2011). Meanwhile, for customers, strong brands will be

beneficial in terms of reducing the purchase risk, customer satisfaction, recommendation, increasing customer trust, reducing information search cost, and deliver quality and values (Aaker, 1991; French & Smith, 2013; Keller, 1993). These benefits represent the added value that are brought by a strong brand and is often called brand equity (BE) (Aaker, 1991; Farquhar, 1989; Keller, 1993). Therefore, the development of great brand with strong equity is absolutely important not only for the organization, but also in the minds of medical travelers (Ghani, 2012).

Obviously, customers (patients) prefer a certain service brand, according to their prior knowledge or the past experience of their relatives, friends, or colleagues as well as seeking external sources of information that reduce the risk of making their decisions (Berry, 2000; Hung, Hung, Tsai, & Jiang, 2010; Parasuraman, Zeithaml, & Berry, 1985) and forming their expectations and image of the service provider (Gul, Jan, Baloch, Jan, & Jan, 2010; Keller, 1993; Nemati, 2009). Therefore, successful brands are the ones that have a higher level of awareness, are perceived as positive images and quality, and have potential chances of revisiting it (Jahanzeb, Fatima, & Mohsin Butt, 2013; Sondoh Jr, Omar, Wahid, Ismail, & Harun, 2007; Sze & Hamid, 2012). Thus, hospitals have to ensure that every customer's brand experience is coherent, accessible, and satisfactory at every contact (Keller & Lehmann, 2006; Solayappan & Jayakrishnan, 2010).

Recent studies concluded that the major predominant marketing strategies in the healthcare industry that influence the selection of medical tourism brand

destination, include customer relationship management (CRM) (Hashem, 2011; Kim, Kim, Kim, & Kang, 2008; Padma, 2013; Stanković & Đukić, 2009; Tsiotsou & Goldsmith, 2012; Veerasoontorn, Beise-Zee, & Sivayathorn, 2011; Vildova, Martincík, Tluchor, & Jakubíková, 2015; Yan, 2015), service quality (SQ) (Achmad, 2015; Atilgan, Aksoy, & Akinci, 2005; Buil, Martínez, & de Chernatony, 2013; Han & Hyun, 2015; Ramez, 2012; Stanković & Đukić, 2009; Vildova *et al.*, 2015; Yan, 2015), and innovation (Bhadu, 2011; Guceri-Ucar & Koch, 2014; Stanković & Đukić, 2009; Tsiotsou & Goldsmith, 2012; Veerasoontorn *et al.*, 2011). These strategies are the major forces for building a differentiated brand image and to attain strong BE (Aaker, 1991; Keller, 2013).

Keller and Lehmann (2006) in a recent highly regarded study emphasized the urgent need for future investigations on the potential effect of BE in a comprehensive manner (Ghani, 2012; Yoo, Donthu, & Lee, 2000). Keller and Lehmann (2006) clearly recognized several unanswered questions in existing research regarding the impact of CRM, SQ and innovation on BE. Accordingly, the aim of this study is to fill the relevant gap in the literature in the context of medical tourists' treatment in Jordanian private hospitals.

Empirical investigations have confirmed that SQ and its experiential outlet present the healthcare industry an opportunity to differentiate its self and generate a competitive advantage in the market (Aliman & Mohamad, 2013; Grace & O'Cass, 2004; Ramez, 2012). Similarly, numerous studies have revealed that good SQ is linked to the increased profits, minimized costs,

positive customer attitudes towards customer satisfaction, customer retention, willingness of customers to pay price premiums, positive word of mouth, an enhanced brand image, and ultimately enhanced BE (Ahmad & Sherwani, 2015; Hanaysha & Hilman, 2015c; Ming, Wei, Lee, Ong, & Su-Mae, 2012; Sultan & Wong, 2013).

In addition, CRM, which sustains the relationship with customers is critical for retaining customer satisfaction, customer loyalty, building up the brand image, and maximizing the BE (Abbasi, Hajirasouliha, & Faraji, 2014; Chen & Ching, 2007a; Rashid & Tahir, 2013; Sehhat, 2013). Besides, CRM is associated with competitive advantage achievements including sales volume, profitability and market share (Alipour & Mohammadi, 2011; Hashem, 2011).

Similarly, Lee, Olson, and Trimi (2012) argued that innovation is one of the key drivers that a healthcare provider must utilize to develop a competitive advantage or pursue long-term advantages (Darroch & McNaughton, 2002; Hanaysha & Hilman, 2015b; Hanaysha, Hilman, & Abdul-ghani, 2014; Lin, Chen, & Chiu, 2010), survive in dynamically changing environments (Gault, 2014; Sanayei, Shahin, & Taherfar, 2013), and only continuity of innovation will maintain the vitality of a brand (Chien, 2013; Hanaysha & Hilman, 2015b; Shiau, 2014). In addition, Bloom, Draca, and Van Reenen (2011) and Lin *et al.* (2010) indicated that businesses that apply innovation in their practices are found to increase their profits, productivity as well as strengthen the brand (Hanaysha & Hilman, 2015b, 2015c). In this sense, certain scholars have emphasized that innovation is related to SQ (Bon & Mustafa, 2013;

Prajogo & Sohal, 2006) and CRM (Battor & Battor, 2010; Hu, Hu, & Parsa, 2015) and it could mediate the relationship between SQ and CRM towards BE building (Camisón & Villar-López, 2010) Thus, innovation is the necessary ingredient for healthcare long-term success (Bloom *et al.*, 2011; Gault, 2014; Shiau, 2014).

However, the issue of BE has become one of the most important aspects of branding and a milestone in business success (Berry, 2000; Chahal & Bala, 2012; Kim *et al.*, 2008). Relatively limited research exists regarding BE within service brands, especially healthcare brands (Chahal & Bala, 2012; Kim *et al.*, 2008; Mahfooz, 2015), more precisely medical tourism brands (Das & Mukherjee, 2016; Guiry *et al.*, 2013). This lack of literature arises from the fact that most researchers have concentrated on product brands (Kim & Kim, 2004, 2005; Kim *et al.*, 2003), conceptualization of BE (Hanaysha, Hilman, Ghani, & Hasmini, 2013), interrelationships among BE assets (Fayrene & Lee, 2011; Hanaysha *et al.*, 2013), and consequences of BE (Chahal & Bala, 2012; Hanaysha *et al.*, 2013).

A cynical view may consider BE as an old hat or has already been dealt with fully. Taking a more holistic view, however, it is more likely that BE still remains a prominent area of research integrating different research streams in the marketing literature. At the heart of this observation lies the fact that the exploration of the effects of SQ (Ha, 2009; Jahanzeb *et al.*, 2013; Keller & Lehmann, 2006), CRM (Chahal, 2010; Keller & Lehmann, 2006; Kim *et al.*, 2008; Sehhat, 2013), and innovation (Hanaysha *et al.*, 2014; Henard & Dacin,

2010; Keller & Lehmann, 2006; Sanayei *et al.*, 2013) on BE is still rare (Keller & Lehmann 2006; Kim *et al.*, 2008; Chahal & Bala, 2012; Ghani, 2012; Hanaysha *et al.*, 2013; Vinh, 2017). Also, an intensive review of the literature reveals that only a small number of BE studies have been done in well-established market economies in Western countries without considering transitional economies in developing countries such as Jordan (Wang, Kandampully, Lo, & Shi, 2006; Kim *et al.*, 2008; Chahal & Bala, 2012; Hanaysha *et al.*, 2013; Van Doorn & Leeflang, 2014; Mostafa, 2015), specifically in the healthcare sector (Kim *et al.*, 2008; Chahal & Bala, 2012; Hanaysha *et al.*, 2013) from a medical tourist's perspective (Yang, Liu, & Li, 2015; Yoo *et al.*, 2000).

Therefore, a scientific investigation is warranted, particularly to understand the impact of CRM and SQ that are perceived to be crucial to improve BE through innovation, so that appropriate strategies can be formulated and developed for the sake of the overall healthcare system in the Hashemite Kingdom of Jordan. Therefore, the following section discusses Jordan as the research context.

1.3 JORDAN HEALTHCARE SCENARIO

The small kingdom of Jordan is renowned for its low cost healthcare services. In 2005, Jordan was ranked as the leading medical tourism destination in the Arab World, and fifth globally by the World Bank (Connell, 2006, 2013). However, Jordan (population of around six million and a half) is located in the heart of the Middle East, just over five hours of flying over Europe and the

Mediterranean and into Jordan. It is considered one of the major countries contributing to the economic and political stability in the area. Geographically, it is within easy access of both the European and African continents. Jordan has limited natural resources. As a result, Jordan heavily depends on its human capital, among which are highly educated and well-trained doctors.

Healthcare in Jordan is highly concentrated in the capital (Amman) and delivered through a mixture of two main sectors, the public and the private. In the public sector, the Ministry of Health (MOH) is responsible for managing the civil insurance program, and the Royal Medical Services (RMS) operates the army insurance program. The King Abdullah Hospital (KAH) and the Jordan University Hospital (JUH) is also provides university-based public insurance, in addition to Non Governmental Profit Organizations (NGOS) such as the United Nations Relief Works Agency (UNRWA), which provides healthcare services to Palestinian refugees. Under the MOH umbrella is the private sector, which provides services to private health insurance holders and medical tourists and is also responsible for promoting Jordan as a medical destination (MOH, 2015b; Private Hospitals Association [PHA], 2015).

Nevertheless, in Jordan, medical tourism is one of the main pillars of the Jordanian economy, mainly in Gross Domestic Product (GDP). Medical tourism in Jordan has generated revenues of USD 1 billion and USD 1.2 billion which contributed to almost 3% and 3.5% of GDP in 2012 and 2015, respectively (PHA, 2016). Not only that, medical tourism has been growing as a major source of employment (Khammash, 2012). The industry also earns a

huge foreign exchange from tourists, including tax revenues and additional sources of income. Apart from that, Jordan is working hard to attain its goal of USD 1.5 and USD 2 billion in revenues in 2018 and 2020, respectively, which is associated with a 10% increase in the number of medical tourists annually (Farkouh, 2015). Therefore, private hospitals as the main components of medical tourism are in need of powerful strategies that will enable them to achieve the economic agenda. Accordingly, the research on Jordanian medical tourism BE is extremely important.

Nevertheless, in order to support the growth of medical tourism and promote medical tourism as an export of healthcare services to the world, Jordan has achieved remarkable success with regards to its healthcare development. The Jordanian government has showered the healthcare system with serious considerable attention, such as increasing the financial support to upgrade the healthcare quality services as shown in Table 1.2.

Table 1.2
Total Expenditure (USD) on Health from 2008 to 2012

Indicator	2008	2009	2010	2011	2012
Total Healthcare Expenditure	1,951,214,737	2,274,509,089	2,171,509,089	2,232,595,037	2,351,715,607
Per Capita Healthcare Expenditure	333.3	380.3	355.2	357.2	368.0
GDP	2,275,141,243	2,388,728,814	2,650,000,000	2,892,175,141	3,102,471,751
Healthcare Expenditure (% of GDP)	8.58%	9.52%	8.19%	7.72%	7.58%
Distribution of Health Expenditure (%)					
Public	60.78	69.17	67.94	66.85	66.17
Private	38.24	29.8	30.27	31.34	31.88
NGOS	0.98	1.02	1.79	1.81	1.95

Source: MOH (2014)

In addition to the financial support, the Jordanian government has also expanded its efforts to increase the number of hospitals from 98 in 2005 to 104 in 2014. Also, another effort to increase the number of beds from just over 10,000 in year 2005 to reach approximately 12,500 in 2014 in both sectors, private and public, is shown in Table 1.3.

Table 1.3
No. of Beds and No. of Hospitals from 2005 to 2014

Year	MOH		RMS		JUH		KAH		Private Sector	
	No. of Beds	No. of Hospitals	No. of Beds	No. of Hospitals	No. of Beds	No. of Hospitals	No. of Beds	No. of Hospitals	No. of Beds	No. of Hospitals
2005	3638	29	1917	11	536	1	388	1	3600	56
2008	4333	30	2129	11	522	1	504	1	3712	60
2011	4572	31	2428	12	547	1	526	1	3918	61
2014	4693	31	2269	12	577	1	523	1	4345	59

Source: MOH (2014)

Another effort by the Jordanian government is that it increased the number of specialists to over 69,000 in 2014 to increase the quality of medical services; the bulk were physicians, nurses, and pharmacists. Strikingly, the private healthcare sector employs exactly 60% of the total number of employees, despite its smaller size (MOH, 2014). According to Khammash (2012), the density of physicians in Jordan, at 29.4 per 10,000 people is higher than the average level in the region of the Middle East and North Africa. Also, a higher density of nurses of 33.5 per 10,000 people are quite similar to global leaders in this section such as Thailand.

Extra efforts are being made by PHA in collaboration with MOH and supported by the Jordanian Economic Consultative Council alongside with Jordan Tourism Board and Ministry of Tourism and Antiquities (MTA) to improve Jordanian medical tourism brand image and competitiveness among Middle Eastern countries in meeting regional, international, and global challenges. In addition, to attract medical tourists regionally and internationally to the country's private medical sector and also to attract private and foreign investors in this field (Malkawi, 2015). These efforts translated through many international conferences and exhibitions such as the 8th World Medical Tourism and Global Healthcare Congress (2015) and the World Economic Forum (2015) (PHA, 2015); the publication of awareness brochures and treatment price packages; and the publication of the Jordanian Medical Guide which were distributed in collaboration with local airlines and international diplomatic missions (PHA, 2015).

However, in spite of such improvements, the growth of the medical tourism industry faced many challenges. Due to globalization, fierce competition, and new medical organizations springing up locally and globally in the medical tourism marketplace, the available choices for customers have expanded. For example, in the Middle East, not only Dubai, but also Bahrain and Lebanon have recently managed to redirect this flow and establish their own medical tourism industry. In addition to Saudi Arabia, Turkey, Tunisia, Egypt and Iran as well (Connell, 2013). In Asia, Thailand, Malaysian and Singaporean hospital chains have been incorporated into the medical tourism industry (Connell, 2013; Khan & Alam, 2014). As a result, it has become harder for

healthcare providers to distinguish their services from those of their competitors (Yu-TeTu & Hsu, 2013) because each and every healthcare provider is competing on cost, quality, and location (Connell, 2013). A blurring service differentiation may result in a negative brand association including the brand uniqueness, favorability, and the strength of a brand in the minds of medical tourists (Pullig, Simmons, & Netemeyer, 2006). As Pullig *et al.* (2006) noted, “this weakening of associations may affect brand choice by making consumers less likely to consider the brand when making a decision in the category” (p. 53). Thus, the primary focus of brand management is the development of the brand asset or the development of BE (Keller, 1993; Pizam, 2015; Pullig *et al.* 2006). Therefore, establishing a unique and favorable brand in the medical tourists’ minds would be an efficient path for healthcare providers to identify and differentiate themselves in the minds of the customers (Aaker, 1991; Chahal & Bala, 2012; Hanaysha & Hilman, 2015a, 2015b, 2015c; Keller, 1993; Kim *et al.*, 2008) and an important factor in ensuring the long-term success of medical the tourism industry (Ghani, 2012; Yu-TeTu & Hsu, 2013).

Another challenge faced by healthcare management comes from globalization, increased marketing sophistication, increased turnover of customers, increased cost of retaining customers, and increases in the expectations of customers (Sanayei *et al.*, 2013; Wu, 2011). This all is due to changes in the preferences and perceptions of medical tourists for the brand (Keller, 2013). In response to this, a brand with strong equity can be viewed as a central driver of customer preferences and appreciation towards a brand (Tuominen, 1999). In the same

manner, aggressive competition in the healthcare industry is characterized by increasingly narrow margins; hence, there is pressure to provide effective service, which in turn, leads to increasing costs and reduced customer loyalty toward a brand (Chahal, 2010; Tuominen, 1999). Therefore, in such a competitive marketplace, major importance is attached to the ability of healthcare providers to distinguish their products and services from those of their competitors (Achmad, 2015; Chahal & Bala, 2012, Moradi & Zarei, 2011; Keller, 2013). In turn, this would guarantee a better position in the market; sustain a competitive advantage, increase customer loyalty, and increase market share (Chahal & Bala, 2012; Gheysari & Bemani, 2013; Gul *et al.*, 2010; Moradi & Zarei, 2011). Thus, strong brands are essential for success (Aaker, 1991; Farquhar, 1989; Keller, 1993). Accordingly, medical tourism destinations are required to explore marketing activities that can success in developing BE.

Another challenge faced by the Jordanian healthcare system is the prohibition of advertising by law. For this reason, most medical tourism providers in Jordan, focus on pricing strategy for promoting the Jordanian healthcare system (Al-Share & Anagreh, 2011; Diab, 2014). Given such a prevailing situation, Erdem and Swait (2016) demonstrated that pricing can lead to a reduced medical tourist quality perception and have a negative impact on brand performance over the long-term (Mirzaei, Siuki, Baumann, & Gray, 2015) and thus may erode BE (Yoo *et al.*, 2000). Accordingly, previous research has indicated that it is not enough to build strong brands based on pricing strategy. Other marketing efforts should be investigated to search for

what other factors build BE (Ghani, 2012; Hanaysha & Hilman, 2015a; Keller & Lehmann, 2006; Yoo *et al.*, 2000).

Furthermore, “brain drain” has become a challenge for the Jordanian healthcare system. Due to the relatively low pay and mounting workloads for qualified professionals, physicians, and nurses compared to the United States and the Gulf countries, Jordan faces the problem of the human resources migrating to hospitals outside the Kingdom. As a result, Jordanian hospitals face a shortage in healthcare workers, which directly affects the quality of care (Khammash, 2012) and creates a low public image (Connell, 2006, 2013; Shoqirat & Cameron, 2012). In this sense, healthcare providers or their services that have unfavorable images among the public would definitely have negative word of mouth comments (Al-Azzam & Azzam, 2013; Chahal, 2010; Zarei & Kazemi, 2014). These negative aspects would influence other brand associations, a negative attitude might arise, and customer satisfaction and loyalty will decrease (Aliman & Mohamad, 2013; Ha, 2009; Rahmanian Koshkaki, 2014).

Previous studies, by and large, have noted that BE is a key area of examination in a marketplace with such challenges and environmental circumstances (Aaker & Joachimsthaler, 2000; Chow, Ling, Yen, & Hwang, 2017; Das & Mukherjee, 2016; Keller, 2013; Mirzaei *et al.*, 2015) because BE is built by developing strong, positive, and unique associations for a brand in the hearts and minds of customers (Aaker, 1991, 1996; Keller, 2003; 2013). Therefore, BE is called to generate more awareness and augment the image of the brand

(Das & Mukherjee, 2016). By doing so, several brand performance benefits can be enjoyed such as: higher margins, greater customer loyalty, less vulnerability to competitive attacks, better customer response to communications, and improved market share (Gill & Dawra, 2010). Put simply, building a brand with strong equity reflects the customer positive perception of a brand; as a result, bridges the subjective performance to brand objective performance (Aaker, 1991; Christodoulides & De Chernatony, 2010; Mirzaei *et al.*, 2015). Thus, appropriate strategies that enhance Jordanian medical brands are extremely needed.

However, despite the aggressive efforts of the PHA and the government to encourage and promote healthcare services in Jordan, the acceptance level of medical tourists of the Jordanian healthcare brands remains disappointing (Al-Azzam & Khanfar, 2015; Osta, 2015). For example, the number of medical tourists has fluctuated between almost 220,000 and almost 250,000 during the last seven years (PHA, 2016), indicating that the growth is unstable and in a decline, which in turn, supports the claim that medical tourism is extremely competitive (Skountridaki, 2017). Hence, the right strategies for building strong brands are extremely needed to face the strong competition in the current market environment and consequently improve the BE performance and achieve profit (Chahal, 2010; Keller, 1993). Thus, further study is needed to examine the BE antecedents from the medical tourists' perspectives to help healthcare managers to be more aware of the factors that affect their overall organizational efficiency, so that the internal resources such as CRM can be managed well and properly (Chahal, 2010; Khalafinezhad & Long, 2013; Kim

et al., 2008; Sigala, 2005), aligned with SQ (Achmad, 2015; Ha, 2009; Osman & Sentosa, 2013; Yap & Kew, 2007); and innovation capabilities (Battor & Battor, 2010; Davcik, 2017; Shiau, 2014) for the purpose of improving healthcare performance such as BE.

Moreover, the results of this research play a beneficial role in a healthcare context because competitive pressures for cost containment require healthcare providers to develop branding strategies and improve BE management to be competitive in delivering customer satisfaction and retaining the patients they serve as well as increasing referrals to generate new customers internally, externally, and enhance BE. Furthermore, the results of this research are essentially important to contribute to the Jordanian economic GDP, which is expected to generate revenues around USD 2 billion in 2020 (Farkouh, 2015).

Having established the research context, this chapter moves on to discuss other issues related to the development of the study: the problem statement, the research objectives, the research questions, the scope of the study and the significance of the study. Additionally, the organization of the study is presented in the last section of this chapter.

1.4 PROBLEM STATEMENT

BE is one of the most significant concepts in brand management, as well as business practice. This is because a successful brand can be a powerful tool that allows marketers to gain a competitive advantage (Aaker, 1991, 1996; Keller, 1993; Hanaysha & Hilman, 2015a). A brand can be flexible enough to

meet the pressures of outside competitors and create barriers to entry for inside competitors (Gheysari & Bemani, 2013; Sondoh Jr *et al.*, 2007; Wu 2011). Moreover, a powerful brand increases trust in intangible products and services, and empowers customers to picture them better. It also intensifies the prospect of further purchases and attitudes to a brand can diminish probable risks in buying services as well (Kotler, 2000; Makasi, Govender, & Madzorera, 2014; Rahmanian Koshkaki, 2014). Therefore, the brand can be a critical asset for an organization, which is of value to both customers and organizations (Aaker, 1991, 1996; Farquhar, 1989; Keller, 1993). Thus, a growing emphasis exists for building and managing brands as a critical priority for the success of healthcare providers (Chahal & Bala, 2012; Keller, 2013; Kim *et al.*, 2008; Ghani, 2012; Gheysari & Bemani, 2013).

As highlighted earlier, the importance of competitive brands stems from acknowledging the imperative contribution of such brands to Jordanian economic growth and the advantages provided by customer loyalty. Part of this great success is reaped by medical tourism; regrettably, Jordanian medical services lag other leading competitive medical destinations in the region in terms of medical tourist arrivals and receipts as shown in Table 1.4. For example, the total number of medical tourists has been relatively unstable during the past seven years. The arrivals of medical tourists have fluctuated greatly in number. The number dipped from almost 220,000 in 2009 to just below 180,000 in 2011 with a slight increase to reach around 230,000 and 250,000 in 2013, 2014, respectively. In 2015, Jordan posted a slight decrease with the number reaching around 246,000 (PHA, 2016). Along with the

arrivals, the total income generated has fluctuated as well. The amount equaled 1 billion, 850 million, and 1.2 billion USD in 2009, 2011 and 2015, respectively (PHA, 2016). A recent report in the International Medical Travel Journal (IMTJ) indicated that Jordan's medical tourism saw a 40% decline in numbers during first nine months of 2016 (IMTJ, 2016a). This figure was associated with around a 15% decrease in revenues generated (Al Emam, 2016). This serious fall in the number of medical tourist arrivals to Jordan, which was accompanied by a decrease in medical tourism receipts, was due to a low medical tourists-based BE in term of the negative image (Al Muala, 2011; Al Muala, Mat, & Isa, 2013; Al-Majali, 2012; Harahsheh, 2009), low awareness (Al Muala *et al.*, 2013; Harahsheh, 2009), low loyalty (Al Muala, 2011; Al Muala *et al.*, 2013; Al-Azzam & Khanfar, 2015; Al-Majali, 2012) and lack of perceived quality (Al Muala, 2011; Al Muala *et al.*, 2013; Al-Majali, 2012). As, Prof. Dr. Marwan Alabdallat, an expert and adviser on international medical tourism noted, "the reality of medical tourism in Jordan is witnessing a big drop and an unprecedented and the near future to Aabhr good, and this decline will continue for the next five years at least" (Alabdallat, 2015, p. 3).

Table 1.4

Total Income and Number of Medical Tourists' Arrival to Jordan from 2009 to 2015

Year	Number of Medical Tourists	Revenues in USD	Contribution to GDP (%)
2015	246520	1.24 billion	3.54
2014	254041	1.26 billion	3.66
2013	230946	1.2 billion	3.56
2012	219949	1 billion	3.12
2011	179475	850 million	2.79
2010	219505	1 billion	3.46
2009	220348	1 billion	3.64

Source: PHA (2016)

Also, the Jordanian medical tourism brand is said to have a weaker brand image compared to non-Jordanian brands (Al Mualala *et al.*, 2013; Avraham & Ketter, 2016), and the growth of medical tourist arrivals to Jordan is still relatively low in comparison to other parts of the world as shown in Table 1.5. Attesting to this, Aloudat and Rawashdeh (2013) demonstrated that brand image is a crucial factor in the selection of medical tourism destinations and, therefore, the inflows of medical tourists (Akhavan, 2012; Di Marino, 2008).

Table 1.5
Approximate Number of Medical Tourists' Arrival to Jordan, Dubai, and Singapore in 2014 and 2015

Country/ Year	2014	2015	Change %	Source
Jordan	250000	240000	-2%	PHA (2016)
Dubai	135000	296000	37%	Dubai Medical Tourism
Singapore	620000	750000	9%	IMTJ (2016b)

Furthermore, Jordan's medical tourism brand is competitively low (MTA, 2015). For instance, from a global review, Jordan is ranked as the 33rd out of 41 and scored overall 57.02 in the medical tourism competitive index, 2016 (Medical Tourism Index [MTI], 2016). In addition, the Jordanian medical tourism brand is still perceived unfavorably in terms of quality of medical services and brand image by prospective medical tourism patients, compared to its close competitors, namely, Dubai and Turkey (MTI, 2016).

Moreover, another indicator reflects the fact medical tourists do not fully appreciated Jordanian medical tourism brands. For example, within the Middle East and North Africa regions, the medical tourism market share of Jordan

decreased from about 1.5% in 2010 (Singh, 2014) to about 1% in 2012 (Environments & Agile, 2012), which signifies that Jordanian medical tourism brands still lack BE (Environments & Agile, 2012). A brand with high market share is a key indicator of loyalty (Keller, 2013) and strong equity from the customer-based evaluation (Keller, 2013).

Even in Jordan itself, the acceptance of private medical service brands by local community is still low in comparison to public brands as shown in Table 1.6. For example, private sector figures were lower, in comparison with the public sector, from 2010 to 2014 in terms of admissions, occupancy rates, length of stay, and market share. In other words, a brand with a higher equity reflects higher admissions, a higher occupancy rate, higher quality of service (Paci & Wagstaff, 1993), higher market share, and a greater brand lies in the minds of the customers (Aaker, 1991, 1996; Keller, 1993). These are reflected in Table 1.6, which shows the health bodies, the average number of beds, average admissions, average market share, average occupancy rates, and average length of stay for the last five years.

Table 1.6
Health Bodies, Average Number of Beds, Admissions, Market Share, Occupancy Rates, and Length of Stay from 2010 to 2014

Health Bodies	Number of Beds	Average of Admissions	Average Market Share (%)	Average Length of Stay (Days)	Average Occupancy Rate (%)
MOH	4592	342514	38	3.16	67.34
RMS	2386	180016	19.9	3.98	77.66
JUH	561	33769	3.7	4.18	70.4
KAH	516	33507	3.7	3.54	64.66
Private Hospitals	4036	311501	34	2.16	49.52

Source: MOH (2014)

Based on the above discussion, a review of the Jordanian medical services scenarios over the last seven years reveals that Jordanian medical brands are still unacceptable either locally or internationally, unfortunately, this scenario will be continued due to the heightened competition among medical tourism providers to capture a share of medical tourism market either through maintaining their customer base or attracting new customers. In addition, competitive intensity has increased the lack of brand differentiation and has introduced so many options for the brand (Aaker, 1991, 1996; Keller, 1993). Therefore, to remain competitive, Jordanian medical tourism providers must understand the sources of BE- related performance that persuades customers to become repeat purchasers, exhibit behavioural loyalty, and keep the brand in the minds of the customers over the long term (Aaker, 1991, 1996; Keller, 1993; Ghani, 2012; Yoo *et al.*, 2000).

According to Alabdallat (2015), in the Jordanian medical tourism industry, the fluctuating number of medical tourists, due to assorted reasons, may influence healthcare brand selection. Among the most important factors that are also associated with common dissatisfaction among customers (Al Muala *et al.*, 2013; Al-Majali, 2012) are: the absence of quality (Al Muala, 2011; Al Muala *et al.*, 2013; Al-Majali, 2012; Environments & Agile, 2013), and mutually important, lack of innovation (Alafi, 2014; Environments & Agile, 2013), and the inability to maintain a proper customer-oriented view that focuses on CRM, particularly with respect to newly available information technology (Abdel Jawad, 2014), making it difficult to survive in the context of an increasingly competitive and volatile environment spiced with rapid changes

in customer needs and desires. Improvements in these areas will significantly enhance health outcomes and consequently the healthcare system as a whole, which, in turn, will create strong medical tourism BE (Guceri-Ucar & Koch, 2014; Veerasoontorn *et al.*, 2011). In simple words, as the medical tourism industry expands, the major source of success for Jordanian medical tourism providers in today's highly competitive environment is to pursue complex marketing strategies to establish BE, including maintaining and developing relationships with customers and placing greater emphasis on quality and innovation. Making the customer's experience the focal point of strategy, service design, delivery, and marketing is crucial for the brand to remain competitive (Keller & Lehmann, 2006; Keller, 2013).

Several marketing activities have been examined as sources of BE such as country of origin (Azadi, Yousefi, & Eydi, 2015; Hanaysha & Hilman, 2015a; Loureiro, Loureiro, Kaufmann, & Kaufmann, 2017; Mostafa, 2015), country of manufacturing (Loureiro *et al.*, 2017; Mostafa, 2015), advertising (Buil, de Chernatony, & Leslie, 2010; Loureiro *et al.*, 2017, Yang *et al.*, 2015), brand personality (Daud, Ghani, & Abdullah, 2016; Valette-Florence, Guizani, & Merunka, 2011), price promotion (Karunanithy & Sivesan, 2013; Valette-Florence *et al.*, 2011; Yoo & Donthu, 2002; Yoo *et al.*, 2000), price (Dhurup, Mafini, & Dumasi, 2014; Hanaysha, 2016a; Yoo & Donthu, 2002; Yoo *et al.*, 2000), packaging (Daud, Abdullah, & Ghani, 2017; Dhurup *et al.*, 2014), store image (Chen & Green, 2011; Yoo & Donthu, 2002; Yoo *et al.*, 2000), public relation (Karunanithy & Sivesan, 2013; Rahi, 2016), and relationship quality (Hanaysha & Hilman, 2015c; Nyadzayo & Khajehzadeh, 2016). However,

very few empirical studies have been conducted to investigate the impact of CRM, SQ, and innovation factors on BE (Hanaysha *et al.*, 2013; Keller & Lehmann, 2006). This is also in line with recommendations from Davcik, da Silva, and Hair (2015) for BE formation by indicating that future research is still needed for a “continuous search for the determinants and sources of brand equity” (p. 6). Further clarification of the sources of BE is shown in Table 2.4 (p. 57).

In this sense, CRM represents a great opportunity for healthcare providers to manage relationships better with customers, to understand and anticipate customer changes, and to keep long-term relationships with them, which are essential for developing innovation capabilities (Battor & Battor, 2010; Lin *et al.*, 2010) and maximizing customer value such as providing the power to generate positive word of mouth (Karahan & Kuzu, 2014; Sadek, Youssef, Transport, Ghoneim, & Tantawi, 2011) and building strong brands (Akroush, Dahiyat, Gharaibeh, & Abu-Lail, 2011; Chahal & Bala, 2012; Kim *et al.*, 2008; Sin, Tse, & Yim, 2005).

Although CRM is a significant source of innovation (Battor & Battor, 2010; Hu *et al.*, 2015) and BE building (Lingavel, 2015; Yang, 2010), unfortunately, theoretical and empirical studies on CRM in relationship to innovation (Ghafari, Karjalien, & Mashayekhnia, 2011; Hu *et al.*, 2015; Rahimi, Köseoglu, Ersoy, & Okumus, 2017; Tehrani, Javadizadeh, & Nadi, 2015) and BE building (Chahal, 2010; Keller & Lehmann 2006; King, 2017; Sehhat, 2013) are extremely limited, particularly in the context of the Jordanian

healthcare industry (Agariya & Singh, 2013; Chahal, 2010; Kumar, Sunder, & Ramaseshan, 2011). Hence, this research aims to fill this gap by testing the effect of CRM on innovation and BE.

Importantly, as much as CRM is a critical strategy to ensure the survival of the hospitals and their brand success in stiff competitive environments, the role of the customer's direct experience in evaluating goods and services (service quality) cannot be denied (Aaker, 1991; Berry, 2000; Keller & Lehmann, 2006). The enhancement of SQ will present a fertile environment for innovation (Bon & Mustafa, 2013; Prajogo & Sohal, 2003) and create a brand with superior equity (Achmad, 2015; Hanaysha & Hilman, 2015c; Parasuraman *et al.*, 1985; Zeithaml, 1988). A number of empirical studies have found that SQ practice had a significant effect on innovation (Chen, Chuang, & Chen, 2016; Ledimo & Martins, 2015) and BE development (Esmailpour, Mohamadi, & Rajabi 2016; Ming *et al.*, 2012). However, there is no doubt that a substantial body of research indicates that empirical studies on the effect of SQ on innovation (Bon & Mustafa, 2013; Bon, Mustafa, & Syamsyul Rakiman, 2012; Chen *et al.*, 2016) and BE formation (Ha, 2009; Keller & Lehmann, 2006; Ming *et al.*, 2012) in Jordan are still rare (Ha, 2009; Hanaysha & Hilman, 2015c). Therefore, the gap still remains in research examining the effect of SQ on innovation and BE.

Furthermore, innovation is another key tool for strengthening market competitiveness and enhancing firm's performance (Rajapathirana & Hui, 2017). Indeed, global brands that successfully manage to sustain their services

in highly competitive markets are more innovative (Herstein, Drori, Berger, & Barnes, 2017). Customers are more likely to develop positive perceptions toward innovative brands and such would ultimately enhance the decision making of customers toward a brand and, therefore, reinforce BE (Henard & Dacin, 2010). However, despite the claim that innovation is a significant factor to enhance BE building (Hanaysha & Hilman, 2015b; Naveed, Akhtar, & Cheema, 2012), empirical evidence on the effectiveness of the innovation in BE building is still limited in developing countries, and Jordan is not excluded (Guceri-Ucar & Koch, 2014; Hanaysha *et al.*, 2014; Rajapathirana & Hui, 2017; Sanayei *et al.*, 2013).

In addition, previous research supports the argument that innovation serves as a key mediator between the antecedents of innovation and superior performance (Byukusenge, Munene, & Orobia, 2016; Dibrell, Craig, & Neubaum, 2014; Grekova, Bremmers, Trienekens, Kemp, & Omta, 2013). The key mediation argument is supported by Davcik *et al.* (2015), Keller (2003), Keller and Lehmann (2006), and Yoo *et al.* (2000) in the Customer-based Brand Equity theory (CBBE), that marketing activities are necessary to predict BE fully and strongly. To a significant extent their ultimate success depends not only on their direct effects, but also on their indirect effects. In this sense, certain scholars have claimed that innovation is one of the most important mediating variable between CRM (Battor & Battor, 2010) and SQ (Shan, Ahmad, & Nor, 2016) toward BE. However, based on the literature review section (see Table 2.13, p. 127), in-depth studies into the impact of innovation as a mediator in relationship to CRM (Battor & Battor, 2010; Mohammed &

Rashid, 2012; Shriedeh & Ghani, 2016) and SQ (Akgün, Keskin, & Byrne, 2009; Camisón & Villar-López, 2010; Jahanzeb *et al.*, 2013) is still scarce in the Jordanian context. Therefore, a gap exists in the literature regarding the role of innovation as a mediator. This gap aligns with Byukusenge *et al.*'s (2016) argument that "there is a gap in the innovation field, especially in the determination of the critical factors that have a direct effect on innovation to improve business performance" (p. 85).

In addition, in the same domain of CBBE, it is difficult for healthcare providers to strengthen BE based on marketing mix that concerns the 4Ps strategy (Ghani, 2012; Yoo *et al.*, 2000), and this is the situation in the Jordanian medical tourism scenario (Al-Share & Anagreh, 2011; Diab, 2014). For this reason, previous research has highlighted the importance of exploring other marketing strategies that enhance BE building (Davicik *et al.*, 2015; Ghani, 2012; Hanaysha *et al.*, 2013; Keller & Lehmann, 2006; Yoo *et al.*, 2000). Undeniably, to some extent, only a very small number of empirical studies have been done in the Jordanian BE context (Chahal & Bala, 2012; Hanaysha *et al.*, 2013; Kim *et al.*, 2008; Van Doorn & Leeflang, 2014; Wang *et al.*, 2006). This lack of studies more specifically exists in the healthcare sector (Chahal & Bala, 2012; Hanaysha *et al.*, 2013; Kim *et al.*, 2008; Mukherjee & Shivani, 2016), particularly in the medical tourism industry (Das & Mukherjee, 2016; Guiry *et al.*, 2013; Shekhar Kumar, Dash, & Chandra Purwar, 2013; Vinh & Nga, 2015) from the medical tourist perspective (Mostafa, 2015; Yang *et al.*, 2015). In addition, there is a lack of empirical studies that use CBBE theory in the medical tourism industry (Al-Azzam,

2013; Vinh & Nga, 2015; Yang *et al.*, 2015) in Jordan (Al-Azzam, 2013; Al-Maaitah, 2016). Thus, this current study attempts to investigate the unidimensionality of five integrated activities of CRM (knowledge management [KM], long-term association, joint problem solving, customer involvement, and technology-based CRM) along with the overall SQ model (tangibles, reliability, responsiveness, assurance, and empathy) in one framework with mediating variable of innovation (product, process, service, marketing, and administrative) towards BE building in the healthcare industry in Jordan.

Overall, BE is a key concern for organizational success and sustaining competitive advantage (Aaker, 1991; Keller, 2003). While CRM, SQ, and innovation have been considered to be critical factors for BE building (Aaker, 1991; Keller & Lehmann, 2006), only a limited number of studies have investigated the effect of these factors on BE and considered innovation as a mediator.

Concerning the gaps discussed above in the literature, this study will empirically investigate the sources and linkages of different marketing concepts in a comprehensive manner to fill those gaps. Consequently, the problems that this present study seeks to address are: “To what extent do CRM, SQ, and innovation influence BE and whether innovation mediates the relationship between CRM and SQ towards BE in the medical tourism industry in Jordan”.

1.5 RESEARCH QUESTIONS

Based on the research background and the problem statement, the results of this study will be able to answer the following main questions about this study:

1. Does CRM have a significant effect on BE?
2. Does CRM have a significant effect on innovation?
3. Does innovation have a significant effect on BE?
4. Does SQ have a significant effect on BE?
5. Does SQ have a significant effect on innovation?
6. Does innovation mediate the relationship between CRM and BE?
7. Does innovation mediate the relationship between SQ and BE?

1.6 RESEARCH OBJECTIVES

The aim of this study is to investigate the effect of CRM and SQ on healthcare BE building, and to examine the mediating effect of innovation. To address this, the following objectives have been defined:

1. To examine whether CRM has a significant effect on BE.
2. To examine whether CRM has a significant effect on innovation.
3. To examine whether innovation has a significant effect on BE.
4. To examine whether SQ has a significant effect on BE.
5. To examine whether SQ has a significant effect on innovation.
6. To examine the mediating effects of innovation between CRM and BE.
7. To examine the mediating effects of innovation between SQ and BE.

1.7 SIGNIFICANCE OF STUDY

The medical tourism industry in Jordan is one of the most dynamic and successful industries. This industry contributed almost 3.5% of GDP in 2015 and generated total revenues exceeding USD 1.2 billion (PHA, 2016). In addition, this industry is also expected to increase revenues to USD 2 billion in 2020 (Farkouh, 2015). Thus, this research is designed to help this industry to achieve its economic agenda. The outcomes of this study are expected to contribute significantly to theoretical and practical knowledge in the context of brand management. Each of these contributions is discussed as follows:

1.7.1 Theoretical Contributions

From the theoretical perspective, the results of the present study could provide a significant contribution to the CBBE theory by offering empirical evidence on the importance of CRM, SQ, and innovation in the context of adding medical tourist perspective about Jordan medical services. Theoretical, this study applied partially Yoo *et al.*'s (2000) BE theory and deals with the limitations of their study in adding additional new predictors of brand-building activities, namely CRM and innovation. The introduction of new variables to BE building is in line with the recommendation of Azadi *et al.* (2015), Davcik *et al.* (2015), Loureiro *et al.* (2017), and Vinh (2017). In addition, by focusing on the SQ as a key antecedent of BE, this study intends to contribute to the existing literature by providing empirical insights into BE efforts, an area of investigation that has been relatively under studied in the medical tourism brand management literature. These effective marketing efforts (CRM, SQ, and innovation), if managed properly, are able to create superior added value

to the engaged parties such as BE building (Keller & Lehmann 2006; Yoo *et al.*, 2000). Thus, the research results could provide a reference point for a better understanding of BE development as well as the key role of CRM, SQ, and innovation as vital sources of BE building. In this relationship to this, this study intends to make a significant contribution to the CBBE theory by providing three linkages to BE antecedents, namely CRM, SQ, and innovation, which thus far have captured only little attention in the literature. Appendix A presents a summary of the investigated marketing activities in relation to overall BE based on Yoo *et al.*'s (2000) theory of BE.

Moreover, the study also hopes to contribute theoretically through identifying possible significant mediating effects of innovation on the relationship between CRM and SQ towards BE building. There is evidence that past studies did not concentrate on innovation as a key mediator between such factors. In this regard, the present study also intends to reduce the existing gaps and provide a comprehensive and integrative framework indicating the antecedents-linkages of the proposed variables, particularly in the context of CRM, SQ, and innovation towards BE linkages and CRM and SQ towards innovation linkages. Therefore, the contribution will mushroom the BE theory.

1.7.2 Practical Contributions

From the practical perspective, the findings of this study will be able to provide a broad picture of the healthcare industry by providing a conclusive framework of achieving a superior customer value such as BE from medical tourists' perspectives in the Middle East region and in Jordan in specific,

where little research has been carried out before (Hanaysha *et al.*, 2013). Moreover, the research can be used by the management of healthcare to understand the factors that are able to influence BE formation and expand their knowledge on the important role of CRM, SQ, and innovation as well, in developing BE assets and improving the overall healthcare system in Jordan. As a result, the healthcare provider's added value such as increased market share, profitability, and sales volume will be enhanced. Further, this study contributes indirectly, by explaining the importance of the role of innovation in strengthening CRM and SQ for a firm's superior added value achievement.

Absolutely, the management of the healthcare, the Jordanian government and the decision-makers in PHA will be able to understand the relationship among the constructed marketing efforts to improve BE building, both locally and globally. However, the contribution of this study will be discussed in chapter five.

1.8 SCOPE OF THE STUDY

The focus of this study is to investigate the mediating role of a mediator construct namely, innovation in the relationship between the two exogenous constructs of CRM and SQ on the endogenous construct, overall BE. The unit of analysis in this study focused on the medical tourism industry who seeking medical treatment as outpatients in Jordan. Hence, the target population is based on the number of visit by them. Therefore, expatriates and foreign residents who are already living in Jordan are not part of target population in this study.

The medical tourism sector was selected for this study due to the importance of this sector in adding value to Jordanian GDP, which is expected to reach USD 1.5 billion and USD 2 billion in 2018, and 2020 respectively (Farkouh, 2015). In fact, the movement of foreign tourists into Jordan for medical treatments acts as a stimulus for the growth of medical tourism industry in Jordan (Friedman, 2017). For the record, more than 70% of foreign tourists seeking medical treatments in Jordan are outpatients (Oxford Business Group, 2017). Therefore, foreign medical tourists seeking outpatient treatment in Jordanian hospitals are fundamental in developing the equity of the brand.

In Jordan, five private hospitals are located in Amman (the hub of medical tourists and the center of private hospitals) including the Jordan, Islamic, Arab Medical Center, Specialty, and Al-Isra'a hospitals. These five hospitals were selected for being the preferred hospitals for medical tourists in Jordan for having a proven accreditation record in quality; delivering a multi range of healthcare services; and are leading hospitals in the country in terms of the number of beds and convenience location.

1.9 DEFINITION OF KEY TERMS

The following terms are relevant to the present study and defined as shown in

Table 1.7.

Table 1.7

The Definitions of the Variables Used in the Study

Variables	Definitions
Brand Equity	Aaker's, (1991) defined BE as: "a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value of a product or a service to a firm and/or a firm's customers" (p. 15). Aakers' categorized brand equity into a multidimensional construct of brand awareness, brand association, brand loyalty, and perceived quality.
Overall Brand Equity	This study adopts the uni-dimensional of overall BE represented by Yoo <i>et al.</i> (2000) as "The difference in consumer choice between the focal branded product and an unbranded product given the same level of product features" (p. 169).
Customer Relationship Management	Refers to a comprehensive business strategy that enables organizations to identify, acquire, retain, nurture and interact with key customers by establishing and maintaining long-term relationships with them (Akroush <i>et al.</i> , 2011).
Knowledge Management	Refers to all information activities that are directed towards collecting, capturing, organizing, and sharing them to serve current and prospective customers according to their needs and preferences for the purpose of creating a learning relationship and creating value (Akroush <i>et al.</i> , 2011).
Customer Involvement	Customer participation in relation to multiple activities of healthcare for value co-creation such as new product development and improvement, market evaluation conferences, and technical meetings (Lin <i>et al.</i> , 2010).
Long-term Association	Refers to the relationship with exchange partner based on trust and commitment (Lin <i>et al.</i> , 2010).
Joint Problem Solving	Collaboration between healthcare providers and patients in solving problems and sharing responsibilities for maintaining the relationship itself (Lin <i>et al.</i> , 2010).
Technology-based CRM	Using any computer technology or systems to facilitate organizations in collecting, storing, analyzing, and sharing customers' information in ways that offer assistance to customers (Akroush <i>et al.</i> , 2011).
Service Quality	Refers to "a global judgment, or attitude, relating to the superiority of the service" (Parasuraman, Zeithaml, & Berry, 1988, p. 16).
Tangibility	Refers to "Physical facilities, equipment, and appearance of personnel" (Parasuraman <i>et al.</i> , 1988, p. 23).
Reliability	Refers to the "Ability to perform the promised service dependably and accurately" (Parasuraman <i>et al.</i> , 1988, p. 23).
Responsiveness	Refers to "Willingness to help customers and to provide prompt service" (Parasuraman <i>et al.</i> , 1988, p. 23).
Assurance	Refers to "Knowledge and courtesy of employees and their ability to inspire trust and confidence" (Parasuraman <i>et al.</i> , 1988, p. 23).
Empathy	Refers to "Caring, individualized attention the firm provides its customers" (Parasuraman <i>et al.</i> , 1988, p. 23).

Table 1.7 (Continued)

Variables	Definitions
Innovation	Refers to the implementation or creation of policies, products, processes, or services that are perceived as new to an individual or to an organization (OECD Oslo Manual, 2005).
Product Innovation	Refers to organizational capability to introduce products that are significantly new or improved with regard to its characteristics or intended use (Atalay, Anafarta, & Sarvan, 2013; Wu & Hsieh, 2015).
Process Innovation	Refers to creating and improving the operational processes of prevention, diagnosis, and treatment of the disease in the hospital (Lin & Chen, 2007).
Service Innovation	Refers to engagement in a variety of innovative, useful and life quality services to enhance customer satisfaction (Shiau, 2014).
Marketing Innovation	Refers to the introduction of a new marketing method including significant changes in pricing strategy, product placement and product promotion or pricing (Ghafari <i>et al.</i> , 2011).
Administrative Innovation	The supporting activities in the hospital and more immediately related to the organizational structure and administrative processes (Wu & Hsieh, 2015).
Medical Tourism	Refers to the movement of patients across borders for the medical care purpose (Connell, 2013).
Medical Tourist	This term is used interchangeably with the term customer and/or patient during the discussion.

1.10 ORGANIZATION OF THE STUDY

The thesis comprises five chapters. The first chapter involves the background of the study, research context, the identification of the research problem, research objectives and questions, significance, the scope of the study, and the definitions of key terms. The second chapter reviews the literature of the main variables: BE, CRM, SQ, and innovation and their consequences. It also covers the underpinning theory in addition to the theoretical framework and hypothesis development of the study. It also provides justification for the theory used to the theoretical framework of this research. The third chapter presents the research design (identifying population and sample, operational definition, measurement of variables, and questionnaire instrument), data collection procedures, and exploratory factor analysis. This chapter also provides a summary of statistical analysis procedures. The fourth chapter

presents the preparation of the data for analysis, descriptive statistics, preliminary data analysis, underlying statistical assumptions, goodness of the measurement instrument, and hypotheses testing. The last chapter (five) presents a summary of the main study findings, discussion, and contribution of the research. It also presents the study limitations and future directions.



CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter illustrates an overview of the four main constructs focused in this study that refer to BE, CRM, SQ, and innovation. The overview includes the concept of each construct as well as the measurement of each variable followed by a wide range of previous studies on the consequences of these four constructs and inter-relationships in between. The chapter also reviews CBBE and the theoretical framework as well as the development of the present study hypotheses followed by the summary of this chapter.

2.2 THE CONCEPT OF BRAND EQUITY

For centuries, companies have used branding to differentiate their goods from their competitors' goods. The concept of the brand originates from the old Germanic "brandr". Brandr means to burn. The clause 'mark with a hot iron', is a term that has been used since ancient times to mark livestock with a seal to distinguish them from those owned by others and it has become a method of identifying ownership (Stevenson, 2010). This concept was also emphasized later by American Marketing Association (AMA), when it defined a brand as "a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors." This definition reflects the importance of branding to differentiate the products and services among the competitors and emphasizes that brands bring value to both the customers and

the organizations. This is called equity (Aaker, 1991; Farquhar, 1989; Keller, 1993). One of the most widely accepted definitions of brand can be traced to Farquhar (1989), who identified BE as the “added value” that once it is created, will bring greater profits to all involved parties than those without this brand value (Aaker, 1991, 1996). Furthermore, Aaker (1991) defined BE in a comprehensive manner as “a set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm’s customers” (p. 15). These assets are product- centric concepts such as perceived quality, loyalty, brand associations, brand awareness, and other proprietary assets such as patents, channel relationship, and trademarks. Table 2.1 illustrates the most cited definitions of the concept of BE.

For Keller (1993), BE is “the differential effect that brand knowledge has on consumer response to the marketing of that brand” (p. 2). The definition reflects three concepts. Differential effect is identified by comparing customer response to the marketing of the brand to customer response to unbranded products or services. Brand knowledge consists of brand awareness and brand image. Customer response to the marketing activity is determined by customer preferences, perceptions, and behavior arising from marketing activities. Thus, the brand with a strong identity stays in the minds of the customers and reflects accumulated customer experience and knowledge about the brand over time (Keller, 1993; Berry, 2000).

Furthermore, Yoo *et al.* (2000) addressed brand's as an overall excellence and defined BE as a "the difference in consumer choice between a focal branded product and an unbranded product given the same level of product features" (p. 196). This definition compares two products that are similar in all features except brand name. This definition is also perceived as a combination of both Aaker (1991) and Keller (1993) CBBE definitions. Lassar, Mittal and Sharma (1995) defined BE as "the enhancement in the perceived utility and desirability a brand name confers on a product" (p. 13). The consumer's perception of the overall BE performance involves trustworthiness, social image, attachment, and value.

Table 2.1
Definitions of Brand Equity

Author and Year	Definition
Farquhar (1989)	"The added value endowed by the brand to the product" (p. RC7).
Aaker (1991)	"A set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers" (p. 15).
Srivastava and Shocker (1991)	"Brand equity subsumes two multi-dimensional concepts, brand strength and brand financial value" (p. 14).
Keller (1993)	"The differential effect of brand knowledge on consumer response to the marketing of the brand" (p. 2).
Simon and Sullivan (1993)	"Incremental cash flows which accrue to branded products over unbranded products" (p. 28)
Lassar <i>et al.</i> (1995)	"The enhancement in the perceived utility and desirability a brand name confers on a product" (p. 13).
Motameni and Shahrokhi (1998)	"Global Brand Equity (GBE) is the product of brand's net earnings and brand's multiple" (p. 281).
Yoo <i>et al.</i> (2000)	"The difference in consumer choice between the focal branded product and an unbranded product given the same level of product features" (p. 169).

Srivastava and Shocker (1991) identified BE as the incremental value that a product is given a brand name by a consumer association and the perceptions of a brand name. BE involves two dimensions of brand value and strength, where the former identifies the financial outcomes presented by the brand strength, and the latter is grounded on customer level measurements. Later, Simon and Sullivan (1993) defined BE based on financial market information as incremental cash flows attributed to branded versus unbranded products.

A review of these definitions indicates the power of having strong brands such as added value (Aaker, 1991; Farquhar 1989), incremental cash flow (Simon & Sullivan, 1993), brand value and brand strength (Srivastava & Shocker, 1991), and brand multiple and brand net earnings (Motameni & Shahrokhi, 1998). Furthermore, all of these definitions have tailored BE into three different perspectives, the financial perspective (the value of the brand to the firm), the customer perspective or CBBE (the value of the brand to the customer), and the comprehensive perspective (the value of the brand to both customer and firm) as illustrated in Table 2.2.

The basis of the financial perspective is the incremental discounted future cash flows that occur as a result of comparing the revenues of a branded product with the revenues of the same product if it did not have a brand name (Simon & Sullivan, 1993). In this situation, the brand performs as an asset of the firm's balance sheet (Kim *et al.*, 2003). Simon and Sullivan (1993) presented a financial tactic concentrate on stock market prices to capture the value of brand equities (Motameni & Shahrokhi, 1998). Based on the financial

market's valuation of the company, the methodology splits the value of a firm's securities into tangible and intangible assets and then extracts BE from other intangible assets (Kim & Kim, 2005). In short, this perspective has measured BE from a financial perspective in terms of firm aspects.

The customer perspective is centered on the knowledge that customers have learned, felt, seen, and heard about the brand, over time. This knowledge is reflected in the awareness and associations of the brand, or images linked to the brand (Aaker, 1991, Keller, 1993). Then, the power of a brand is what resides in the minds of customers about their experience with the brand and the marketing activities related to the brand (Keller, 1993). Therefore, BE conceptualization depends on individual customer behavior, and CBBE exists when the customer has meaningful aspects with the brand and holds enjoyable, unique, favorable, and strong associations in memory of a brand (Aaker, 1991, 1996; Keller, 1993; Yoo *et al.*, 2000). In the opinion of CBBE, the value of a brand is determined by the value of the customer. Active customer behavior towards a brand leads to the achievements in the firm's financial domain and leverages in the firm's added value (Aaker, 1991). In addition, BE is evaluated based on customer perception and behavior associated with brand-related customer-based aspects such as perceived quality, brand loyalty, brand association and brand awareness. These aspects (dimensions/assets) become the source of the value created by the brand (Aaker, 1991, 1996). Thus, marketing managers should be aware of selecting effective marketing programs that improve the value of the brand in customers' minds (Keller, 1993).

Lastly, the mixed perspective integrates both CBBE and the financial brand equity. This perspective appears to compensate for the insufficiencies that may exist when emphasizing only one of the two individual equities. Regarding this approach, Motameni and Shahrokhi (1998) suggested global BE valuations, which evaluate BE from an integrated perspective, the marketing perspective and the financial perspective.

Table 2.2

Previous Research on Brand Equity from Different Perspectives

Researchers	Concept	Measurements
CBBE		
Aaker (1991, 1996)	Brand awareness, brand associations, brand loyalty, and perceived quality	Perceptual and behavioral conceptualization
Srivastava and Shocker (1991)	Brand strength	Brand strength (customers' perception and behavior)+fit=brand value (financial outcome)
Keller (1993, 2001)	Brand knowledge	Brand knowledge=brand awareness+brand image
Blackston (1995)	Brand meaning	Brand relationships model: objective brand (personality characteristics, brand image)+subjective brand (brand attitude)
Kamakura and Russell (1993)	Brand value	Brand value= tangible value+intangible value
Swait <i>et al.</i> (1993)	Total utility	Equalization price measuring
Park and Srinivasan (1994)	Difference between overall preference and preference on the basis of objectively measured attribute levels	Brand equity=attribute based+non-attribute based
Francois and MacLachlan (1995)	Brand strength	Intrinsic brand strength
Lassar <i>et al.</i> (1995)	Performance	Evaluate only perceptual dimensions
	Social image and trustworthiness	
Agarwal and Rao (1996)	Commitment and value	Brand perception/brand preference/brand choice paradigm
	Overall quality and choice intention	
Yoo and Donthu (2001)	Brand loyalty, perceived quality, brand awareness and associations	Validating Aaker's conceptualization
Cobb-Walgren <i>et al.</i> (1995)	Brand awareness, perceived quality, and brand associations	Relationship with brand preference and usage intentions (Aaker, 1991)
Prasad and Dev (2000)	Brand performance and brand awareness	Hotel brand equity index=satisfaction+return intent+value perception+brand preference+brand awareness
Financially		
Simon and Sullivan (1993)	Incremental cash flows which accrue to branded products	Brand equity=intangible assets—(nonbrand factors+anticompetitive industry structure)

Table 2.2 (Continued)

Mixed aspects		
Farquhar (1989)	Added value with which a given brand endows a product	Respective evaluation on firm's, trade's, and consumer's perspective
Dyson <i>et al.</i> (1996)	Brand loyalty and brand attitude	Consumer value model: proportion of expenditure x weight of consumption
Motameni and Shahrokhi (1998)	Global Brand Equity (GBE)	Brand strength (customer, competitive, global potency) × brand net earnings

Source: Kim and Kim (2005, p. 553)

However, there is at least agreement that BE signifies the added value that the brand endows to the product or service (Aaker, 1991; Farquhar 1989), acts as a means of differentiation among competitive products (Aaker, 1991; Yoo *et al.*, 2000), and delivers value to the customers and organizations (Aaker, 1991; Farquhar, 1989; Keller, 1993). Furthermore, it is noticeable that BE is a multi-dimensional concept (Aaker, 1991; Keller, 1993; Lasser *et al.*, 1995) and can be measured from different perspectives (Kim & Kim, 2004, 2005).

This study will focus on CBBE as a driving force of increased market share and profitability of the brand. On the other hand, financial-based brand equity is ultimately the outcome of customer response to a brand. Consequently, the BE dimensions concept are discussed in the next section.

2.2.1 Brand Equity Dimensionality Concept

Many researched contexts consider BE as personality (self-concept), brand identification, and lifestyle (Johnson, Herrmann, & Huber, 2006), incremental utility (Simon & Sullivan, 1993), performance, social image, commitment, value, and trustworthiness (Lassar *et al.*, 1995), brand performance and brand awareness (Prasad & Dev, 2000), brand value and brand strength (Srivastava

& Shocker, 1991), brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary brand assets (Aaker, 1991), brand knowledge (brand awareness and brand image) (Keller, 1993), and perceived quality, brand loyalty, and brand awareness linked with a strong brand association (Yoo & Donthu, 2001, 2002; Yoo *et al.*, 2000). These equities demonstrate customer perception and behavior which create meaningful values for the firm (e.g. barriers against competitors and high profits), if only the brand is valuable to the customer. Therefore, evaluating CBBE from a customer perspective is advisable.

However, the four dimensions (assets) of BE brand loyalty, brand awareness, perceived quality, and brand association, proposed by Aaker (1991), have broad acceptance and employment by many scholars (Buil *et al.*, 2013; Hu, 2011; Moradi & Zarei, 2011; Yoo & Donthu, 2001, 2002). On the basis of these assets, Yoo and Donthu (2001) and Yoo *et al.* (2000) developed the customer-based overall BE, which estimated the basic idea of the BE construct through four items with the purpose of evaluating consumers' overall attitudes toward the focal brand and their intention to select the brand against its counterpart. The present study applied this holistic aspect of BE, which was already tested in many previous studies evaluating key marketing activities (Azadi *et al.*, 2015; Mostafa, 2015; Šerić, 2017; Vinh, 2017), but still remains rather neglected in the setting of medical tourism branding (Šerić, 2017).

Investigating BE from a holistic approach is useful, as the essence of the concept can be embraced through a few items, without considering different

dimensions that can contribute to a minor or major extent to BE building (Šerić, 2017; Vatjanasaregagul, 2007; Yoo & Donthu, 2001). In addition, overall BE provides a satisfactory measurement method for understanding the sources of BE (Šerić, 2017; Washburn & Plank, 2002; Yoo & Donthu, 2001; Yoo *et al.*, 2000). Further, the adaption of overall BE scale is culturally valid and applicable to various product/service categories (Christodoulides & De Chernatony, 2010; Vatjanasaregagul, 2007; Yoo & Donthu, 2001). Moreover, the instrument of overall BE is easy to administer, making it simple for brand managers to regularly evaluate the equity of their brands (Christodoulides & De Chernatony, 2010; Vatjanasaregagul, 2007; Yoo & Donthu, 2001). Therefore, the present research focuses on a CBBE perspective and mainly adopts the components of overall BE from Yoo *et al.* (2000) measurements including brand loyalty, perceived quality, and brand association with brand awareness.

Understanding the BE phenomenon properly requires tapping the full scope of BE assets, accordingly, the BE assets are discussed in the following sub-sections.

2.2.1.1 Brand Awareness

According to Keller (1993) brand awareness refers to “the customers’ ability to recall and recognize the brand as reflected by their ability to identify the brand under different conditions and to link the brand name, logo, symbol, and so forth to certain associations in memory” (p. 76). Aaker (1991) defined brand awareness as “the ability of a potential buyer to recognize or recall that

a brand is a member of a certain product category” (p. 61). Also, brand awareness refers to “the strength of a brand’s presence in the consumer’s mind” (Aaker, 1996, p. 10). In this scheme, Aaker (1996) measured brand awareness according to the different ways in which consumers remember a brand, ranging from recognition to recall to “top of mind” to dominant brand (Aaker, 1996). Recognition reflects familiarity gained from past exposure to the brand when given the brand as a cue, while brand recall reflects consumers’ ability to retrieve the brand from memory in a certain product category when given a relevant cue. Top of mind brand takes place when the first brand comes to consumer minds from a particular product category. The ultimate awareness level is brand name dominance where, in the recall task, most customers can only provide the name of a single brand. However, brand awareness consists of both brand recognition and brand recall (Aaker, 1996; Keller, 1993). A brand with strong equity represents a brand with a high level of awareness and familiarity and holds enjoyable, unique, favorable, and strong associations in the customer’s memory of the a brand (Aaker, 1991, 1996; Keller, 1993).

2.2.1.2 Brand Associations

Another asset of CBBE is brand associations (Aaker, 1991). Brand association is “anything linked in the memory to a brand” (Aaker, 1991, p. 109). These associations are related to any favorable or unfavorable contact or experience that links the brand with the customer’s memory (Aaker, 1996). This contact or experience could be service performance (Kim *et al.*, 2008), country of origin (Hanaysha & Hilman, 2015a; Mostafa, 2015; Murtiasih, Sucherly, &

Siringoringo, 2014; Pappu, Quester, & Cooksey, 2005; Yasin, Noor, & Mohamad, 2007), or store image (Yoo *et al.*, 2000). Strong associations can be a method for creating favorable, solid, and a unique brand image and strength BE (Aaker, 1991, 1996; Keller, 1993). Also, strong associations can enhance customer response with the brand experience (Aaker, 1991, 1996; Hanaysha & Hilman, 2015c; Keller, 1993). Brand awareness and brand association are found to be correlated and forms a specific brand image (Aaker, 1991, 1996; Keller, 1993; Yoo *et al.*, 2000).

2.2.1.3 Brand Loyalty

Brand loyalty is regarded to be the core dimension in the BE model because it is associated with positive usage experience (Aaker, 1991, 1996). In this sense, Aaker (1991) defined brand loyalty as “a measure of the attachment that a customer has to a brand” (p. 91). Subsequently, Oliver (1999) illustrated brand loyalty as “a deeply held commitment to rebuy or re-patronize a preferred product or service consistently in the future, despite situation influences and marketing efforts having the potential to cause switching behavior” (p. 34). Brand loyalty not only reflects future repurchase or re-patronizing the preferred brand, but also reflects a deep commitment that persuades customers to counter marketing efforts and situational factors that have the potential to cause switching behavior towards the brand (Oliver, 1999).

The importance of loyalty is also well recognized and correlated to lower uncertainty and in addition: saves the costs of searching for new relational

exchanges with other brands (Buil *et al.*, 2013; Horng, Liu, Chou, & Tsai, 2012), repeat in sales (Kim & Kim, 2004, 2005; Solayappan & Jayakrishnan, 2010; Sze & Hamid, 2012; Mahfooz, 2015); resist shifting to another competing brand (Baldauf, Cravens, & Binder, 2003; Moradi & Zarei, 2011; Yoo *et al.*, 2000); greater market share (Aaker, 1991; Baldauf *et al.*, 2003; Ghani, 2012); willing to pay premium price (Abbasi *et al.*, 2014; Horng *et al.*, 2012; Solayappan & Jayakrishnan, 2010), and have the strongest effect on BE (Aaker, 1991, 1996; Keller, 1993; Yoo *et al.*, 2000). Thus, strong brands can only be strong if they have a solid supply of loyal customers (Chien, 2013; Makasi *et al.*, 2014).

2.2.1.4 Perceived Quality

Perceived quality is one of the key dimensions in usual associations with BE (Aaker, 1991; Zeithaml, 1988). Perceived quality is “the consumer’s judgments about a product’s overall excellence or superiority” (Zeithaml, 1988, p. 3). Similarly, Aaker (1991) defined perceived quality as “the core construct” of BE and refers to “the customers’ perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives” (p. 85). These definitions of perceived quality reflect the overall superiority of a brand name; differentiation of the brand from the competition based on customers’ perception of the brand. Therefore, BE will increase according to the degree of quality that perceived by customers. Basically, customers’ judgment of SQ is made after experiencing the brand (Berry, 2000; Parasuraman *et al.*, 1985; Yoo & Donthu, 2001). Therefore, high perceived quality is the result of long-term experience with the brand.

Accordingly, an organization providing better quality of service gains longer term profitability (Long & Taipa, 2014; Yoo & Park, 2007), higher return on investment (Kim & Kim, 2004, 2005; Tsai, Cheung, & Lo, 2010), and the more satisfied the customers are (Han & Baek, 2004; Sultan & Wong, 2013; Yoo & Park, 2007).

However, knowledge about product quality is insufficient to understand SQ (Berry, 2000; Chahal & Bala, 2010; Kim & Kim, 2004, 2005). Perceived quality in the context of service is different from product quality because of intangibility, variability, perishability, and inseparability of service (Grönroos, 1984; Kotler, 2000; Parasuraman *et al.*, 1985).

To conclude, it is clear that BE assets are shown to have weight in relationship with customer response enhancement that is associated with brand experience, which in turn contributes to the firm's long-term performance achievement, and in turn will eventually sustain the firm's competitive advantage. Hence, the management of brand assets from the customer's perspective is vital for added value achievement (Aaker, 1996). In this scheme, marketing efforts must be selective, effective, and innovative in order to create, enhance, and expand BE assets (Aaker, 1996; Keller, 1993). Therefore, the consequences of BE assets on the firm's added value are discussed in the following section.

2.3 BRAND EQUITY CONSEQUENCES: THE EMPIRICAL EVIDENCE

Earlier literature have acknowledged that BE is a significant source of a firm's added value, as illustrated in Table 2.3. For example, Kim *et al.* (2003) found that BE assets that concentrating on brand loyalty, perceived quality, brand image, and brand awareness have a significant effect on the financial performance of the firm such as return on sale and return on equity. This explanation is further supported by Kim and Kim (2005). In a similar study, BE assets such as brand image, perceived quality, brand awareness, and brand loyalty have been found to have a significant effect on a firm's profitability index such as revenue and sales volume (Kim & Kim, 2004; Tsai *et al.*, 2010) as well as purchase intention (Horng *et al.*, 2012).

In other research areas, BE dimensions, including brand loyalty, perceived quality, brand awareness, and brand association also have been found to have significant positive effects on customer-response outcomes, such as loyalty (Hu, 2011), purchase intention and brand preferences (Buil *et al.*, 2013; Moradi & Zarei, 2011), customer choice (Sallam, 2016), and attitude towards brand extension (Buil *et al.*, 2013). Besides, BE assets are found to have a significant influence on overall BE (Buil *et al.*, 2013; Mohan & Sequeira, 2016), market share (Mohan & Sequeira, 2016), and sales volume (Sze & Hamid, 2012).

Moreover, previous research indicates that BE assets, particularly brand awareness and perceived quality also have a significant influence on brand

loyalty (Usman, Rida, Madiha, & Mohsin, 2012; Vinh, Nga, & Nguyen, 2017; Zhang, Pitsaphol, & Shabbir, 2014). Similar to brand awareness and perceived quality, brand image is also found to have direct positive influences on: customer loyalty to a brand (Amin, Isa, & Fontaine, 2013; Ko, 2017; Sondoh Jr *et al.*, 2007; Vinh *et al.*, 2017; Wu, 2011; Yu-TeTu & Hsu, 2013; Zhang *et al.*, 2014) customer willingness to pay the premium price (Anselmsson, Vestman Bondesson, & Johansson, 2014); word of mouth, brand trust, and repeat brand purchases (Solayappan & Jayakrishnan, 2010), and customer commitment to a brand (Yu-TeTu & Hsu, 2013). Additionally, customer judgment of SQ is also found to have a significant positive effect on customer satisfaction (Yoo & Park, 2007) and customer loyalty (Ko, 2017).

Table 2.3
Brand Equity Consequences: The Empirical Evidence

Author and Year	Context	Brand Equity	Firm's Added Value	Results
Kim <i>et al.</i> (2003)	Hospitality	Brand loyalty Perceived quality Brand image Brand awareness	Return on equity Return on sale	Significant
Kim and Kim (2004)	Hospitality	Brand loyalty Perceived quality Brand image Brand awareness	Revenue	Significant
Kim and Kim (2005)	Hospitality	Brand loyalty Perceived quality Brand image Brand awareness	Return on equity Return on sale	Significant
Yoo and Park (2007)	Hospitality	Perceived quality	Customer satisfaction	Significant
Sondoh Jr <i>et al.</i> (2007)	Cosmetics	Brand Image	Customer loyalty	Significant

Table 2.3 (Continued)

Author and Year	Context	Brand Equity	Firm's Added Value	Results
Tsai <i>et al.</i> (2010)	Hospitality	Brand loyalty Perceived quality Brand image Brand awareness	Financial performance Brand equity	Significant
Solayappan and Jayakrishnan (2010)	Healthcare	Brand image Brand loyalty	Word of mouth Repeat visit Customer satisfaction Brand trust	Significant
Moradi and Zarei (2011)	Computers	Brand loyalty Perceived quality Brand association Brand awareness	Brand preferences Purchase intention	Significant
Wu (2011)	Healthcare	Brand image	Service quality Customer loyalty	Significant
Hu (2011)	Retail chains	Brand loyalty Perceived quality Brand awareness Brand association	Customer loyalty	Significant
Irshad and Irshad (2012)	Mobile network	Brand awareness Brand association Brand Loyalty	Purchase intention	Significant
Horng <i>et al.</i> (2012)	Cultural tourism	Brand loyalty Perceived quality Brand image Brand awareness	Travel intention	Significant
Sze and Hamid (2012)	Automobile	Brand loyalty Perceived quality Brand awareness Brand association	Sales volume	Significant
Usman <i>et al.</i> (2012)	Cosmetics	Perceived quality Brand association Brand awareness	Brand loyalty	Significant
Amin <i>et al.</i> (2013)	Banks	Brand Image	Customer loyalty	Significant

Table 2.3 (Continued)

Author and Year	Context	Brand Equity	Firm's Added Value	Results
Buil <i>et al.</i> (2013)	B2B	Brand loyalty Perceived quality Brand awareness Brand association	Pay price premiums Purchase attention Brand preference Attitude toward brand extension Overall brand equity	Significant
Al-Azzam and Azzam (2013)	Mobile networks	Brand image	Customer loyalty	Significant
Yu-TeTu and Hsu (2013)	Automobile	Brand image	Customer commitment Customer loyalty	Significant
Zhang <i>et al.</i> (2014)	Smart phones	Brand image Perceived quality Brand awareness	Brand loyalty	Significant
Anselmsson <i>et al.</i> (2014)	Food products	Brand image	Pay premium price	Significant
Sasmitha and Mohd Suki (2015)	Smart phones	Brand association Brand awareness Brand image Brand loyalty	Brand equity	Significant
Mohan and Sequeira (2016)	FMCG	Overall brand equity Brand association Brand awareness Brand loyalty Perceived quality	Market share	Significant
Sallam (2016)	Smart phones	Brand equity	Customer choice	Significant
Ko (2017)	Hospitality	Perceived quality Brand image	Customer loyalty Customer value	Significant
Vinh <i>et al.</i> (2017)	Tourism	Brand Awareness Brand Image Perceived quality	Brand loyalty	Significant

In general terms, the literature review highlighted the significant effect between BE and a firm's added value (consequences). These consequences reflect the value added to the firms in forms of financial performance, market share and increase return on equity, while value perceived by the customers in forms of increased loyalty, retention, less price sensitivity, trust and

satisfaction. The strong equity reflects a superior customer value strategy that can achieve a competitive advantage. However, in the medical tourism context, customers are essential elements of a healthcare provider's survival. Thus, building strong CBBE is a great strategy to achieve customer's value which can generate the greatest barrier to entry for newcomers (Aaker, 1991, 1996; Keller, 2003, 2013).

However, despite the strategic importance of BE, a large stream of literature has investigated the BE consequences, few empirical studies have addressed the development of BE (Loureiro *et al.*, 2017; Vinh, 2017; Yoo *et al.*, 2000). This implies a need for a continuous search for the determinants of BE and further insights into customer-based sources of BE. The following section provides a detailed review of the previous empirical research that has explored the antecedents of BE, which is the focus of this study.

2.4 BRAND EQUITY ANTECEDENTS: THE EMPIRICAL EVIDENCE

Over the years, a tremendous of research on BE activity-building has been conducted in different contexts and different countries as shown in Table 2.4. Most of these studies have concentrated on BE and its dimension as determinants in terms of marketing mix such as advertising spending (Asare & Lei, 2017; Budiarti, Hawidjojo, & Jomahir, 2013; Buil *et al.*, 2010; Chen & Green, 2011; Mutsikiwa, Dhliwayo, & Basera, 2013; Rajh, 2006; Yoo *et al.*, 2000), price (Asare & Lei, 2017; Chen & Green, 2011; Rajh, 2006; Yoo *et al.*, 2000), store image (Chen & Green, 2011; Rajh, 2006; Yoo *et al.*, 2000),

distribution intensity (Chen & Green, 2011; Rajh, 2006; Yoo *et al.*, 2000), price promotion (Asare & Lei, 2017; Buil *et al.*, 2010; Chen & Green, 2011; Rajh, 2006; Valette-Florence *et al.*, 2011; Yoo *et al.*, 2000), public relations (Rahi, 2016; Valette-Florence *et al.*, 2011), sponsorship (Chattopadhyay, Shivani, & Krishnan, 2010; Rajh, 2006; Sadat & Mehrara, 2015), packaging (Dhurup *et al.*, 2014; Daud *et al.*, 2017), word of mouth (Taşkın, Emel, Karadamar, & Memiş, 2016; Virvilaite, Tumasonyte, & Sliburyte, 2015; Yang *et al.*, 2015), and physical environment (Hanaysha, 2016a; Mukherjee & Shivani, 2016; Vinh, 2017).

Furthermore, several studies have paid attention to BE sources in terms of customer experience (A-Qader, Omar, & Rubel, 2017; Altaf *et al.*, 2017; Chen & Green, 2011; Hepola *et al.*, 2017; Shekhar Kumar *et al.*, 2013), country of origin (Azadi *et al.*, 2015; Chattopadhyay *et al.*, 2010; Hanaysha & Hilman, 2015a; Loureiro *et al.*, 2017; Mostafa, 2015), country of manufacturing (Loureiro *et al.*, 2017; Mostafa, 2015), and relationship quality (Hanaysha & Hilman, 2015c; Nyadzayo & Khajehzadeh, 2016; Tuan, 2017).

However, only a few empirical studies have focused on BE sources in terms of CRM (Chahal, 2010; Hanaysha *et al.*, 2013; Keller & Lehmann 2006; King, 2017; Sehhat, 2013) and SQ (Ha, 2009; Hanaysha & Hilman, 2015c; Keller & Lehmann, 2006; Ming *et al.*, 2012; Moghaddam, 2014) in addition to innovation (Hanaysha *et al.*, 2014; Sanayei *et al.*, 2013; Nørskov, Chrysochou, & Milenkova, 2015).

In addition, many research efforts have been invested in studying the introduction of BE assets as the sources of the equity development such as brand awareness (Chattopadhyay *et al.*, 2010; Shekhar Kumar *et al.*, 2013; Tsai *et al.*, 2010; Vinh, 2017), brand association (Buil *et al.*, 2013; Mostafa, 2015; Vinh, 2017), brand loyalty (Azadi *et al.*, 2015; Sasmita & Mohd Suki, 2015; Šerić *et al.*, 2017; Shekhar Kumar *et al.*, 2013; Yoo *et al.*, 2000), perceived quality (Buil *et al.*, 2013; Chattopadhyay *et al.*, 2010; Mostafa, 2015; Yoo *et al.*, 2000), and brand image (Asare & Lei, 2017; Azadi *et al.*, 2015; Šerić *et al.*, 2017; Tsai *et al.*, 2010). Besides, previous BE studies have also focused on investigating the inter-relationships between BE assets on each other (Asare & Lei, 2017; Buil *et al.*, 2010; Dhurup *et al.*, 2014; Girard *et al.*, 2017; Shekhar Kumar *et al.*, 2013; Vinh & Nga, 2015; Zhang *et al.*, 2014). This is clearly supported by the argument of Hanaysha *et al.* (2013) that “a significant amount of literature has been done to understand the interrelationships among brand equity dimensions through the examination brand equity dimensions on each other” (p. 494).

Furthermore, most previous studies on BE development were conducted on product category, smart phones, retail chains, and automobiles. Only a few studies were conducted in the medical tourism context. Mukherjee and Shivani (2016) asserted that “despite the growing importance of the service sector and services marketing, there is a paucity of literature in the area in general and branding literature in particular” (p. 9). Additionally, most of these empirical evidences were conducted in countries such as Malaysia, Iran, France, and United States. However, so far, only a few studies were conducted in the

Middle East including Jordan. Chattopadhyay *et al.* (2010) emphasized this, saying that “almost all the previous studies have focused mainly on the American and the other Western countries” (p. 68) and further supported by Hanaysha *et al.* (2013) and Mahfooz (2015).

Table 2.4

Brand Equity Antecedents: The Empirical Evidence

Antecedents of Brand Equity	Author and Year
Price	Asare and Lei (2017), Chattopadhyay <i>et al.</i> (2010), Chen and Green (2011), Dhurup <i>et al.</i> (2014), Hanaysha (2016), Rajh (2006), and Yoo <i>et al.</i> (2000).
Store image	Chattopadhyay <i>et al.</i> (2010), Chen and Green (2011), Rajh (2006), and Yoo <i>et al.</i> (2000).
Marketing communication	Šerić (2017) and Taşkın <i>et al.</i> (2016).
Distribution intensity	Chattopadhyay <i>et al.</i> (2010), Chen and Green (2011), Ebeid (2014), Rajh (2006), and Yoo <i>et al.</i> (2000).
Advertising	Asare and Lei (2017), Budiarti <i>et al.</i> (2013), Buil <i>et al.</i> (2010), Charanah and Njuguna (2015), Chattopadhyay <i>et al.</i> (2010), Chen and Green (2011), Ebeid (2014), Hanaysha and Hilman (2015a), Karunanithy and Sivesan (2013), Loureiro <i>et al.</i> (2017), Mukherjee and Shivani (2016), Mutsikiwa <i>et al.</i> (2013), Rajh (2006), Sadat and Mehrara (2015), Yang <i>et al.</i> (2015), and Yoo <i>et al.</i> (2000).
Service quality	Budiarti <i>et al.</i> (2013), Hanaysha and Hilman (2015c), and Nyadzayo and Khajehzadeh (2016).
Price promotion	Asare and Lei (2017), Buil <i>et al.</i> (2010), Chattopadhyay <i>et al.</i> (2010), Chen and Green (2011), Ebeid (2014), Karunanithy and Sivesan (2013), Rajh (2006), Sadat and Mehrara (2015), Valette-Florence <i>et al.</i> (2011), and Yoo <i>et al.</i> (2000).
Packaging	Daud <i>et al.</i> (2017) and Dhurup <i>et al.</i> (2014).
Sponsorship	Chattopadhyay <i>et al.</i> (2010), Rajh (2006), and Sadat and Mehrara (2015).
Public relations	Karunanithy and Sivesan (2013) and Rahi (2016).
Word of mouth	Chattopadhyay <i>et al.</i> (2010), Mukherjee and Shivani (2016), Virvilaite <i>et al.</i> (2015), and Yang <i>et al.</i> (2015).
Customer experience	A-Qader <i>et al.</i> (2017), Chen and Green (2011), Hepola <i>et al.</i> (2017), and Shekhar Kumar <i>et al.</i> (2013).
Brand personality	Daud <i>et al.</i> (2016) and Valette-Florence <i>et al.</i> (2011).
Promotion activities	Chattopadhyay <i>et al.</i> (2010) and Giroux <i>et al.</i> (2017).

Table 2.4 (Continued)

Antecedents of Brand Equity	Author and Year
Physical environment	Hanaysha (2016), Mukherjee and Shivani (2016), and Vinh (2017).
Relationship quality	Hanaysha and Hilman (2015c), Nyadzayo and Khajehzadeh (2016), and Tuan (2017).
Country of manufacturing	Loureiro <i>et al.</i> (2017) and Mostafa (2015).
Country of origin	Azadi <i>et al.</i> (2015), Chattopadhyay <i>et al.</i> (2010), Hanaysha and Hilman (2015a), Loureiro <i>et al.</i> (2017), and Mostafa (2015).
Others	Faircloth, Capella, and Alford (2001), Girard <i>et al.</i> (2017), Hepola <i>et al.</i> (2017), Nyadzayo and Khajehzadeh (2016), Rahi (2016), Shekhar Kumar <i>et al.</i> (2013), Taşkın <i>et al.</i> (2016), Tuan (2017), and Yang <i>et al.</i> (2015).
Brand Equity Dimensions	
Perceived quality	Asare and Lei (2017), Azadi <i>et al.</i> (2015), Buil <i>et al.</i> (2013), Chattopadhyay <i>et al.</i> (2010), Mostafa (2015), Mukherjee and Shivani (2016), Tsai <i>et al.</i> (2010), Vinh (2017), and Yoo <i>et al.</i> (2000).
Brand association	Buil <i>et al.</i> (2013), Mostafa (2015), Sasmita and Mohd Suki (2015), and Vinh (2017).
Brand image	Asare and Lei (2017), Faircloth <i>et al.</i> (2001), Mukherjee and Shivani (2016), Rajh (2006), Sasmita and Mohd Suki (2015), Šerić <i>et al.</i> (2017), and Tsai <i>et al.</i> (2010).
Brand loyalty	Asare and Lei (2017), Azadi <i>et al.</i> (2015), Buil <i>et al.</i> (2013), Mostafa (2015), Šerić <i>et al.</i> (2017), Tsai <i>et al.</i> (2010), Vinh (2017), and Yoo <i>et al.</i> (2000).
Awareness/association	Azadi <i>et al.</i> (2015), Sasmita and Mohd Suki (2015), and Yoo <i>et al.</i> (2000).
Brand awareness	Buil <i>et al.</i> (2013), Chattopadhyay <i>et al.</i> (2010), Mostafa (2015), Rajh (2006), Sasmita and Mohd Suki (2015), Tsai <i>et al.</i> (2010), and Vinh (2017).
Inter-relationships among brand equity dimensions	Amin <i>et al.</i> (2013), Asare and Lei (2017), Buil <i>et al.</i> (2010), Dhurup <i>et al.</i> (2014), Girard <i>et al.</i> (2017), Ko (2017), Liu, Liu, and Lin (2015), Rahi (2016), Severi and Ling (2013), Shekhar Kumar <i>et al.</i> (2013), Sondoh Jr <i>et al.</i> (2007), Usman <i>et al.</i> (2012), Vinh and Nga (2015), Vinh <i>et al.</i> (2017), Wu (2011), and Zhang <i>et al.</i> (2014).

Theoretically, Hanaysha *et al.* (2013) stated that most of literature reviews of CBBE in the 1990s, 2000s and 2010s focused on product category; the consequences; the conceptualization; interrelationships among BE dimensions; and antecedents of BE, mainly the tangible aspects of marketing mix such as distribution intensity, price promotion, advertising, store image, public

relations, packing and symbols (Ghani, 2012). Despite the contributions of the marketing mix (4Ps) for BE enhancements, this mix is still focused on short-term performance and can be copied easily by competitors, which erodes the customer-base and a firm's competitive advantage (Fayrene & Lee, 2011; Ghani, 2012; Keller, 1993). In relationship to this, intangible aspects of marketing programs are becoming more important in building BE in the long run, especially in the current era of globalization and stiff market competition. Regrettably, studies in this particular area in relationship to the intangible sources of BE are still lacking (Chahal & Bala, 2012; Ghani, 2012; Hanaysha *et al.*, 2013; Keller & Lehmann, 2006; Kim *et al.*, 2008; Yoo *et al.*, 2000; Mahfooz, 2015). Therefore, a need exists for future studies that concentrate on the intangible marketing efforts that assist in understanding BE building and becoming a source of BE (Davicik *et al.*, 2015; Hanaysha & Hilar, 2015a; Hanaysha *et al.*, 2013; Keller & Lehman, 2006; Yoo *et al.*, 2000). The gap has remained and has caused a need for future empirical studies investigating which intangible marketing efforts assist in building a strong brand and becoming a source of BE.

Additionally, as stated previously, the success of a brand is where the point of differentiation should be valued from the customer's perspective, including medical tourists (Aaker, 1991; Keller, 1993). Hence, the implementation of the CRM strategy and SQ is valuable, considering the main structure around the customer (Aaker, 1991, 1996). Besides, CRM and SQ have been seen to enhance innovation capabilities, which lead to maximizing customer value achievements such as BE (Aaker, 1991, 1996; Lin *et al.*, 2010). The

comprehensive implementation of CRM, SQ, and innovation is necessary for healthcare survival (Aaker, 1991; Keller & Lehmann, 2006). However, only a few empirical studies have linked these marketing activities to BE (Davicik *et al.*, 2015; Ghani, 2012; Hanaysha & Hilman, 2015c; Hanaysha *et al.*, 2013; Kim *et al.*, 2008; Yoo *et al.*, 2000). Therefore, this study attempts to investigate the potential effect of CRM, SQ, and innovation on BE building. Furthermore, because the assessment of medical tourism CBBE theory (Al-Azzam, 2013; Vinh & Nga, 2015; Yang *et al.*, 2015) by medical tourists (Kim *et al.*, 2008; Yang *et al.*, 2015; Yoo *et al.*, 2000) has not received much research attention, this research gap will be explored and become the main study context of the present study.

In short, a thorough review of past research thus far indicates that there limited empirical studies have attempted to examine the effect of intangible sources of BE building, namely CRM, SQ, and innovation in the domain of medical tourism in service setting in Jordan. Thus, the present study investigates these effects in the Jordanian medical tourism. Accordingly, the following sub-topic discussed the importance of these elements.

2.5 RELATIONSHIP MARKETING (RM) AND CUSTOMER RELATIONSHIP MANAGEMENT (CRM)

The basis of the development of CRM is generally considered to be Relationship Marketing (RM) as discussed below.

2.5.1 The Emergence of Relationship Marketing (RM) and Concept

Many scholars chased the evolution of RM practice back to before the 1900s. RM was re-birthed; due to marketing activities in the pre-industrial era (Palmatier, 2008). In this period, producers were selling their products directly to end users in the local market place. The direct interaction between marketing actors led to confidence, cooperation and trust over time.

The dynamics of marketing practices were changed during the industrial era with the development of mass production and mass consumption. Producers were able to generate economies of scale in producing, and through price advantage invade the traditional markets of smaller, less efficient producers. Also, with the introduction of new channels, “Middlemen” competing for business, often with similar or indiscernible products, exchanges became transactional based. Thus, brands emerged as a sign of quality reassurance. In effect, branding became a substitute for a personal relationship (Palmer, 1997). In the later period of the industrial era, two significant developments occurred: (a) marketer’s recognized that customers’ repeat purchases, making it critical to boost brand loyalty, and (b) the advancement of administering vertical marketing systems, whereby marketers earned control over distribution channels and created effective tools of preventing

competitors from joining into these channels and building long-term relationships (Murphy, Laczniak, & Wood, 2007; Palmatier, 2008).

However, in the post-industrial era, Murphy *et al.* (2007) stated that the growth of the relationship orientation of marketing was due to at least three underlying trends. First, advances in technology included IT and communications which were used as supporting tools for direct transactions between producers and consumers on a national or global level. In this situation, relational-based transaction, such as confidentiality and trust evolved. Second, the growth of the service economy in which trust became more important due to economic transmission from product to service and the intangibility of the service. Third, increases in global competition led to concern for customer retention. Accordingly, RM programs have become critical tools to increase customer loyalty and support premium prices.

In short, the origins of RM were born out of ancient trading practice. But in the service economy, RM re-emerged as one the dominant paradigms of marketing. However, the term “relationship marketing” was often attributed to Berry (1983) in Palmatier (2008). Table 2.5 illustrates a summary of the common RM definitions.

Table 2.5
Definitions of Relationship Marketing

Author and Year	Definition
Berry (1983)	"Attracting, maintaining, and—in multi-service organizations—enhancing customer relationships" (p. 25).
Grönroos (1997)	"Process of identifying and establishing, maintaining, enhancing, and when necessary terminating relationships with customers and other stakeholders, at a profit, so that the objectives of all parties involved are met, where this is done by a mutual giving and fulfillment of promises" (p. 407).
Harker (1999)	"Organization engaged in proactively creating, developing and maintaining committed, interactive and profitable exchanges with selected customers [partners] over time" (p. 16).
Sheth and Parvatiyar (2000)	"All marketing activities directed toward establishing, developing, and maintaining successful relational exchanges" (p. 9).
Palmatier (2008)	"The process of identifying, developing, maintaining, and terminating relational exchanges with the purpose of enhancing performance" (p. 3).

Source: Palmatier (2008, p. 4)

These definitions reflected the importance of RM in understanding the customer's value and delivering their needs for business success. Regardless of the RM terms, as stated earlier, due to the evolution of information technology, the service economy, and global competition associated with a rapidly changing environment, ever-demanding and changeable customers, and mature markets, CRM was formulated to manage relationships with customers, understand and anticipate customer changes, and increase customer retention effectively. Nevertheless, RM and CRM are often used interchangeably, which sometimes can cause confusion about their meanings. Although both concepts are closely related in the sense that they are based on the idea of building relationships with customers, there are some important differences between RM and CRM.

Palmatier (2008) delineates three key differences between the RM and CRM.

First, RM offers a strategic approach whilst CRM is often related to a more

tactical approach. Moreover, RM should focus on emotional and behavioral elements such as attachment and empathy, and CRM should focus on managerial elements related to building and maintaining relationships with customers. Finally, RM is broader in its capacity to embrace relationship building with all stakeholders, including suppliers and employees, and CRM is more centered in building relationships with profitable key customers. But the main difference is that CRM often focuses on using information technology in achieving RM strategies. Thus, the CRM concept is engaged in the following section.

2.6 THE CONCEPT OF CUSTOMER RELATIONSHIP MANAGEMENT

Universally, there is no agreed definition for CRM (Rashid & Tahir, 2013). Sadek *et al.* (2011) added that although CRM is well recognized globally as an innovative tool to ease the expansion of a customer base in order to meet market competition requirements, there is no single accepted definition and there are different meanings to different people depending on the working environment and other contingent factors it has been used in (Mohammed & Rashid, 2012; Rababah, Mohd, & Ibrahim, 2011; Rashid & Tahir, 2013).

Some authors have restricted the discussion of CRM to specific areas, such as technological perspectives like software, data storage, and data analysis (Hung *et al.*, 2010; Rababah *et al.*, 2011; Sigala, 2005). Others have explained that CRM is a process of managing and building long-term relationships between firms and customers (Kasim & Minai, 2009; Kesuma, Hadiwidjojo,

Wiagustini, & Rohman, 2013; Mohammed & Rashid, 2012). Ngai (2005) noted that the literature on CRM is sparse in different areas. This in turn has led to confusion about what exactly CRM is. While many scholars use the term CRM, there still remains a need to resolve the uncertainty among academics and scholars as to what constitutes this concept (Akroush *et al.*, 2011; Maklan & Knox, 2009; Rashid & Tahir, 2013). Zablah, Bellenger, and Johnston (2004) stated that CRM can be broken into five categories: process, strategy, philosophy, technology and capability as shown in Table 2.6 (p. 66).

First, the process perspective relates to a set of tasks or actions that together transform organizational resources (e.g. human capital) in a coveted business outcome (e.g. successful new products). These processes are categorized into higher aggregated processes made up of a number of sub-processes (macro levels) and lower aggregated sub-processes (micro levels). Based on this argument, Reinartz, Krafft, and Hoyer (2004) defined CRM as “a systematic process to manage customer relationship initiation, maintenance, and termination across all customer contact points in order to maximize the value of the relationship portfolio” (p. 295).

The second perspective is strategic vision, which is defined as an “overall plan for deploying resources to establish a favorable position” (Grant 1988, p. 14 in Zablah *et al.*, 2004, p. 477). Thus, the firms must manage relationships with customers and allocate the resources accordingly, differently, and selectively, because customers vary in loyalty and profitability. More specifically, this view suggests that resources destined for relationship development and

maintenance should be allocated based on customer lifetime value to the firm or customer equity. Customer lifetime value is the estimated net profits gained by the firm over the course of relationships with the customer. The focus of strategic CRM “is not on how relationships are developed and maintained, but more so on how building the right type of relationships can have a substantial positive impact on corporate profitability” (Zablah *et al.* 2004, p. 478).

Table 2.6
Dominant Perspectives on Customer Relationship Management

Perspective	Description	Implications for CRM Success	Representative Conceptualization
Process	Buyer – seller relationships develop over time and must evolve to perdure.	CRM success is contingent upon a firm’s ability to detect and respond to evolving customer needs and preferences.	[CRM is concerned with] the creation and leveraging of linkages and relationships with external marketplace entities, especially channels and end users (Srivastava <i>et al.</i> , 1999, p. 169).
Strategy	A customer’s lifetime value determines the amount and kinds of resources that a firm invests in a particular relationship.	CRM success requires that firms continually assess and prioritize customer relationships based on their relative lifetime profitability.	[CRM enables companies to] invest in the customers that are potentially valuable for the company, but also minimize their investments in non valuable customers (Verhoef & Donkers, 2001, p. 189).
Philosophy	Customer retention (and hence profitability) is best achieved through a focus on relationship building and maintenance.	CRM success requires that firms be customer-centric and driven by an understanding of customers’ changing needs.	CRM is not a discrete project—it is a business philosophy aimed at achieving customer centricity for the company (Hasan, 2003, p. 16).
Capability	Long-term, profitable relationships result only when firms are able to continuously adapt their behavior towards individual customers.	CRM success is contingent upon a firm’s possession of a set of tangible and intangible resources that afford it the flexibility to change its behavior towards individual customers on an ongoing basis.	[CRM] means being willing and able to change your behavior toward an individual customer based on what the customer tells you and what else you know about that customer (Peppers <i>et al.</i> , 1999, p. 101).
Technology	Knowledge and interaction management technologies represent the key resources firms need to build long-term, profitable customer relationships.	CRM success is primarily driven by the functionality and user acceptance of the technology firms implement in an attempt to build customer knowledge and manage interactions.	CRM is the technology used to blend sales, marketing, and service information systems to build partnerships with customers (Shoemaker, 2001, p. 178).

Source: Zablah *et al.* (2004, p. 477)

The third perspective is the philosophical view which considers that a strong relationship remains in terms of customer retention and firm profitability. Customer retention can be achieved by developing and maintaining long-term relationships with customers rather than seeking routine transaction-based between the buyers and the sellers. Therefore, companies should be attentive to their customers and their evolving needs.

The fourth perspective is capability. Grant (1991, p. 119) in Zablah *et al.* (2004, p. 478) differentiated between resources and capabilities: "Capabilities refer to the capacity for a team of resources to perform some task or activity, while resources are the source of a firm's capabilities; capabilities are the main source of its competitive advantage". Capabilities are complicated skills, not easy to imitate or purchase and arise out of knowledge-based resources (Day, 1994). In line with this thinking, Day (1994) linked the process and capability conceptualizations of CRM "capabilities are complex bundles of skills and accumulated knowledge, exercised through organizational processes that enable firms to coordinate activities and make use of their assets" (p. 38). This view highlights the fact that organizations must perform a mix of resources that allows them continuous modification of behavior towards individual customers. In addition, this view represents a potential source of competitive advantage.

The final perspective is technology which refers to technological tools that enable firms to identify, develop and integrate various skills with the needs of existing and potential customers in order to build customer relationship and

accomplish customer value over the long-term (Reinartz *et al.*, 2004). However, in fact, Zablah *et al.* (2004) illustrated the most expressed ideas in the literature by stating that “CRM is much more than technology and that a lack of understanding about its true nature is, in part, responsible for the failure of numerous CRM initiatives” (p. 479).

These various definitions confirm the widely accepted notion of a lack of general agreement about the definition of CRM. Nevertheless, in the present study, CRM is a comprehensive business strategy that enables organizations to identify, acquire, retain and interact with customer by establishing and maintaining long-term relationships with them (Akroush *et al.*, 2011; Lin *et al.*, 2010; Sin *et al.*, 2005). This strategic orientation of CRM links to customer-centric strategy that aims to develop a one-to-one relationship with customers. Through combining all the processes and functions of an organization, CRM is used to properly manage relationships with customers’ by managing and covering all customer contact points, with the aim of developing value for the customer and profitability for the organization (Parvatiyar & Sheth, 2001; Sin *et al.*, 2005; Lin *et al.*, 2010). This view is well-supported in the literature (Aaker, 1991; Akroush *et al.*, 2011; Keller, 1993; Lin *et al.*, 2010; Oliver, 1999; Sin *et al.*, 2005).

The following section focuses on the most popular CRM activities listed by scholars: knowledge management (KM), long-term association, customer involvement, joint problem solving, and technology-based CRM.

2.6.1 Customer Relationship Management Dimensions

The main aim of CRM is to create a long-term customer relationship for the purpose of improving the value of both the parties taking part in the interaction (Rababah *et al.*, 2011; Rashid & Tahir, 2013; Sin *et al.*, 2005). Generally speaking, CRM allows the organization to cull the necessary suitable information from customers, which related to their values, behaviors, needs and preferences, which in turn assists the organization to achieve competitive advantage (Abbasi *et al.*, 2014; Battor & Battor, 2010; Sin *et al.*, 2005) as well as to have a positive impact on organizational performance (Akroush *et al.*, 2011; Chun & Hong, 2014; Ngai, 2005). However, organizations make use of CRM by integrating business strategy, people, processes, and technology (Akroush *et al.*, 2011; Maklan & Knox, 2009; Sin *et al.*, 2005). In this sense, CRM usually involves five activities, namely KM (Akroush *et al.*, 2011; Boateng, 2014; Mohammed & Rashid, 2012), long-term association (Jalali & Sardari, 2015; Lin *et al.*, 2010; Toma, Mihoreanu, & Ionescu, 2014), customer involvement (Ghafari *et al.*, 2011; Jalali & Sardari, 2015; Lin *et al.*, 2010), joint problem solving (Ghafari *et al.*, 2011; Lin *et al.*, 2010; Toma *et al.*, 2014), and technology- based CRM (Akroush *et al.*, 2011; Al-Meshal & Al-Motairi, 2013; Sin *et al.*, 2005; Toma *et al.*, 2014). The implementation of CRM practices pertaining on study context and viewed perspective. The subsequent sections discuss these activities

2.6.1.1 Knowledge Management (KM)

KM is an organizational method which aims to capture, share and use customer information and customer knowledgeable-experience for the purpose

of fulfilling customers' needs for the development of superior values for the customer, and continuing superior performance for the firm (Akroush *et al.*, 2011; Taherparvar, Esmaeilpour, & Dostar, 2014; Zhang, 2011). This requires customer involvement in a firm's information processing activities that involves the generation, dissemination, and the use of knowledge about, from and for customers (Akroush *et al.*, 2011; Hakimi, Triki, & Hammami, 2014; Sin *et al.*, 2005; Taherparvar *et al.*, 2014), and thus, in this way, customers become coequal partners in adding value achievements (Du Plessis, 2007; Taie, 2014; Zhang, 2011).

According to Darroch and McNaughton (2002) KM is a two-way learning process activity between the customer and the firm that includes knowledge- and experience- sharing, learning activities, problem solving, and taking the privilege of the exchange process benefits. Therefore, for customer profitability enhancement, the firm should gather all information about customer needs and preferences through contact points or interactions across all organizational functions and areas (Akroush *et al.*, 2011; Sin *et al.*, 2005). Darroch (2005) and Sin *et al.* (2005) argued that KM has three components. First, knowledge acquisition for the intention of building a "learning relationship" with customers (Sigala, 2005) by gathering customer information about their current and future needs either directly or indirectly via a two-way interactive communication system, and through business intelligence techniques (e.g. data mining, data warehouses, and data marts) (Akroush *et al.*, 2011; Rashid & Tahir, 2013; Sin *et al.*, 2005). Second, knowledge dissemination and sharing from different departments for value creation (Chen

& Huang, 2009; Sin *et al.*, 2005). Knowledge may be limited in value, if not shared through the organization (Battor & Battor, 2010). Finally, responding to knowledge is the action that can be taken in response to generating information and sharing, such actions involve the selection of target segments, deliberately crafting the marketing efforts, and meticulous customization of product/service that target customers' current and expected preferences, particularly in a demanding and changeable environment. Thus, taking effective marketing actions will enhance long-term relationships with customers and deliver superior performance (Mithas, Krishnan, & Fornell, 2005; Rootman, Tait, & Bosch, 2007; Sin *et al.*, 2005).

Sigala (2005) has identified three types of customer information: (a) information of the customer which includes collecting customer's personal and transactional information which is useful to study sales volume, customer preferences, and identify profitable customer, (b) information for the customer which comprises information about the product, service, and organization that are perceived useful by customers. Direct mail and internet home pages are examples of tools used to disseminate this type of information, and (c) information by the customer which includes customer complaints, claims, and customer feedback which are helpful for product and service development.

Based on the above arguments, data, information and knowledge, which are gathered by customers KM, play a vital role in CRM as organizations can use it to build and develop relationships with customers (Battor & Battor, 2010; Hakimi *et al.*, 2014), giving them a superior success of innovation (Al-Khalil,

Dahiyat, & Al-Dalahmeh, 2014; Hakimi *et al.*, 2014; Taherparvar *et al.*, 2014), and an important sources for competitive advantage (Lancioni, Smith, & Stein, 2009; Taherparvar *et al.*, 2014; Taie, 2014).

2.6.1.2 Technology-based CRM

As KM is important in the success of CRM, the organization must have mature technologies to implement the activities of the CRM (Ghafari *et al.*, 2011; Mohammed & Rashid, 2012). The supportive role of information technology, including data warehouse, data extraction, CRM software and hardware systems allow the organizations with the ability to collect, organize, save, interpret, and use data about their customers in manners that leverage their ability to respond effectively to the individual customer's needs and thus develop and maintain long-term relationships (Akroush *et al.*, 2011; Rashid & Tahir, 2013; Sin *et al.*, 2005). In line with "information-intensive strategies", the use of CRM technology in the healthcare industry is expected to maintain closer relationships with patients and personalized medical services (Hung *et al.*, 2010; Kesuma *et al.*, 2013). Hence, improvement in patient health, higher patient loyalty, and more profitable long-term patient relationships are among the major outcomes desired from technology-based CRM (Omachonu & Einspruch, 2010; Sin *et al.*, 2005; Toma *et al.*, 2014).

2.6.1.3 Customer Involvement

As Lin *et al.* (2010) and Toma *et al.* (2014) stated, customer involvement refers to customer involvement/participation either directly or indirectly in different activities such as the development of new products, technical

meetings, supply chain annual conference, and market evaluation conferences. Also, customer involvement includes customer participation in providing ideas for improving services and co-designing the service (Sharma, Conduit & Hill, 2014). In simple words, customer involvement includes customer participation in relation to multiple aspects of healthcare for value co-creation (Vahdat, Hamzehgardeshi, Hessam, & Hamzehgardeshi, 2014). Therefore, the customer's role changes from being a passive object of firms to being the co-creator. This also entails a shift from expert knowledge to communicative ability since crucial knowledge lies outside the expert, particularly in organizations that have a high level of contact such as healthcare (Sharma *et al.*, 2014; Vahdat *et al.*, 2014). Thus, customer involvement can be an important resource in providing firms with future market trends (Lin *et al.*, 2010; Sharma *et al.*, 2014; Toma *et al.*, 2014).

Thus, the effective use of CRM applications requires focusing on customer participation, listening to capture customer's responses and ideas, in order to perform better with innovative ideas as well as developing products and services in a competitive market (Lin *et al.*, 2010; Ouschan, Sweeney, & Johnson, 2006). Undeniably, these activities cannot be achieved without close collaboration between involved parties (McColl-Kennedy, Vargo, Dagger, Sweeney, & Van Kasteren, 2012; Ouschan *et al.*, 2006; Vahdat *et al.*, 2014). Patient participation has great potential in new product and service development value factors affecting customer satisfaction (McColl-Kennedy *et al.*, 2012; Ouschan *et al.*, 2006; Vahdat *et al.*, 2014), and reduces innovation cost (Sharma *et al.*, 2014; Toma *et al.*, 2014). Further, customer involvement

enhances long-term loyalty, the brand corporate image, and helps organizations compete in domestic as well as the world market (Henard & Dacin, 2010; Hu, 2011; Lee, Han, & Lockyer, 2012). However, nowadays customers are more likely to be involved in the redesign of healthcare services but, traditionally, healthcare systems were designed with a focus on the role of the healthcare provider, with little consideration given to customer involvement (Lin *et al.*, 2010; Sharma *et al.*, 2014; Toma *et al.*, 2014).

2.6.1.4 Long-term Association

RM and CRM aim to build long-term 'associations' relationships with customers (Aaker, 1991; Berry, 2000; Kotler, 2000). Lin *et al.* (2010) defined long-term association as a relationship between two parties based on trust and commitment (Toma *et al.*, 2014). Alternately, Theron, Terblanche, and Boshoff (2008) defined a long-term association as the commitment to continually provide resources and develop the long-term association. However, Theron *et al.* (2008) argued that trust is an essential factor in building a long-term association. Without trust, the partnership will not last (Roberts-Lombard & Du Plessis, 2011). Based on mutual trust and commitment, both parties have the ability to maintain a close partnership positively (Ghafari *et al.*, 2011; Toma *et al.*, 2014). The key success factor in developing long-term association is communication. Without information sharing, either formal or informal, the relationship will not last (Theron *et al.*, 2008).

According to Ganesan, Brown, Mariadoss, and Ho (2010), a long-term association can result in significantly improved long-term performance of the firm, in terms of reducing uncertainty, customer satisfaction, and profitability which might result in the uniqueness, giving the firm a competitive advantage (Ghafari *et al.*, 2011; Lin *et al.*, 2010; Toma *et al.*, 2014). Further, innovativeness is more likely to positively develop in a firm where long-term values are important (Ganesan *et al.*, 2010; Lin *et al.*, 2010; Vahdat *et al.*, 2014).

2.6.1.5 Joint Problem Solving

Joint problem solving refers to collaboration between parties in which sharing the responsibilities for maintaining the relationship itself and solving unexpected situations that arise over time (Ghafari *et al.*, 2011; Huang & Chang, 2008; Lin *et al.*, 2010). Collaborative problem solving involves a large degree of mutual engagement, joint decision making, and shared information between the exchanging parties (Toma *et al.*, 2014). According to Huang and Chang (2008) joint problem solving is the key success factor to enduring existing processes, products, or services, and it improves healthcare work processes, designs, and markets. In simple words, healthcare providers who are equipped with sound joint problem solving techniques are in a better position for innovation success (Ghafari *et al.*, 2011; Lin *et al.*, 2010). Moreover, Toma *et al.* (2014) asserted that joint problem solving is an important opportunity for relationship building and an opportunity for healthcare providers to enhance relationship quality. Thus, this collaboration environment leads to consequences of a customer's eagerness to build and

maintain long- term relationships based on trust and commitment (Lee *et al.*, 2012; Lin *et al.*, 2010).

2.7 CUSTOMER RELATIONSHIP MANAGEMENT

CONSEQUENCES: THE EMPIRICAL EVIDENCE

The important role of CRM in relation to a positive effect on a firm's added value has been extensively discussed and explained by earlier literature as seen in Table 2.7. For example, CRM is found to have a significant influence on firms' added value in terms of marketing performance (Ata & Toker, 2012; Kasim & Minai, 2009; Sin *et al.*, 2005) and financial performance factors (Kasim & Minai, 2009; Sin *et al.*, 2005) such as return on investment (Coltman, 2007), cross selling (Adalikwu, 2012; Coltman, 2007; Karahan & Kuzu, 2014), cost efficiency (Coltman, 2007; Krasnikov, Jayachandran, & Kumar, 2009), and sales growth (Boateng, 2014; ElKordy, 2014; Rodriguez & Honeycutt, 2011). In the same vein, Mohammed and Rashid (2012) and Rashid and Tahir (2013) discussed CRM in multi-dimension scales (customer orientation, CRM organization, KM, and technology-based CRM) and found that CRM have a significant relationship with financial performance. In the same financial context, Lancioni *et al.* (2009) also supported the significant effects of CRM on financial performance.

More studies revealed the positive impact of CRM on relationship quality factors (Kim, 2012). For example, CRM is found to contribute significantly to customer trust (Yaghoubi, Asgari, & Javadi, 2017), customer satisfaction (Adalikwu, 2012; Agariya & Singh, 2013; Hakkak, Esmaeili, & Mirzaei,

2011; Khalafinezhad & Long, 2013; Long, Khalafinezhad, Ismail, & Rasid, 2013; Mithas *et al.*, 2005; Rahimi & Kozak, 2017; Saeed, Vij, & Men, 2010; Sarlak & Fard, 2009; Shofiah, 2017), and customer commitment towards a brand (Wali, Wright, & Uduma, 2015). Besides, other researchers also supported the significant effects of CRM on competitive advantage (Alipour & Mohammadi, 2011; Bhat & Darzi, 2016; Fozia, Shiamwama, & Otiso, 2014; Kasim & Minai, 2009).

In addition, CRM is also found to have a significant influence on customer performance variables (Dehghanan & Yosefi, 2013; Rashid & Tahir, 2013) such as customer retention (Almotairi, 2016; Keramati & Nili, 2011; Ghahfarokhi & Zakaria, 2009; Long *et al.*, 2013; Saeed *et al.*, 2010), customer confidence (Iyah, 2016), customer value (Hakim & Susanti, 2017; Shofiah, 2017), and intention to purchase (Hakim & Susanti, 2017). Likewise, CRM is found to have a significant effect on product/service quality (Mugdadi, 2015; Smith & Chang, 2010) and customer service (Berndt, Herbst, & Roux, 2005).

Furthermore, several previous studies of CRM have indicated that CRM is a key antecedent of both innovation and BE (Mugdadi, 2015). The significant effects of CRM on BE have been empirically established by previous studies. For example, CRM is found to have a significant effect on BE development (Abbasi *et al.*, 2014; Ghazian, Hossaini, & Farsijani, 2016; Gholami, 2017) and its assets such as brand awareness (Dehghanan & Yosefi, 2013; Kim *et al.*, 2008), perceived quality (Dehghanan & Yosefi, 2013), and brand image (Dehghanan & Yosefi, 2013; Fozia *et al.*, 2014; Gheysari & Bemani, 2013;

Kim *et al.*, 2008). Along the same lines, Sadek *et al.* (2011) found that CRM (measured as KM, customer focus, CRM organization, and technology-based CRM) had a significant effect on brand loyalty. A significant statistical effect of CRM on brand loyalty was also found in the studies of Amoako, Arthur, Bandoh, and Katah (2012), Chen and Ching (2007a, 2007b), Dehghanan and Yosefi (2013), Fozia *et al.* (2014), Karahan and Kuzu (2014), Tehrani *et al.* (2015), and Wali *et al.* (2015). However, in the same domain area, Deepa and Chitramani (2016) signaled that maintaining a positive relationship with retailers had an insignificant effect on retailers equity. Meanwhile, Marinova, Cui, and Marinov (2008) explored the relationship between CRM and brand loyalty, perceived quality, and brand awareness/associations in addition to overall BE in China's banking industry. The results revealed that CRM significantly influenced BE assets and overall BE. Furthermore, Marinova, Cui, Shiu, and Marinov (2012) empirically indicated that CRM elements (relationship closeness, strength, and satisfaction) were significant predictors of perceived quality, brand awareness/associations, brand loyalty, and overall BE. In line with this, Kim *et al.* (2008) argued that maintaining strong customer relationships will boost BE, maintain a high level of brand loyalty, and build good brand image.

Moreover, the success of CRM in enhancing innovation capabilities is also found in marketing and management literature. For instance, Jalali and Sardari (2015) investigated CRM using a multi-dimension scale and found that information sharing, long-term association, customer involvement, technology-based CRM, and problem solving are significant predictors of

innovation capabilities. This argument is also supported in a different context by Toma *et al.* (2014). Besides, the introduction of CRM as a significant predictor of specific types of innovation has also been supported by several scholars. For example, CRM was found to have a significant effect on product innovation (Hu *et al.*, 2015; Jaelani, 2016; Shofiah, 2017; Smith & Chang, 2010), process innovation (Kolis & Jirinova, 2013a), and marketing and administrative innovation (Hu *et al.*, 2015). In addition, the significant effect on the interdependency of CRM and innovation has further been supported by Al-Hawary and Aldaihani (2016), Battor and Battor (2010), Chen, Lin, and Yang (2011) and Fazlzadeh, Tabrizi, and Mahboobi (2011).

From the discussion of the above findings, all these empirical findings emphasize the key role of CRM in creating added value to firms and customers. This included the effect of CRM on innovation and BE. This conclusion supports the argument of Alipour and Mohammadi (2011), Battor and Battor (2010), Bhat and Darzi (2016), Chen and Ching (2007a, 2007b), and Sin *et al.* (2005) who recognize CRM as an important source that leads to a firm's competitive advantage. The firms that concentrate on CRM can understand their customers' needs and respond rapidly to their evolving preferences, and hence, achieve a competitive advantage (Rahimi & Kozak, 2017; Lin *et al.*, 2010).

However, the previously mentioned studies identified different dimensions pertaining to CRM as determined by the working context and viewed perspective. These dimensions are: KM (Akroush *et al.*, 2011; Amir, Yousof,

& Asma, 2014; Boateng, 2014; Mohammed & Rashid, 2012; Sadek *et al.*, 2011), CRM organization (Amir *et al.*, 2014; Elkordy, 2014; Mohammed & Rashid, 2012; Rashid & Tahir, 2013; Sadek *et al.*, 2011), long-term association (Hu *et al.*, 2015; Jalali & Sardari, 2015; Lin *et al.*, 2010; Toma *et al.*, 2014), customer orientation (Boateng, 2014; Elkordy, 2014; Mohammed & Rashid, 2012; Rashid & Tahir, 2013), customer involvement (Ghafari *et al.*, 2011; Hu *et al.*, 2015; Jalali & Sardari, 2015; Lin *et al.*, 2010), customer focus (Akroush *et al.*, 2011; Amir *et al.*, 2014; Sadek *et al.*, 2011; Sin *et al.*, 2005), joint problem solving (Ghafari *et al.*, 2011; Lin *et al.*, 2010; Toma *et al.*, 2014), and technology-based CRM (Al-Meshal & Al-Motairi, 2013; Boateng, 2014; Elkordy, 2014; Sin *et al.*, 2005; Toma *et al.*, 2014). Meanwhile, information sharing has been seen as a necessary function of KM (Akroush *et al.*, 2011; Amir *et al.*, 2014; Sadek *et al.*, 2011; Sin *et al.*, 2005). Disappointedly, the existing literature fails to delineate the basic dimensions of CRM. Therefore, integrating the most popular and cited dimensions of CRM into one construct is valuable, particularly KM, customer involvement, long-term association and technology-based CRM in addition to joint problem solving. This effort is in line with the general agreement that successful CRM implementation requires the combination of strategy, people, process, and technology to achieve superior added value (Akroush *et al.*, 2011; Sin *et al.*, 2005).

Besides, most empirical studies related to the development of CRM and its consequences have taken place within an Asian or European context (Chen & Ching, 2007a, 2007b; Kim, 2012; Lingavel, 2015). Besides, much effort has

been considered the exploration of CRM consequences from employees' and managers' perspective rather than individual customers' (Al-Hawary & Aldiahani, 2016; Ata & Toker, 2012; Elkordy, 2014; Gholami, 2017; Jaelani, 2016; Sin *et al.*, 2005). However, this limits knowledge of the role of CRM in global markets from management perspective. Consequently, this current study focuses on CRM implementation from different economics and different perspective (medical tourists). This notion has been supported by Akroush *et al.*'s (2011) recommendation that "an empirical investigation of the 'CRM implementation scale components and their effect on customer satisfaction and customer loyalty from customers perspective could be a valuable research area in the future especially in developing countries, e.g. Jordan and Middle East" (p. 183).

Table 2.7
Customer Relationship Management Consequences: The Empirical Evidence

Author	Context	CRM	Firm's Added Value	Results
Berndt <i>et al.</i> (2005)	Banks	CRM	Customer service	Significant
Sin <i>et al.</i> (2005)	Financial services	CRM	Marketing performance Financial performance	Significant
Mithas <i>et al.</i> (2005)	Manufacturing	CRM	Customer satisfaction Customer knowledge	Significant
Coltman (2007)	Banks	CRM	Return on investment Reduce transaction costs Cross selling	Significant
Hendricks, Singhal, and Stratman (2007)	Multi-industry	CRM	Stock price performance Return on assets Return on sales	Insignificant
Chen and Ching (2007a)	Mobile services	CRM	Brand loyalty	Significant
Chen and Ching (2007b)	Financial services	CRM	Brand loyalty	Significant
Kim <i>et al.</i> (2008)	Hospitals	CRM	Brand equity	Significant

Table 2.7 (Continued)

Author	Context	CRM	Firm's Added Value	Results
Marinova <i>et al.</i> (2008)	Banks	CRM	Brand awareness/associations Brand loyalty Perceived quality Brand equity	Significant
Sarlak and Fard (2009)	Banks	CRM	Customer satisfaction	Significant
Lancioni <i>et al.</i> (2009)	B2B	CRM	Financial performance	Significant
Kasim and Minai (2009)	Hotels	CRM	Marketing performance Competitive advantage Financial performance	Significant
Ghahfarokhi and Zakaria (2009)	Manufacturing	CRM	Customer retention	Significant
Krasnikov <i>et al.</i> (2009)	Banks	CRM	Cost efficiency Profit efficiency	Significant
Singh and Rahul (2010)	Banks	CRM	Customer satisfaction	Significant
Battor and Battor (2010)	Multi-industry	CRM	Organizational performance Innovation	Significant
Saeed <i>et al.</i> (2010)	Manufacturing	CRM	Customer satisfaction Customer retention	Significant
Smith and Chang (2010)	Multi-companies	CRM	Product innovation Product quality Service quality Brand image Brand loyalty	Insignificant
Fazlzadeh <i>et al.</i> (2011)	SMEs	CRM	Innovation	Significant
Rodriguez and Honeycutt (2011)	B2B	CRM	Sales growth	Significant
Alipour and Mohammadi (2011)	Manufacturing	CRM	Competitive advantage	Significant
Roberts-Lombard and Du Plessis (2011)	Insurance	CRM	Brand loyalty	Significant
Yao and Khong (2011)	Banks	CRM	Customer satisfaction	Significant
Sadek <i>et al.</i> (2011)	Banks	CRM	Brand loyalty	Significant
Keramati and Nili (2011)	Banks	CRM	Customer retention	Significant
Chen <i>et al.</i> (2011)	Retail	CRM	Innovation	Significant
Akroush <i>et al.</i> (2011)	Financial services	CRM	Marketing performance Financial performance	Mixed
Ata and Toker (2012)	B2B	CRM	Financial performance Marketing performance Customer satisfaction	Insignificant Significant
Adalikwu (2012)	Banks	CRM	Customer satisfaction Cross selling	Significant
Hashem (2012)	Banks	CRM	Customer satisfaction	Significant
Amoako <i>et al.</i> (2012)	Hotels	CRM	Brand loyalty	Significant
Hakkak <i>et al.</i> (2012)	Banks	CRM	Customer satisfaction	Significant
Mohammed and Rashid (2012)	Hotels	CRM	Financial performance	Significant
Kim (2012)	Multi-companies	CRM	Relationship equity Brand equity	Significant Mixed

Table 2.7 (Continued)

Author	Context	CRM	Firm's Added Value	Results
Kirmaci (2012)	Banks	CRM	Brand loyalty	Significant
Marinova <i>et al.</i> (2012)	Banks	CRM	Awareness/associations Brand loyalty Perceived quality Brand equity	Significant
Dehghanan and Yosefi (2013)	Banks	CRM	Brand awareness Brand image Perceived quality Brand loyalty Customer performance	Significant
Khalafinezhad and Long (2013)	Retail	CRM	Brand loyalty Customer satisfaction	Significant
Long <i>et al.</i> (2013)	Retail	CRM	Customer satisfaction Customer retention	Significant
Saeed <i>et al.</i> (2013)	Manufacturing	CRM	Customer satisfaction	Significant
Kolis and Jirinova (2013a)	SMEs	CRM	Process innovation	Significant
Saadat and Nas (2013)	Mobile services	CRM	Brand loyalty	Significant
Agariya and Singh (2013)	Hospitals	CRM	Customer satisfaction	Significant
Kolis and Jirinova (2013b)	Financial services	CRM	Financial performance	Insignificant
Gheysari and Bemani (2013)	Hospitals	CRM	Brand Image	Significant
Rashid and Tahir (2013)	Hotels	CRM	Financial performance Customer performance	Significant
Abbasi <i>et al.</i> (2014)	Retail	CRM	Brand equity	Significant
Karahan and Kuzu (2014)	Banks	CRM	Brand loyalty Cross selling	Significant
Fozia <i>et al.</i> (2014).	Universities	CRM	Brand loyalty Brand image Competitive advantage	Significant
Boateng (2014)	Banks	CRM	Brand loyalty Marketing performance	Mixed
Amir <i>et al.</i> (2014)	Banks	CRM	Brand loyalty	Mixed
ElKordy (2014)	Multi-companies	CRM	Brand loyalty Satisfaction Sales growth	Insignificant Significant
Toma <i>et al.</i> (2014)	Computer-IT	CRM	Innovation	Significant
Tehrani <i>et al.</i> (2015)	Retail	CRM	Brand loyalty	Significant
Mugdadi (2015)	Banks	CRM	Brand equity Innovation Flexibility Product quality Service quality	Significant
Jalali and Sardari (2015)	Manufacturing	CRM	Innovation	Significant

Table 2.7 (Continued)

Author	Context	CRM	Firm's Added Value	Results
Hu <i>et al.</i> (2015)	Restaurants	CRM	Product innovation Managerial innovation Marketing innovation Organizational performance	Significant
Wali <i>et al.</i> (2015).	Banks	CRM	Brand loyalty Brand commitment	Significant
Lingavel (2015)	Hospitals	CRM	Brand equity	Significant
Ghazian <i>et al.</i> (2016)	Product category	CRM	Brand equity	Significant
Iyah (2016)	Hotels	CRM	Brand image Customer confidence	Insignificant Significant
Al-Hawary and Aldaihani (2016)	Airline	CRM	Innovation	Significant
Deepa and Chitramani (2016)	Retail	CRM	Brand equity	Insignificant
Jaelani (2016)	Retail	CRM	Product innovation	Significant
Bhat and Darzi (2016)	Banks	CRM	Competitive advantage	Significant
Almotairi (2016)	Banks	CRM	Customer retention	Significant
Rahimi and Kozak (2017)	Hotels	CRM	Customer satisfaction	Significant
Hakim and Susanti (2017)	Retail	CRM	Customer value Purchase intention	Significant
Yaghoubi <i>et al.</i> (2017)	Hospitals	CRM	Trust Brand loyalty Customer satisfaction Productivity	Significant
Gholami (2017)	Retail	CRM	Brand equity	Significant
Shofiah (2017)	Retail	CRM	Product innovation Customer value Customer satisfaction	Significant

Although most findings above stressed the ability of CRM in achieving firm's performance, however, in certain areas the exploration of CRM is still insufficient (Rahimi *et al.*, 2017) and inconsistent (Amir *et al.*, 2014, Elkordy, 2014, Iyah, 2016). In addition, the exploration of CRM with respect to the medical tourism context is still regrettable (Agariya & Singh, 2013; Chahal, 2010; Hu *et al.*, 2015; Kim *et al.*, 2008; Rahimi *et al.*, 2017). Also, the focus of CRM in healthcare-medical tourism, including the innovation perspective, has not been studied in depth (Battor & Battor, 2010; Hu *et al.*, 2015; Lin *et al.*, 2010; Tehrani *et al.*, 2015). Furthermore, most of current studies of CRM

have been conducted in developed economies; the exploration of the effectiveness of CRM in developing countries remains limited (Agariya & Singh, 2013; Chahal, 2010; Kumar *et al.*, 2011). Also, the exploration of CRM in the CBBE area is still far from conclusive (Hanaysha *et al.*, 2013; King, 2017). It is still questionable how far the role of CRM is in association with innovation to develop superior value such as BE (Ghani, 2012; Hanaysha *et al.*, 2013).

In summary, the preceding discussion illustrates the existence of extensive empirical studies on the importance of CRM on firm's added value. However, very little empirical research focuses on CRM consequences in relationship to innovation and BE in the medical tourism domain in emerging countries. In addition, no commonly agreed upon dimensions underlie the CRM concept. Thus, this research attempts to enhance the understanding of the key role of CRM (KM, customer involvement, long-term association, joint problem solving, and technology- based CRM) as a determinant factor for both innovation and BE in the Jordanian medical tourism context. Therefore, further investigation should be conducted to better understand CRM efficiency and effectiveness. Thus, the next subsection discussed the relationship between CRM and innovation.

2.8 CUSTOMER RELATIONSHIP MANAGEMENT AND INNOVATION

In today's era in which organizations are increasingly influenced by competition and global markets because of advancements in information technology and globalization, it is vital for the management of a firm to realize the critical benefits of the intangible aspects in building superior performance and developing a competitive advantage (Akroush *et al.*, 2011; Hanaysha *et al.*, 2013; Keller & Lehman, 2006). In addition to CRM being seen a key intangible aspect in competitive markets, the introduction of innovative activities encompasses an organization's ability to understand customer preferences and evolving needs to develop value and gain positional advantages in stiff markets (Battor & Battor, 2010). In this sense, CRM plays a key antecedent role in a firm's ability to innovate (Hu *et al.*, 2015; Shofiah, 2017). In relationship to this, CRM that focuses more on developing, sustaining, and boosting useful relationships with customers enables the exchange of valuable information and ideas freely, and the diffusion of innovations more rapidly that leads to superior performance in today's business competitive environment (Akroush *et al.*, 2011; Battor & Battor, 2010; Ghafari *et al.*, 2011). In other words, firms with a considerable employment of CRM applications are in a better position to develop and design innovative products and services because they can transfer the collected data about customers into customer relationships by gaining insights into a customer's preferences and evolving needs (Lin *et al.*, 2010; Toma *et al.*, 2014). The interaction and collaboration between the firms and the customers are required to encourage customers to provide valuable information and ideas

for the firms' innovativeness (Battor & Battor, 2010; Lin *et al.*, 2010; Taherparvar *et al.*, 2014). Without customer involvement and participation, the success of CRM and innovation would be limited to achieving customer value and firm performance (Lin *et al.*, 2010; Sin *et al.*, 2005).

From a CRM perspective, several scholars have demonstrated empirically that a significant effect exists between CRM and innovation as illustrated previously in section 2.7 and shown in Table 2.7, (p. 81). For instance, in the context of large companies and manufacturing, Jalali and Sardari (2015) and Toma *et al.* (2014) confirmed the significant effect of CRM activities on innovation capabilities (product, process, service, marketing, and administrative innovation). In the service context, Al-Hawary and Aldaihani (2016) and Mugdadi (2015) found that CRM predicts innovation significantly. Indeed, in other contexts, CRM was found to have a significant influence on product innovation (Jaelani, 2016; Shofiah, 2017) and process innovation (Kolís & Jirinova, 2013a). These findings further enhance Nazari-Shirkouhi, Keramati, and Rezaie's (2015) argument that "CRM also proved to be a highly effective and efficient tool to develop innovation capabilities and create competitive advantage" (p. 192).

Nonetheless, several scholars have found an insignificant effect. For example, Smith and Chang (2010) indicated that CRM did not have a significant effect on product innovation among Taiwanese companies. Also, in Taiwan, Lin *et al.* (2010) found that not all CRM activities contributed to all innovation capabilities. However, despite the insignificant results, the results aligned with

the notion that the successful implementation of CRM differs between and among countries, settings, and perspectives (Akroush *et al.*, 2011; Mohammed & Rashid, 2012; Smith & Chang, 2010; Tangaza, Muhammed, & Bala, 2015).

From the aforementioned literature investigation, although CRM has been perceived as being a prominent source of innovation, certain scholars have empirically indicated that research in this area has been inconclusive and inconsistent (Lin *et al.*, 2010; Smith & Chang, 2010). In addition, a significant gap exists in the literature on the effects of CRM with respect to innovation (Battor & Battor, 2010; Hu *et al.*, 2015; Rahimi *et al.*, 2017; Tehrani *et al.*, 2015). Besides, there is a gap in favor of developing countries (Agariya & Singh, 2013; Chahal, 2010; Tangaza *et al.*, 2015).

As with causal ambiguity, a lack of understanding exists about the effect of CRM toward innovation from a comprehensive view and from the perspective of medical tourist in Jordan. Therefore, this study empirically investigates the relationship between CRM (KM, customer involvement, long-term association, technology-based CRM, and joint problem solving)¹ and innovation (product, process, service, marketing, and administrative innovation) from the perspective of medical tourist in Jordan.

2.9 THE CONCEPT OF SERVICE

To begin with, it is beneficial to define service as stated in the literature. Lovelock (1992) defines service as “a service is an act or performance offered by one party to another” (p. 3). Another definition of Lovelock (1992) states that services are “economic activities that create value and provide benefits for customers at specific times and places, as a result of bringing about a desired change in – or on behalf of – the recipient of the service” (p. 3). In other words, service can be “any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to physical product” (Kotler, 2000, p. 117). Similarly, Grönroos (1984) stated that service is basically immaterial. It exists only when production and consumption taken place simultaneously. These definitions reflect several features that distinguish service from physical products (Lovelock, 1992; Kotler, 2000) as discussed in the following section.

2.9.1 The Characteristics of Service

It has been generally accepted that there are four characteristics of service. First, service intangibility refers to the fact that services cannot be felt, tasted, seen, smelled, or heard before they are purchased. The aforementioned intangibility features of the service make it difficult for customers to evaluate. Therefore, to minimize the risk and uncertainty that are related to the purchase of service, customers more or less rely on tangible cues such as place, equipment, people and symbols among others, as the evidence of SQ (Kotler, 2000). In addition, the intangibility of service makes it difficult for the service

provider to realize how customers perceive their services, and subsequently, evaluate the quality (Grönroos, 1984). Second, services are perishable. The perishability of service does not allow service providers to store it for later consumption. Third, the services are inseparable. Services are typically produced and consumed simultaneously. Thus, it implies that both the service provider and the customers are involved in its production and delivery process at the same time. Consequently, quality occurs simultaneously during the service delivery (Grönroos, 1984). Finally, services are variable or heterogenous. This indicates that service equates to performance and differs according to time, employee, and customer perceptions (Kotler, 2000). Perhaps this is because the behavioral consistency of the service personnel is difficult to be assured; and so, what the firm intends to deliver might turn out to be entirely different from what the customers actually receive (Lovelock, 1992).

2.10 THE CONCEPT OF SERVICE QUALITY (SQ)

Customers mostly focus on the quality of the service (Zineldin, 2006). Quality originates from the Greek word “arête” which means excellence (Reeves & Bednar, 1994). Parasuraman *et al.* (1985) portrayed SQ as an abstract and very elusive construct and is difficult to measure an entity due to its unique characteristics: intangibility, heterogeneity, and inseparability of the production and consumption functions. These characteristics make the customers’ assessment of SQ more difficult than that of product quality. However, the definition of quality varies in some ways; relying upon which area the term is being employed (Omachonu & Ross, 1994). The SQ

definitions typically determine whether perceived service delivery meets, exceeds, or is below customer expectations (Parasuraman *et al.*, 1988; Yousapronpaiboon & Johnson, 2013). Table 2.8 illustrates the definitions of SQ.

Table 2.8
Definitions of Service Quality

Author and Year	Definition
Grönroos (1984)	"The outcome of an evaluation process, where the consumer compares his expectations with the service he has received" (p. 37).
Parasuraman <i>et al.</i> (1988)	(1). "The discrepancy between consumers' perceptions of services offered by a particular firm and their expectations about firms offering such services" (p. 14). (2). "A global judgment, or attitude, relating to the superiority of the service" (p. 16).
Fuentes (1999)	"A multidimensional concept reflecting a judgment as to whether the service performed for a patient was the most appropriate to produce the best result that could be reasonably expected by the patient, and whether those services were delivered with due attention to the doctor/patient relationship" (p. 232).
Lee, Khong, and Ghista (2006)	"The ability to meet or exceed customer expectations" (p. 564).
Ha (2009)	"Perception of physical elements that enable or facilitate the production of a service" (p. 65).
Sultan and Wong (2013)	"The totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs" (p. 76).

For example, Lee *et al.* (2006) defined quality as "the ability to meet or exceed customer expectations" (p. 564). This definition reflects that quality is shifted to the customer-driven approach and is also related to the value of an offer, which could evoke customer satisfaction, customer loyalty, and customer intention. Recently, Omachonu and Ross (1994) emphasized that different people interpret quality differently, such as "fitness for use," "meeting the stated requirements of the customer," "according to the specification," and "the totality of features that meet a specific need".

Parasuraman *et al.* (1988) defined SQ as “the degree and direction of discrepancy between consumers’ perceptions and expectations” (p. 17). The quality of service depends on corresponding to customer expectations on a consistent basis. Expectations represent predictions of what service providers “should offer”. Expectations do not represent predictions of what service providers “would offer”. In contrast, perceptions refer to customers’ evaluation of the service received. Parasuraman *et al.* (1988) defined perceived SQ as “a global judgment, or attitude, relating to the superiority of the service” (p. 16), and also identified the SQ evaluation criteria of tangibles, reliability, assurance, empathy, and responsibility.

In summary, SQ is difficult to be evaluated, specifically in the service context because most services are high in experience and credence qualities (Fuentes, 1999; Parasuraman *et al.*, 1985, 1988; Zeithaml, 1988). Different individuals can have different perceptions and different expectations. A human factor is heavily involved in the process of service delivery, and therefore, a stable and fully standardized level of quality is more difficult to achieve. Different individuals will perform the same service differently; providers can perform differently at different times. The following section discussed the multidimensionality concept of SQ and the different models proposed in the literature.

2.10.1 Service Quality Multidimensionality Concepts and Models

The SQ multidimensionality construct has been authenticated in the service marketing literature; however, conceptualization and measurement of SQ dimensions are still under debate (Chahal & Kumari, 2011; Zineldin, 2006). Table 2.9 illustrates the SQ models, dimensions, and definitions from different perspectives.

The first perspective based on the Nordic school, which conceptualized SQ into two dimensions namely, functional quality and technical quality. In the early 1980s, Grönroos (1984) expanded the work of Swan and Coombs (1976) on perceived quality which has been divided into instrumental quality (the technical dimension) and expressive quality (the psychological dimension), and developed the Nordic SQ dimensions consisting of technical quality, functional quality and image. In effect, technical quality refers to the actual outcomes of the service encounter as a result of patient interaction with a service organization that involves clinical skills, knowledge, machines, and system. The functional quality is concerned about customer experience (interactive process) of attaining outcomes such as attitudes, appearance and behaviors. Image is introduced as a mediating variable between technical and functional qualities and can be built up by other factors such as word of mouth and pricing (Grönroos, 1984).

Later, Lehtinen and Lehtinen's (1991) proposed the SQ model that contains physical quality, interactive quality and corporate quality. In 1994, Rust and Oliver (1994) proposed "the three-component" model involving service

delivery (functional quality), service product (technical quality), and service environment.

Dabholkar, Thorpe, and Rentz (1996) fostered the notion that SQ perceptions are multidimensional and multilevel constructs and developed a model based on three levels known as the hierarchical model. The first level connects to the patient's judgment about the overall perceptions of SQ. The second level concentrates on five primary dimensions, namely physical aspects, personal interaction, reliability, policy, and problem solving. The third level focuses on seven sub-dimensions such as appearance, promises, convenience, doing it right, courteous, inspiring confidence, and helpful.

Brady and Cronin (2001) combined the Nordic and the American perspectives and developed the SQ model comprising three fundamental dimensions are known as physical environment quality (ambient conditions, designs and social factors), interaction quality (behavior, attitude and expertise), and outcome quality (tangibility, waiting time, and valence). Each three tertiary sub-dimensions are modified by a responsiveness item, a reliability item, and an empathy item. This was followed by the Healthcare SQ Model (HCSQ) proposed by Chahal and Kumari (2011) based on the modified Brady and Cronin's hierarchical SQ model. The HCSQ model consists of three primary dimensions, namely interaction quality, physical environment quality and outcome quality. Interaction quality consists of expertise and process quality, behavior and attitude. Within the physical environment are tangibles, social

factors and ambient conditions. The outcome quality comprises patient satisfaction, waiting time and loyalty.

From an American perspective, the predominant SQ model is the “Gap Model” (Parasuraman *et al.*, 1985). The Gap Analysis Model was developed from exploratory investigations based on the gaps or distinctions between expectations and perceptions regarding the quality of service. This model presents five gaps: Gap 1 - the differences between patients’ expectations and management’s perceptions regarding those expectations; Gap 2 - the differences between management’s perceptions of patient’s expectations and SQ specifications; Gap 3:- the differences between SQ specifications and service actually delivered; Gap 4 - the differences between service delivery and the communications to patients about service delivery, and Gap 5 - the differences between patient’s expectation and perceived service. This gap relates to the patient and as such is considered to be the true measure of SQ. At this point, Parasuraman *et al.* (1985) developed ten overlapping dimensions of SQ operationalized by the SERVQUAL scale and expressed according to the disconfirmation paradigm (Oliver, 1977). Through empirical research, the ten dimensions of SQ were collapsed into five dimensions labeled as tangibility, reliability, responsiveness, competence, empathy and assurance (Parasuraman *et al.*, 1988).

Tangibility generally refers to the appearance of the personnel, communication materials, and physical equipment. Normally, this dimension concerns the physical surroundings in which the services take place. Bitner (1992) used the

term “servicescape” to describe this dimension. Reliability is the ability to fulfill the promised service dependably and accurately. The responsiveness dimension refers to the willingness to support patients and furnish prompt service. Assurance is about employee knowledgeability, to show courtesy, and to inspire trust and confidence. Empathy is the ability to show individualized care and compassion towards patients (Parasuraman *et al.*, 1985, 1988).

However, due to the argument of SERVQUAL the framework might not be theoretically valid and reliable. So, Cronin and Taylor (1992, 1994) proposed performance as the only measurement of SQ known as “SERVPERF” by clarifying that SQ must be conceptualized and measured as a form of customer attitude, using a tool centered exclusively on perceptions as an enhanced means of measuring SQ (Teas, 1993). SERVPERF is equivalent to SERVQUAL but excludes the statements about expectations and weighting (Fuentes, 1999). Later, Choi, Lee, Kim, and Lee (2005) developed the SQ model comprising of four distinct dimensions, namely staff concern, physicians’ concern, convenience of care process, and tangibles, based on the modified SERVQUAL framework well-arranged to suit the Korean healthcare system.

By using mixed perspectives, Zineldin (2006) developed a healthcare SQ model which comprised of five quality dimensions (5Qs) namely, technical quality, process quality, infrastructure quality, interaction quality, and atmosphere quality. This model was an expansion of the technical-functional and the SERVQUAL quality models. First, technical quality refers to the

measurement of the treatment itself and is known as the quality of the object. Second, the quality of processes refers to the functional quality of how the core services or the technical services are provided such as waiting times and speed of performing the healthcare activities. Third, the quality of infrastructure is more about the basic resources which are required to carry out the healthcare services such as experience, skills, technology and internal competence quality. Fourth, the quality of interaction measures the quality of information exchange, social exchange, and financial exchange. Lastly, the quality of atmosphere refers to the influence of atmosphere environment on the relationship and interaction process between the involved parties.

Table 2.9
Multidimensionality of Service Quality: Models, Dimensions, and Definitions

SQ Models	Dimensions	Descriptions
Image model (Grönroos, 1984)	Technical quality	Outcomes of service encounters that include technical solution, knowledge, system, and machines.
	Functional quality	Interactive process of achieving those outcomes that includes accessibility, appearance, attitudes, and behaviors.
	Corporate image	Customers view of the organization.
Gap model (Parasuraman <i>et al.</i> , 1988)	Tangibility	"Physical facilities, equipment, and appearance of personnel" (p. 23).
	Reliability	"Ability to perform the promised service dependably and accurately" (p. 23).
	Responsiveness	"Willingness to help customers and to provide prompt service" (p. 23).
	Assurance	"Knowledge and courtesy of employees and their ability to inspire trust and confidence" (p. 23).
	Empathy	"Caring, individualized attention the firm provides its customers" (p. 23).
Corporate quality model (Lehtinen & Lehtinen, 1991)	Physical quality	Tangible elements of the service.
	Interactive quality	Two-way interaction flow between both customer and service provider including behavior, professionalism, communication, understanding the customer, and reliability.
	Corporate quality	It is associated with physical elements to address the impact of corporate issues such as corporate image.

Table 2.9 (Continued)

SQ Models	Dimensions	Descriptions
SERVPERF model (Cronin & Taylor, 1992)	Same dimensions of SERVQUAL	Performance only measurement of service quality.
Servicescape model (Bitner, 1992)	Servicescape	Physical surrounding as the place in which service transaction takes place such as (ambient conditions, space/function, and signs, symbols, and artifacts).
The three-component model (Rust & Oliver, 1994)	Service product	Technical quality.
	Service delivery	Functional quality.
	Service environment	Delineates the servicescape in which service occurs.
The hierarchical model (Dabholkar <i>et al.</i> , 1996)	Physical aspects	Refers to tangibles elements in which encompassed appearance and convenience.
	Reliability	It is a combination of promises and doing it right.
	Personal interaction	Service employees are being assurance and responsiveness.
	Problem solving	Addresses the handling of complaints and returns in retail store (reliability).
	Policy	Refers to SQ aspects that are directly affected by store policy such as credit card usage and parking convenient (empathy).
The third-order factor (Brady & Cronin, 2001)	Interaction quality	It is a combination of employees' attitude, behaviors, and expertise of the service personnel.
	Physical environment quality	Refers to surrounding atmosphere which comprises ambient conditions, facility design, and social factors.
	Outcome quality	Consists of underlying-dimensions such as tangibility, valence, and waiting time.
Korean SERQUAL (Choi <i>et al.</i> , 2005)	Physicians concern	Refers to evaluation of professional staff, mainly the doctors.
	Staff concern	Refers to evaluation of medical staff such as nurses and care providers.
	Convenience of care process	Addresses the evaluation of smooth of care such as admission and payment.
	Tangibles	Refers to customer evaluation to hospital amenities and equipment.
5Qs model (Zineldin, 2006)	Quality of object	It measures the treatment itself (technical quality).
	Quality of processes	Refers to functional quality concept.
	Quality of infrastructure	Refers to staff skills and appearances and tangible elements.
	Quality of interaction	Waiting time and billing system.
	Quality of atmosphere	Refers to staff helpfulness, politeness, and responsiveness.
HCSQ model (Chahal & Kumari, 2011)	Interaction quality	Refers to attitude and behavior, expertise and process quality.
	Physical environment quality	Comprises of ambient condition, social factor and tangibles.
	Outcome quality	Combination set of waiting time, patient satisfaction and loyalty.

2.11 PERFORMANCE-BASED SERVICE QUALITY (SERVPERF)

The notion of SERVPERF emerged from the “Gap Model” which stemmed originally from the “Expectancy Disconfirmation Theory” (Oliver, 1977). The basis of the disconfirmation theory derives from the evaluation of a customer’s prior expectations and perceptions regarding brand performance. Thus, positive disconfirmation will happen if customer perceptions are higher than expectations. Consequently, positive disconfirmation results in positive post-purchase behavior and definitely, differentiate brand image (Berry, 2000). Confirmation will occur if the perceived performance of services is equal to the expectation level. Negative disconfirmation happens when customer expectations of service performance are higher than perceptions, leading to customer dissatisfaction and negative word of mouth (Oliver, 1977). Generally speaking, the development of the disconfirmation paradigm concept was to explain the creation of customer satisfaction judgments which is the discrepancy between customer’s expectations and the actual performance of the service provider (Oliver, 1977). In the SQ literature, it is referred to as the “Gap Model” as discussed in the previous section. They have things in common, for instance, the aforementioned definition for SQ and customer satisfactions appear highly similar. Some researchers considered satisfaction to be a broader concept in terms of more general and long-term evaluation (Cronin & Taylor, 1992, 1994; Oliver, 1977). In contrast, other researchers considered quality as a more general and long-term evaluation (Parasuraman *et al.*, 1985, 1988).

In this vein, Cronin and Taylor (1992, 1994) distinguished customer satisfaction from SQ by considering perceived quality as the evaluation process of a service experience as identified by customer perceptions of the service performance. Perceptions of service performance, when mediated by customer expectations come into the service confrontation result in perceived quality (Taylor & Cronin, 1994). Thus, SQ should be conceptualized and measured by evaluating the firm performance rather than the disconfirmation format. This tool is based on the principles and dimensions of the SERVQUAL model (as discussed in the previous sub-topic), which concentrates on the perception-only concept known as performance-based (SERVPERF). Dabholkar, Shepherd, and Thorpe (2000) and Teas (1993) supported the concept of SERVPERF as an appropriate approach in the measurement of SQ, due to its simplicity and validity (Cronin & Taylor, 1992, 1994; Taylor & Cronin, 1994). Even Parasuraman *et al.* (1988) emphasized that measuring perceived SQ after service experience is more valuable, simpler and more valid. Accordingly, the present study will adopt the customer's perception of performance measurement and also empirically test the SERVQUAL dimensions in medical tourism settings. The following section discussed the link between SQ and the organization's added value in different industries, including healthcare.

2.12 SERVICE QUALITY CONSEQUENCES: THE EMPIRICAL EVIDENCE

The importance of SQ is well documented in terms of value-added activities for both a firm and customers in various contexts, including logistics and transportation (Isa, Kiumarsi, & Neoh, 2017; Kiumarsi, Isa, & Jayaraman, 2015; Kiumarsi, Jayaraman, & Isa, 2015), banking (Abu ElSamen, 2015; Kant, Kant, Jaiswal, & Jaiswal, 2017, Moghaddam, 2014), education (Chitty & Soutar, 2004; Sultan & Wong, 2013), healthcare (Aliman & Mohamad, 2013; Chang, Chen, & Lan, 2013; Ramez, 2012), telecommunication (Dao & Yang, 2014; Yaşlıoğlu, Çalışkan, & Şap, 2013), restaurants and fast food (Chen *et al.*, 2016; Esmailpour *et al.*, 2016), across industries (Cronin & Taylor, 1992, 1994; Loureiro, Filipe, & Pires, 2014; Zeithaml, Berry, & Parasuraman, 1996), automobile (Hanaysha, 2016b; Hanaysha & Hilman, 2015c; Lin, 2004), retail (Nanda, Kuruvilla, & Murty, 2013; Soltani, Esfidani, Jandaghi, & Soltaninejad, 2016), and manufacturing (Jiang, Klein, Parolia, & Li, 2012; Rust, Zahorik, & Keiningham, 1995). Table 2.10 demonstrates the results of these SQ empirical studies.

Generally, but not exclusively, empirical studies have found that SQ has a significant relationship with behavioral intention and its factors (Akter & Hani, 2011; Aliman & Mohamad, 2013; Soltani *et al.*, 2016; Yap & Kew, 2007) including switching costs and paying more (Zeithaml *et al.*, 1996) and word of mouth (Achmad, 2015; Molinari, Abratt, & Dion, 2008). Besides, SQ is also found to have a significant relationship with financial performance indicators (Chen *et al.*, 2016; Rust *et al.*, 1995), patient-quality of life (Akter

& Hani, 2011; Nowels & Kamerow, 2017) and return on quality (Rust *et al.*, 1995). In addition, studies have indicated that SQ is a significant determinant of perceived value (Hapsari, Clemes, & Dean, 2017; Moghaddam, 2014; Soltani *et al.*, 2016) and customer retention (Dao & Yang, 2014; Rust *et al.*, 1995).

From SQ linkages to RM variables, SQ has been found to have a significant impact on customer trust toward a brand (Chang *et al.*, 2013; Osman & Sentosa, 2013; Sultan & Wong, 2013) and customer satisfaction (Achmad, 2015; Akter & Hani, 2011; Aliman & Mohamad, 2013; Alrubaiee & Alkaa'ida, 2011; Aspizain, 2016; Azizan & Mohamed, 2013; Choi *et al.*, 2005; Dao & Yang, 2014; Hapsari *et al.*, 2017; Jiang *et al.*, 2012; Jussem, Chan, Chung, & Kibat, 2016; Kiumarsi, Isa, & Jayaraman, 2015; Nanda *et al.*, 2013; Ramez, 2012; Rust *et al.*, 1995; Osman & Sentosa, 2013; Sultan & Wong, 2013).

Furthermore, in terms of branding, evidence from past studies has shown a significant relationship between SQ and BE (Aspizain, 2016; Chahal & Bala, 2012; Hanaysha & Hilman, 2015c; Moghaddam, 2014; Kiumarsi, Isa, & Jayaraman, 2015). Likewise, SQ as well has been found to have a significant relationship with some BE dimensions such as brand loyalty (Achmad, 2015; Al-Rousan & Mohamed, 2010; Aspizain, 2016; Dib & Alhaddad, 2014; Kesuma *et al.*, 2013; Kiumarsi, Isa, & Jayaraman, 2015; Ming *et al.*, 2012; Nanda *et al.*, 2013), brand image (Achmad, 2015; Al-Azzam & Azzam, 2013; Aspizain, 2016; Hapsari *et al.*, 2017; Ming *et al.*, 2012), brand leadership

(Hanaysha, 2016b), and brand awareness (Ming *et al.*, 2012). In relationship to this, Hanaysha (2016b) investigated the effect of SQ on BE and its assets in the Malaysian automotive industry. The results indicated that SQ was significantly related to brand awareness, brand loyalty, brand image, and brand leadership. In addition, SQ also was found to have a significant effect on overall BE.

Moreover, the empirical investigations of quality have indicated that the effect of SQ on innovation is statistically significant (Cho & Pucik, 2005; Dao & Yang, 2014; Kiumarsi, Jayaraman, & Isa, 2015; Sund, 2008; Nanda *et al.*, 2013). Further, SQ has been found to have a significant and positive effect on product innovation (Lin, 2004; Lin & Lu, 2006; Prajogo & Sohal, 2003), process innovation (Lin, 2004; Prajogo & Sohal, 2003, 2006) and service innovation (Chen *et al.*, 2016).

Table 2.10

Service Quality Consequences: The Empirical Evidence

Author and Year	Context	Service Quality	Firm's Added Value	Results
Cronin and Taylor (1992)	Multi-services	SQ	Purchase intention	Insignificant
			Customer satisfaction	Significant
Cronin and Taylor (1994)	Multi-services	SQ	Purchase intention	Mixed
			Customer satisfaction	Significant
Rust <i>et al.</i> (1995)	Manufacturing	SQ	Return on quality	Significant
			Customer satisfaction	
			Cost reduction	
			Customer retention	
Zeithaml <i>et al.</i> (1996)	Cross sectors	SQ	Customer loyalty	Significant
			Switching cost	
			Pay more	
Prajogo and Sohal (2003)	Multi-industries	SQ	Product innovation	Significant
			Process innovation	
Lin (2004)	Automobile	SQ	Product innovation	Significant
			Process innovation	

Table 2.10 (Continued)

Author and Year	Context	Service Quality	Firm's Added Value	Results
Chitty and Soutar (2004)	Education	SQ	Perceived value	Insignificant
Han and Baek (2004)	Banking services	SQ	Customer retention	Insignificant
			Customer satisfaction	Significant
Choi <i>et al.</i> (2005)	Healthcare	SQ	Customer satisfaction	Significant
Cho and Pucik (2005)	Large firms	SQ	Innovation	Significant
Prajogo and Sohal (2006)	Multi-industries	SQ	Product innovation	Insignificant
			Process innovation	Significant
Lin and Lu (2006)	Electronics	SQ	Product innovation	Significant
Yap and Kew (2007)	Hospitality	SQ	Patronage intentions	Significant
Sund (2008)	Post office	SQ	Innovation	Significant
Molinari <i>et al.</i> (2008)	B2B	SQ	Perceived value	Insignificant
			Repurchase intention	
			Word of mouth	Significant
Akbar and Parvez (2009)	Telecommunication	SQ	Customer satisfaction	Mixed
			Customer loyalty	
Ha (2009)	Retail shops	SQ	Brand equity	Insignificant
Al-Rousan and Mohamed (2010)	Hospitality	SQ	Customer loyalty	Significant
Akter and Hani (2011)	Healthcare	SQ	Customer satisfaction	Significant
			Continuance intentions	
			Quality of life	
Alrubaiee and Alkaa'ida (2011)	Healthcare	SQ	Trust	Mixed
			Customer satisfaction	Significant
Ramez (2012)	Healthcare	SQ	Customer satisfaction	Significant
Ming <i>et al.</i> (2012)	Retail shops	SQ	Brand image	Significant
			Brand awareness	
			Brand loyalty	
Jiang <i>et al.</i> (2012)	Manufacturing	SQ	Customer satisfaction	Significant
Chahal and Bala (2012)	Healthcare	SQ	Brand equity	Significant
Yaşlıoğlu <i>et al.</i> (2013)	Call center	SQ	Customer value	Significant
Chang <i>et al.</i> (2013)	Healthcare	SQ	Trust	Significant
Osman and Sentosa (2013)	Hospitality	SQ	Customer satisfaction	Significant
			Trust	
Sultan and Wong (2013)	Education	SQ	Customer satisfaction	Significant
Aliman and Mohamad (2013)	Healthcare	SQ	Trust	
			Customer satisfaction	Significant
			Behavior intentions	
Azizan and Mohamed (2013)	Healthcare	SQ	Customer satisfaction	Significant
Nanda <i>et al.</i> (2013)	Retail	SQ	Innovation	Significant
			Brand loyalty	
			Customer satisfaction	

Table 2.10 (Continued)

Author and Year	Context	Service Quality	Firm's Added Value	Results
Al-Azzam and Azzam (2013)	Telecommunication	SQ	Brand Image Customer loyalty Trust	Significant
Kesuma <i>et al.</i> (2013)	Healthcare	SQ	Customer loyalty	Significant
Orel and Kara (2014)	Entertainment	SQ	Customer satisfaction	Significant
Dib and Alhaddad (2014)	Mobile markets	SQ	Brand equity Brand trust Brand loyalty	Insignificant Significant
Moghaddam (2014)	Banks	SQ	Brand equity Perceived value	Significant
Loureiro <i>et al.</i> (2014)	Services	SQ	Brand equity	Insignificant
Dao and Yang (2014)	Telecommunication	SQ	Innovation Customer retention customer satisfaction	Significant
Hanaysha and Hilman (2015c)	Automobile	SQ	Brand equity	Significant
Achmad (2015)	Tourism	SQ	Destination preference Customer satisfaction Customer loyalty Word of mouth	Insignificant Significant
Abu ElSamen (2015)	Banking	SQ	Brand awareness Brand image	Mixed
Kiumarsi, Jayaraman, and Isa (2015)	Post office	SQ	Innovation	Significant
Kiumarsi, Isa, and Jayaraman (2015)	Post office	SQ	Customer satisfaction Brand equity Brand loyalty	Significant
Jussem <i>et al.</i> (2016)	Hospitality	SQ	Brand loyalty Perceived value Brand image Customer satisfaction	Insignificant Significant
Soltani <i>et al.</i> (2016)	Chain store	SQ	Brand image Purchase intention Perceived value	Insignificant
Esmailpour <i>et al.</i> (2016)	Fast food	SQ	Brand equity	Significant
Aspizain (2016)	Advertising	SQ	Brand image Brand equity Customer satisfaction Brand loyalty	Significant
Chen <i>et al.</i> (2016)	Restaurants	SQ	Service innovation Financial performance	Significant
Hanaysha (2016b)	Automobile	SQ	Brand equity Brand awareness Brand loyalty Brand image Brand leadership	Significant

Table 2.10 (Continued)

Author and Year	Context	Service Quality	Firm's Added Value	Results
Nowels and Kamerow (2017)	Healthcare	SQ	Health-related life goals	Significant
Hapsari <i>et al.</i> (2017)	Airline	SQ	Brand loyalty	Insignificant
			Brand image	Significant
			Customer satisfaction	
			Perceived value	
Kant <i>et al.</i> (2017)	Banking	SQ	Customer satisfaction	Mixed

In contrast, earlier literature also has found an insignificant effect of SQ on perceived value (Chitty & Soutar, 2004; Molinari *et al.*, 2008), customer retention (Han & Baek, 2004), intention to repurchase (Molinari *et al.*, 2008), destination preferences (Achmad, 2015), and brand trust (Dib & Alhaddad, 2014). In addition, SQ has been found to have an insignificant relationship with BE (Dib & Alhaddad, 2014; Ha, 2009; Loureiro *et al.*, 2014) as well with some of BE dimensions including loyalty toward to a brand (Hapsari *et al.*, 2017) and brand image (Soltani *et al.*, 2016). Furthermore, an additional insignificant result was found between SQ and product innovation (Prajogo & Sohal, 2006).

Other scholars have investigated the relationship between SQ dimensions and a firm's added value. In relationship to this, Akbar and Parvez (2009) investigated the relationship between perceived SQ dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy toward customer satisfaction and customer loyalty. The study found that only reliability of SQ was significantly related with customer satisfaction and customer loyalty. The results were further empirically supported by Kant *et al.*

(2017) in their investigation of SQ dimensions and customer satisfaction. In addition, Alrubaiee and Alkaa'ida (2011) indicated that reliability, responsiveness, and assurance of quality have a significant effect on brand trust, while tangibility and empathy have an insignificant effect. Abu ElSamen (2015) examined the relationship between SQ dimensionality (system efficiency, fulfillment, responsiveness, reliability, and security) and brand awareness and brand image. The study indicated that system efficiency, fulfillment, and responsiveness had a significant and positive effect on brand awareness and brand image, while reliability and security had a negative and significant effect.

Moreover, in a comparative investigation of SQ (tangibility, reliability, responsiveness, assurance, and empathy) implementation, Cronin and Taylor (1992) investigated the effect of SQ on customer satisfaction and purchase intention in four services (pest control, fast food, banking, and dry cleaning) using SERVQUAL (gap model scale) and SERVPERF (performance-based scale). The study found that SERVPERF measure of SQ was more reliable and valid than SERVQUAL. By considering superiority of SERVPERF, the results indicated that SQ had a significant effect on customer satisfaction in all industries, while SQ had a statistically insignificant effect on purchase intention. Cronin and Taylor (1994) conducted a similar empirical study, which results revealed that SQ had a significant effect on purchase intention in pest control and fast food for SERVQUAL and in pest control, dry cleaning, and banking for SERVPERF while, SQ had a significant influence on customer satisfaction for either model in all industries. Concerning this view

(SERVQUAL and SERVPERF), many previous scholars have investigated SQ consequences based on a SERVQUAL gap model (Jiang *et al.*, 2012; Ramez, 2012; Yap & Kew, 2007; Yousapronpaiboon & Johnson, 2013) and the SERVPERF performance model (Abu ElSamen, 2015; Aliman & Mohamad, 2013; Azizan & Mohamed, 2013; Chahal & Bala, 2012; Esmaeilpour *et al.*, 2016; Kant *et al.*, 2017; Kesuma *et al.*, 2013; Moghaddam, 2014; Osman & Sentosa, 2013; Sultan & Wong, 2013). The SERVPERF perspective still remains the most popular and valid in the SQ literature and accordingly was adopted in this present study.

By reviewing the aforementioned SQ literature, the conclusion can be drawn that since Parasuraman *et al.* (1988), most of the empirical studies have been conducted to investigate the relationship between SQ toward behavioral intention and customer satisfaction. Despite the importance of these relationships, few studies empirically have investigated the direct effect of SQ on innovation and BE development. This notion is well supported in SQ-innovation literature (Chen *et al.*, 2016; Cho & Pucik, 2005; Kiumarsi, Jayaraman, & Isa, 2015) as well SQ-BE literature (Akdeniz & Calantone, 2017; Hanaysha, 2016b; Hanaysha & Hilman, 2015c; Kiumarsi, Isa, & Jayaraman, 2015; Moghaddam, 2014).

In addition, the empirical evidences have shown inconsistencies when concerned with the relationship between SQ and its consequences when comparing the product industry and the service industry. This is connected particularly with innovation and BE. The reason underlying for insignificant

results rests in a number of factors. First, SQ plays a different role in services than in a manufacturing and depends on service characteristics (Parasuraman *et al.*, 1985). Second, cultural factors (Rönnbäck & Witell, 2008) are important because customers evaluate brands differently, in different countries and in different ways even in the same service or product domain (Alrubaiee & Alkaa'ida, 2011). While considering the country of investigation, most studies have been conducted in the United States, Australia, or South East Asia (Aliman & Mohamad, 2013; Cronin & Taylor, 1992, 1994; Chitty & Soutar, 2004; Prajogo & Sohal, 2003, 2006).

Moreover, the focus of these studies has actively concentrated on specific quality dimensions. For example, a large body of literature has considered the five quality dimensions (tangibility, reliability, responsiveness, assurance, and empathy) of Parasuraman *et al.* (1988). These studies include, Achmad (2015), Al-Rousan and Mohamed (2010), Chahal and Bala (2012), Cronin and Taylor (1992, 1994), Han and Baek (2004), Jiang *et al.* (2012), Moghaddam (2014), Osman and Sentosa (2013), Ramez (2012), and Yousapronpaiboon and Johnson (2013). Other scholars have focused on Grönroos's (1984) quality dimensions of technical and functional quality such as Chitty and Soutar (2004) and Loureiro *et al.* (2014).

Meanwhile, Chen *et al.* (2016) and Kant *et al.* (2017) measured SQ as tangibility, reliability, responsiveness, assurance, empathy, and image by integrating the quality dimensions of Parasuraman *et al.* (1988) and Grönroos (1984) into one model. Besides, Abu ElSamen (2015), Akter and Hani (2011),

Azizan and Mohamed (2013) explored other dimensions of SQ that fulfill the needs of customers need in a particular context. Nonetheless, a extensive review of SQ dimensions reveals that, tangibility, reliability, responsiveness, assurance, and empathy remain the most popular dimensions for evaluating SQ in healthcare, including the Jordanian medical tourism sector as well (Aliman & Mohamad, 2013; Alrubaiee & Alkaa'ida, 2011; Chahal & Bala, 2012; Yousapronpaiboon & Johnson, 2013).

Furthermore, much of the previously mentioned research shows a major weakness when it comes to the sampling method. This weakness concerns the problems associated with the usage of the non-probability sampling method specifically convenience sampling; thus, generalization is impossible, and the results are often invalid. This trend of research is well identified in service settings (Aliman & Mohamad, 2013; Al-Rousan & Mohamed, 2010; Azizan & Mohamed, 2013; Esmailpour *et al.*, 2016; Hapsari *et al.*, 2017; Kesuma *et al.*, 2013; Ramez, 2012; Yap & Kew, 2007; Yousapronpaiboon & Johnson, 2013) in comparison to manufacturing settings (Ha, 2009; Ming *et al.*, 2012).

In short, based on the above findings, although the empirical evidence presented shows a significant and positive effect of SQ on the added value of firms; only a few studies have presented empirical evidence of the relationship between SQ and innovation as well SQ and BE. Although some studies have investigated the relationship between quality in relationship to innovation and BE, the results to date remain uncertain and, to some extent, invalid. Thus, to extend empirical knowledge, this present study investigates the

interrelationships between SQ (tangibility, reliability, responsiveness, assurance, and empathy) and innovation (product, process, service, marketing, and administrative innovation) in addition to BE in the Jordanian medical tourism context. The next subtopic discusses the relationship between SQ and innovation.

2.13 SERVICE QUALITY AND INNOVATION

In the service industry, including healthcare, satisfying the demand of customers for superior quality of products and services in the global marketplace has become very competitive. According to Parasuraman (2010), SQ is no longer enough to be regarded as a competitive weapon. In addition, from a customer's perspective, the point of differentiation is how the service is delivered (relational/intangible aspect) rather than what is delivered (core aspect/tangible). In addition to the intangible aspects, a customer evaluates and compares the service brand in terms of new features and options, referring to its newness and the innovation level (Aaker, 1991; Durst, Mention, & Poutanen, 2015). Therefore, a need exists for quality alongside innovation to maintain business competitiveness in the market place, especially in the context of services (Bon & Mustafa, 2013; Bon *et al.*, 2012; Parasuraman, 2010; Prajogo & Sohal, 2006). This argument is also supported in the context of medical tourism by Veerasoontorn, Beise-Zee, and Sivayathorn (2011) who clearly stated that "successful health destinations need to provide foreign patients unexpectedly pleasant experiences through organizational innovations and service quality" (p. 140).

Previous studies have empirically examined the relationship between SQ and innovation as demonstrated previously in section 2.12, Table 2.10, (p. 103). To emphasize, Dao and Yang (2014) and Kiumarsi, Jayaraman, and Isa (2015) investigated the effect of SQ on innovation and indicated that SQ has a significant effect on innovation. This result has been also empirically supported by Nanda *et al.* (2013) and Sund (2008) in their SQ-innovation investigations. Similarly, Bon and Mustafa (2013) and Prajogo and Sohal (2003, 2006) have supported the idea that SQ is a key driving force behind innovation.

Moreover, the empirical investigations demonstrate a relatively disagreement in results when it comes to the relationship between SQ and product innovation. In Prajogo and Sohal's (2003) study of 194 Australian manufacturing and non-manufacturing firms, the quality had a significant effect on product innovation, while quality had an insignificant effect in Prajogo and Sohal's (2006) later study. Lin (2004) and Lin and Lu (2006) investigated the relationship between quality and product innovation in the context of automobile and electronic industries. The results indicated that SQ had a significant effect on product innovation.

Others also have found a significant and positive relationship between SQ and process innovation. Lin (2004), Prajogo and Sohal (2003), and Prajogo and Sohal (2006) indicated that SQ had a significant effect on process innovation. Like process innovation, Chen *et al.* (2016) investigated the effect of SQ (measured as tangibility, reliability, responsiveness, empathy, and assurance)

on service innovation in Taiwanese restaurants. The results found that SQ was a key determinant of service innovation.

In short, although, scholars generally agree that SQ has a significant effect on innovation, only a few studies have provided empirical validation of the relationship between SQ and innovation. Therefore, the relationship between SQ and innovation still needs further studies due to the complexity in the variety of SQ practices and the diversity of its dimensions and, on the other hand, from the diverse typology of innovation (Bon & Mustafa, 2013; Durst *et al.*, 2015). Furthermore, the existing literature has investigated the impact of SQ practices mainly on product and process innovation in Western and Eastern Asian countries from a management perspective. Therefore, the present study aims to understand the nature of the relationship between SQ (tangibility, reliability, responsiveness, assurance, and empathy) and innovation (product, process, service, marketing, and administrative innovation) in the Jordanian medical tourism context. The following section presents the concept of innovation as the main interest in the present study.

2.14 THE CONCEPT OF INNOVATION

Innovation is the stem of the Greek word “Innovare”, meaning building a new thing. Schumpeter (1934), who is known as “prophet of innovation” (cited in Croitoru, 2012), was one of the pioneers who emphasized innovation as the driver of economic growth in terms of introducing new services or products, developing new methods to create a service or a product, and reorganizing industries, or opening new markets (Ghafari *et al.*, 2011, p. 579).

However, since the 80s scholars have defined innovation from very various perspectives as presented in Table 2.11. Among them, Caruana, Morris, and Vella (1998) defined innovation as the development of novel or unique products, services, or processes. Similarly, Coopey, Keegan, and Emler (1998), Damanpour (1996), and Slappendel (1996) defined innovation as the process of introducing something new in which new ideas, new practices are created, developed, or reinvented (Stoker & Van der Heijden, 2001). Thus, any action consisting of improvement or introduction of new ideas, new products, and new markets can be considered as innovation.

Weerawardena and O’Cass (2004) stressed the role of technological innovation by defining innovation as the application of ideas that are new to the firm to create added value for both the firm and the customer, regardless of the newness and the added value that are materialized in the products, processes, work organizations or marketing systems. Another definition arises from the knowledge management perspective; the organizational capability to generate, share and assimilate external information to create new knowledge

in order to enhance innovation capability and organizational performance
(Cohen & Levinthal, 1990; Du Plessis, 2007; Harkema, 2003).

Table 2.11
Definitions of Innovation

Author and Year	Definition
Zahra and Covin (1994)	"Innovation is widely considered as the life blood of corporate survival and growth" (p. 183).
Weerawardena and Coote (2001)	"A process in which the waves of knowledge acquired by the firm through external and internal sources are integrated into all value creating activities of the firm" (p. 55).
Harkema (2003)	"As a mentality that expresses itself through learning. Additionally, a process wherein knowledge is acquired shared and assimilated with the aim to create new knowledge which embodies Products and services" (p. 341).
Greenhalgh, Robert, Macfarlane, Bate, and Kyriakidou (2004)	"A novel set of behaviors, routines, and ways of working that are directed at improving health outcomes, administrative efficiency, cost effectiveness, or users' experience and that are implemented by planned and coordinated actions" (p. 582).
OECD Oslo Manual, (2005)	"The implementation of a new or significantly improved products (goods or services), or processes, a new marketing method, or a new organizational method in business practices, workplace organization or external relations" (p. 46).
Bessant, Lamming, Noke, and Phillips (2005)	"Innovation represents the core renewal process in any organization. Unless it changes what it offers the world and the way in which it creates and delivers those offerings it risks its survival and growth prospects" (p. 1366).
Thornhill (2006)	"A process that begins with an idea proceeds with the development of an invention, and results in the introduction of a new product, process or service to the marketplace" (p. 689).
Lämsäalmi, Kivimäki, Aalto, and Ruoranen (2006)	"The intentional introduction and application within a role, group, or organization, of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, or wider society"(p. 67).
Du Plessis (2007)	"The creation of new knowledge and ideas to facilitate new business outcomes, aimed at improving internal business processes and structures and to create market driven products and services" (p. 21).
Baregheh, Rowley and, Sambrook (2009)	"Innovation is the multi-stage process whereby organizations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace" (p. 1334).
Khodabakhshi, Kamali, and Shiargar (2013)	"Innovation is the usage of new ideas which are the results of creation and can be a new product, new services or a new way for doing works" (p. 1385).

Actually, these definitions in the literature review captured the main characteristics of innovation such as novelty and applications ingredient which

aim to succeed, compete, differentiate and create value (Lämsäalmi *et al.*, 2006; Weerawardena & O’Cass, 2004). Also, these definitions reflect different types of innovation as discussed in the next section.

2.14.1 Types of Innovation

Different types of innovation are found in the literature grouped into technological (product and process), non-technological (managerial and marketing), and radical and incremental innovation (Weerawardena & Coote, 2001). The organizations adopt different activities of innovation due to organizational factors, organizational sectors, and environmental conditions.

The OECD Oslo Manual (2005), which is the primary international guideline for describing, identifying and classifying innovations at the firm. These classifications are identified into four types: product innovation, marketing innovation, the process of innovation, and organizational innovation.

However, in this study, and according to the complexity of the healthcare industry, this study distinguishes five types of innovation (product, service, process, marketing, and administrative innovation) that has less consideration among scholars. In addition, the implementation of these five types of innovation is considered as a main reason for survival (Jalali & Sardari, 2015; Lin *et al.*, 2010). The following subtitle discusses these types.

2.14.1.1 Product Innovation

Product innovation is related to the essential activities of prevention and treatment of disease in the healthcare industry, such as new equipment and

drugs (Wu & Hsieh, 2015). Product innovation is also defined as “the introduction of either goods or services that are new or significantly improved with respect to their features, intended use, software, user friendless or components and material” (OECD Oslo Manual, 2005, p. 48). Thus, product innovation includes several aspects such as new products, improvements in existing products, and utilization of firm resources in creating products. The purpose of product innovation is to attract new customers according to their needs (Hassan, Shaukat, Nawaz, & Naz, 2013). Since success in a highly competitive environment, product innovation must involve strong interactions between the firm and the customers (Mensah & Acquah, 2015). As a result, innovation benefits include customer satisfaction, differentiation from competitors, and earning high profits (Hanaysha & Hilman, 2015b, 2015c; Hanaysha *et al.*, 2014; Haryanto & Haryono, 2015).

2.14.1.2 Service Innovation

Service innovation refers to a firm’s involvement in various innovation activities to consolidate customer satisfaction (Lin *et al.*, 2010; Toma *et al.*, 2014). Gadrey, Gallouj, and Weinstein (1995) defined service innovation as “to organize a solution to a problem (a treatment, an operation) which does not principally involve supplying goods” (p. 4). This definition reflects two forms of service innovation: firstly, organizing the solutions to new problems into varying degrees which are new to the firm or new to the market. Normally, these problems are formulated by customers and may also result from the interaction between the service provider and the customer; secondly, organizing a solution to the same type of problem. However, service brands,

including healthcare brands, can be innovative by developing new services or reformulating existing ones, and thus, providing superior value to customers (Toma *et al.*, 2014).

2.14.1.3 Process Innovation

Process innovation is executing and implementing changes to operational processes of treatment and diagnosis (Shiau, 2014; Wu & Hsieh, 2015). In other words, a process innovation means bringing significant improvement in the technology, equipment, and software of the production or delivery methods (OECD Oslo Manual, 2005). It involves “quality function” and also involves interaction among customers and employees (Oly Ndubisi & Agarwal, 2014). Process innovation significantly enhances the quality, decreases the cost of production or delivery, and improves the competitive position of a firm (Gunday, Ulusoy, Kilic, & Alpan, 2011; Mensah & Acquah, 2015).

2.14.1.4 Marketing Innovation

Marketing innovation refers to executing significant changes in marketing activities such as new pricing strategies, product design, and new promotional campaign (Toma *et al.*, 2014). Even “changed ways for collecting customer’s information” is considered as marketing innovation (Hassan *et al.*, 2013). Marketing innovation targets to fulfilling customer needs and opening up new markets as well as newly positioning a firm’s product on the market with the intention of increasing the firm’s sales (OECD Oslo Manual, 2005).

Innovative -designed marketing efforts are able to create preferable, unique, and strong brands (Keller, 1993).

2.14.1.5 Administrative Innovation

Administrative innovation deals with changes in the organizational structure or the administrative processes such as resource allocation and staffing (Atalay *et al.*, 2013). The OECD Oslo Manual (2005) defined administrative innovation as “the implementation of new methods of organizing business practice, workplace organization or external relations” (p. 51). This definition reflects three forms of administrative innovation. Firstly, business practice form requires the applications of new techniques for sorting routines and procedures for carrying out the work. Secondly, workplace organization entails new ways of allocating responsibility and decision- making among the employees regarding the division of work within and between organizational units. Finally, external relations form, which has not been used before. Thus, administrative innovations are strongly associated with all the administrative efforts of renewing the organizational routines, procedures, and systems to enhance information- sharing, collaboration, coordination, learning, and innovativeness (Mensah & Acquah, 2015). In this way, firms’ are able to compete with their competitors and satisfy their customers (Hassan *et al.*, 2013).

In summation, superior innovation can be done when new products and services are created, new processes are followed, new organizational methods are implemented and new marketing activities are involved. The

innovativeness capability of the firm presents the opportunities for the firm's survival in stiff competitive markets and contributes significantly to business performance. These benefits are limited and associated with customer experience with the brand (Henard & Dacin, 2010; Keller, 1993; Ngo & O'Cass, 2013; Oly Ndubisi & Agarwal, 2014). These benefits are discussed in the following section.

2.15 INNOVATION CONSEQUENCES: THE EMPIRICAL EVIDENCE

The importance of innovation types and their contributions to organizational performance is shown in Table 2.12. The literature has considered innovation as a key source of a firm's performance with respect to its competitors (García-Morales, Lloréns-Montes, & Verdú-Jover, 2007; Liu & Xie, 2014; Mensah & Acquah, 2015) in terms of marketing performance (Ashraf, Kadir, Pihie, & Rashid, 2014) and financial performance (Bigliardi, 2013). In this case, Garcia-Morales, Matias-Reche, and Hurtado-Torres (2008) investigated the impact of innovation on a firm's performance in the pharmaceutical sector in Australia and Spain, providing empirical evidence that innovation had a significant effect on a firm's overall performance in terms of return on assets, return on equity, return on sales, and market share; however, Zaied, Louati, and Affes (2015) found insignificant empirical evidence among Tunisian firms operating in different sectors. Furthermore, Ho (2011) examined the effect of innovation types, namely technological, administrative, and marketing innovation on marketing performance and financial performance of the technological firms in Taiwan. The results revealed that all types of innovation

had a significant and positive effect on performance. This result is also supported in Malaysian technological context by Salim and Sulaiman (2011).

Moreover, Atalay *et al.* (2013) also investigated the effect of innovation (measured as product, process, marketing, and administrative innovation) on Turkish automotive marketing performance. The results indicated that only product and process innovation were significantly related to marketing performance, while marketing and administrative innovation had an insignificant effect. In addition, Hu *et al.* (2015) demonstrated that only administrative innovation had a significant effect on overall performance of Taiwanese restaurants, while product innovation as well as marketing innovation were not significant indicators.

Several scholars have investigated the linkages among innovation types and their relationship with innovative performance (quality of new products and numbers of new products). For example, Gunday *et al.* (2011) tested the effect of innovation (measured as product, process, marketing, and administrative innovation) on innovative performance of the manufacturing industry in Turkey. The results demonstrated that administrative, product, and marketing innovations were significantly related to innovative performance; however, process innovation was found to have an insignificant effect. In the same study, process and marketing innovation were found to have a significant influence on product innovation. Besides, administrative innovation was found to have a significant effect on both process and marketing innovation; meanwhile, administrative innovation was found to have an insignificant

effect on product innovation. In a study of the Pakistani manufacturing area, Hassan *et al.* (2013) found that all innovation types had a significant effect on innovative performance. Also, process, marketing, and administrative innovation were found to have a significant effect on product innovation. In addition, administrative innovation was found to have a significant effect on process and marketing innovation.

Beyond organizational performance and innovative performance, several scholars have indicated that innovation is a significant driver for customer satisfaction (Khan, Salam, & Sherpao, 2014; Nanda *et al.*, 2013; Naveed *et al.*, 2012; Nemati, Khan, & Iftikhar, 2010; Weng, Ha, Wang, & Tsai, 2012) and for customer retention (Dao & Yang, 2014) in addition to providing high-quality service (Yaşlıoğlu *et al.*, 2013). Meanwhile, another research stream believes that innovation and its capabilities is a necessary strategy to build a brand with strong equity and to enhance its assets. In this sense, Chien (2013) and Opuni, Gyamfi, and Gyimh (2014) indicated that innovation had a significant effect on BE. Also, innovation was found to have a significant effect on customer loyalty towards a brand (Hussain, Munir, & Siddiqui, 2012; Khan *et al.*, 2014; Naveed *et al.*, 2012; Nemati *et al.*, 2010; Tehrani *et al.*, 2015). Additionally, other innovation types were also found to have a significant effect on brand building. For instance, marketing and administrative innovation were found to be significantly enhance brand loyalty (Foroudi, Jin, Gupta, Melewar, & Foroudi, 2016) and service innovation was also found to have a significant effect on BE (Isa *et al.*, 2017; Kiumarsi, Isa, & Jayaraman, 2015). In relationship to service innovation, Atashfaraz and Abadi

(2016) indicated that providing innovation in new services in mobile phones had an insignificant effect on BE formation. In addition to service innovation, product innovation was also found to have a significant relationship with BE (Isa *et al.*, 2017; Hanaysha & Hilman, 2015b, 2015c) and brand image (Hanaysha *et al.*, 2014). In relationship to this, Sriram, Balachander, and Kalwani (2007) investigated the effect of product innovation on BE, comparing the two product categories of toothpaste and dish detergent. The results revealed that product innovation had a significant and positive impact on BE in the short run and in the long run; however, the effect was much higher in the long run than was in the short run.

Table 2.12
Innovation Consequences: The Empirical Evidence

Author and Year	Context	Innovation	Firm's Added Value	Results
García-Morales <i>et al.</i> (2007)	SME/large firms	Innovation	Firm performance	Significant
Sriram <i>et al.</i> (2007)	Product category	Product	Brand equity	Significant
García-Morales <i>et al.</i> (2008)	Pharmaceutical industry	Innovation	Firm performance	Significant
Nemati <i>et al.</i> (2010)	Mobile phones	Innovation	Brand loyalty	Insignificant
			Customer satisfaction	Significant
Ho (2011)	Technological firms	Technological	Financial performance	Significant
		Administrative Marketing	Marketing performance	
Salim and Sulaiman (2011)	Software firms	Technological	Financial performance	Significant
		Administrative Marketing	Marketing performance	
Gunday <i>et al.</i> (2011)	Manufacturing	Administrative	Innovative performance	Insignificant
		Process Product Marketing		Significant
Hussain <i>et al.</i> (2012)	FMCG	Innovation	Brand loyalty	Significant
Weng <i>et al.</i> (2012)	Hotel	Service	Customer satisfaction	Significant

Table 2.12 (Continued)

Author and Year	Context	Innovation	Firm's Added Value	Results
Naveed <i>et al.</i> (2012)	Mobile phones	Innovation	Brand loyalty Customer satisfaction	Significant
Chien (2013)	Automobile	Innovation	Brand equity Brand perception Customer value	Significant
Atalay <i>et al.</i> (2013)	Automobile	Marketing	Marketing performance	Insignificant
		Administrative Product Process		Significant
O'Cass and Sok (2013)	Service firms	Service	Service quality Customer satisfaction	Significant
Bigliardi (2013)	Service firms	Innovation	Financial performance	Significant
Hassan <i>et al.</i> (2013)	Manufacturing	Product Process Administrative Marketing	Innovative performance	Significant
Yaşlıoğlu <i>et al.</i> (2013)	Call center	Service Administrative Process	Service quality Customer value	Significant
Nanda <i>et al.</i> (2013)	Retail	Innovation	Brand loyalty Customer satisfaction	Significant
Dao and Yang (2014)	Telecommunication	Innovation	Customer retention Customer satisfaction	Significant
Khan <i>et al.</i> (2014)	Mobile phones	Innovation	Brand loyalty Customer satisfaction	Significant
Opuni <i>et al.</i> (2014)	Hotel	Innovation	Return on investment	Insignificant
			Brand experience Brand equity	Significant
Liu and Xie (2014)	Manufacturing	Radical Incremental	Firm performance	Significant
Ashraf <i>et al.</i> (2014)	Universities	Technological Administrative	Marketing performance	Significant
Camisón and Villar-López (2014)	Industrial firms	Product	Innovative performance	Significant
Hanaysha <i>et al.</i> (2014)	Automobile	Product	Brand image Trust	Significant
Hanaysha and Hilman (2015b, 2015c)	Automobile	Product	Brand equity	Significant

Table 2.12 (Continued)

Author and Year	Context	Innovation	Firm's Added Value	Results
Mensah and Acquah (2015)	SME	Product Process Administrative Marketing	Firm performance	significant
Haryanto and Haryono (2015)	SME	Marketing Process Administrative Product	Innovative performance	Insignificant Significant
Hu <i>et al.</i> (2015)	Restaurants	Product Marketing Managerial	Firm performance	Insignificant Significant
Tehrani <i>et al.</i> (2015)	Retail	Innovation	Brand loyalty	Significant
Kiumarsi, Isa, and Jayaraman (2015)	Post office	Service	Customer satisfaction Brand equity Brand loyalty	Significant
Zaied <i>et al.</i> (2015)	Different sectors	Innovation	Firm performance	Insignificant
Visnjic, Wiengarten, and Neely (2016)	Manufacturing	Product	Profits	Significant
Atashfaraz and Abadi (2016)	Mobile phones	Service	Brand equity	Insignificant
Foroudi <i>et al.</i> (2016)	Retail	Marketing Managerial	Brand loyalty Customer experience Firm reputation	Significant
Isa <i>et al.</i> (2017)	Post office	Marketing Service Product	Brand equity Customer satisfaction	Insignificant Significant
Davcik (2017)	FMCG	Radical Incremental	Market share	Significant

Based on the above discussion, scholars generally seem to agree that innovation has a significant effect on organizational performance. In fact, the innovation construct presents evidence critical to a firm's dynamic-capability asset to create difficulties in duplication, making duplication and imitation difficult for competitors (Day, 1994). Despite empirical studies noting the crucial role of different types of innovation with respect to a firm's added value achievement, still previous empirical research on innovation is inconsistent and biased towards technological innovation and its effects on

marketing and financial performance, providing empirical evidences from Spain, Australia, Turkey, Iran, Taiwan, and Malaysia in different contexts like manufacturing, automotive, restaurants, hotels, and mobile markets rather than in medical tourism and places more stress on the organizational perspective. This clearly shows that only a few studies have presented empirical validation of the relationship between innovation and building a brand with powerful equity. Pappu and Quester (2016) noted that “research on the interface of innovation and brand is limited” (p. 763) in service organizations (O’Cass & Sok, 2013) and in developing countries (Ernst, Kahle, Dubiel, Prabhu, & Subramaniam, 2015; Guceri-Ucar & Koch, 2014; O’Cass & Sok, 2013). Therefore, this current study integrates five types of innovation and investigates the direct effect of innovation (product, process, service, marketing, and administrative innovation) on BE in the Jordanian medical tourism context.

Moreover, scholars have generally argued that innovation is an important mediator not moderator (e.g. Weerawardena & Coote, 2001) for achieving superior added value achievement in a firm, particularly in a highly complex and sensitive environment such as the healthcare industry (Vincent, Bharadwaj, & Challagalla, 2004). Weerawardena and Coote (2001) supported this idea, arguing that “firms can achieve competitive advantage by creating super value for customers through innovation” (p. 51). Up to now, as illustrated in Table 2.13, it is clear that the literature has evaluated the role of innovation as a mediator in the context of market orientation and firm performance (Carmen & José, 2008; Chen, Liu, & Wu, 2009; Uzokurt, Kimzan,

& Yilmaz, 2016), sources of personal mastery (García-Morales *et al.*, 2007), sources of emotional capability (Akgün *et al.*, 2009), the consequences of organizational flexibility (Camisón & Villar-López, 2010), resource allocation in terms of management commitment, human resource, and information technology (Wong, 2014), KM (Byukusenge *et al.*, 2016), and environmental uncertainty (Uzkurt *et al.*, 2016). Undoubtedly, not many, if any at all, have concentrated on the mediating role of innovation the context of CRM, SQ, and BE.

Table 2.13
Innovation as a Mediator: The Empirical Evidence

Author and Year	Study Focus	Context	Innovation as a Mediator	Respondents	Country
García-Morales <i>et al.</i> (2007)	Focus on the source of personal mastery that affects organizational resource performance.	SME	Innovation	CEO's	Spain
Carmen and José (2008)	Focus on market orientation and economical performance.	Service	Technological innovation Organizational innovation	Curators	Spain and France
Akgün <i>et al.</i> (2009)	Focus on the relationship between emotional capability and firm performance.	Exporters	Product innovation Process innovation	Senior staff	Turkey
Chen <i>et al.</i> (2009)	Focus on organizational learning and performance.	Trading firms	Technical innovation Administrative innovation	Executives	China
Camisón and Villar-López (2010)	Focus on organizational resource allocation flexibility and firm performance.	Industrial companies	Innovation	Senior managers	Spain
Wong (2014)	Focus on firm commitment and promotional strategy	Industrial firms	Innovation	Executives	Australia
Byukusenge <i>et al.</i> (2016)	Concentrates of KM and business performance	SME	Innovation	Managers	Uganda
Uzkurt <i>et al.</i> (2016)	Focus on environment uncertainty and market orientation	Industrial firms	Innovation	Managers	Turkey

Furthermore, Vincent *et al.* (2004) argued that in extremely complex and highly sensitive industries like healthcare, the successful management of innovation will enhance a firm's performance (e.g. BE), but this enhancement is limited to confidence building including trust, commitment, and communication (e.g. CRM), and resource allocation (e.g. SQ). This notion has been pointedly identified, but evidences supporting this idea remain rare. This argument is also supported by Akgün *et al.* (2009) and Camisón and Villar-López (2010) who emphasized that the issue of the relationship between the factors affecting innovation to improve organizational performance is still rare and that a large gap exists in the empirical studies concerning this area (Jahanzeb *et al.*, 2013). Building on the CBEE perspective, Rios (2007) and Yoo *et al.* (2000) stressed the exploration the marketing activities (e.g. innovation) that have an indirect effect on BE building. Therefore, this present study will investigate innovation as an important mediator that affects the relationship between CRM and SQ on BE building.

From the mediator's perspective, the rule of Baron and Kenney's (1986) is followed, which indicates that a mediator role may exist if the relationship between the predictors and the dependent variable is constantly significant. In this sense, the previous sections have demonstrated that a significant relationship exists between the predictors (CRM, SQ, and innovation) and BE (see Table 2.7, p. 81, Table 2.10, p. 103, and Table 2.12, p. 123), respectively.

In conclusion, the previous sub-sections presented the existing literature on BE, CRM, SQ, and innovation consequences, and presented the tone for the

mediating role of innovation. However, empirical evidence on the interactions among these variables utilizing a comprehensive view remains lacking. This study so far could not find any empirical study that has examined the direct effect of CRM implementation (KM, customer involvement, long-term associations, joint problem solving, and technology-based CRM) and SQ (tangibility, reliability, responsiveness, assurance, and empathy) on innovation (product, process, service, marketing, and administrative innovation) and BE as well as the direct effect of innovation on BE. Also, so far, this study could not find any empirical study that has tested the indirect effects of CRM and SQ on BE through innovation, particularly in the medical tourism context. Consequently, the current study is interested in contributing toward this issue in the Jordanian medical tourism. The BE theory supports the three predictors per the following discussion.

2.16 THEORETICAL UNDERPINNING

This study focuses on the mediating role of innovation types between CRM and SQ on BE. The integration of these variables is necessary to achieve greater firm performance under immense domestic or global competition. The fundamental theory underpinning this research framework is based on CBBE theory as discussed in the following subtitles.

2.16.1 Theory of Customer-based Brand Equity (CBBE)

Farquhar, (1989), Srivastava and Shocker (1991), Aaker (1991), Keller (1993), and Yoo *et al.* (2000) are among the important academic contributors to the BE theory. Farquhar (1989) emphasized the concept of “added value with

which a given brand endows a product" (RC-7). From an organizational perspective, this added value can be revealed by long-term cash flow, which is reflected by market share and reduced promotional expenses. Otherwise, from a customer's perspective, this added value can be interpreted in terms of enhancing a consumer's ability to translate and store large amounts of information about a product which is created by attitude strength toward a brand. The role of customers in contributing to a firm's performance cannot be ignored because customers determine BE. Further, Farquhar (1989) asserted that firms with high BE include the chance for successful brand extensions and creation of barriers to competitors' entry.

Srivastava and Shocker (1991) described BE as the "incremental value of a product due to the brand name" (p. 28). Brand value is the financial outcome of the management's concentration to leverage brand strength via marketing efforts in providing superior current and future profits, and lower risks. Brand strength is based upon customer's perceptions and associations of a particular brand name. Accordingly, BE conceptualization is reflected by brand value and brand strength.

Aaker (1991) proposed a multi-dimensional CBBE model that includes brand associations and brand awareness, brand loyalty, perceived quality, and other proprietary brand assets such as trademarks, patents, and channel relationships that are associated with the brand. These brand assets are about the creation of value for the customers and the organizations. This value cannot be created without customers' participation in differentiating the brand. Thus, the role of

customers is crucially important in building BE. Basically, the customers base their perceptions on the brand and its equity, and develop an overall intangible rating of BE. Accordingly, the value gained from the brand by the customers in terms of enhancing their interpretation of the information, nourished by marketing programs, produces greater trust in the purchase decision, as well as increases satisfaction (Aaker, 1991). The customer value can be translated into a firm's value. In this sense, BE is equally important to firms in terms of greater customer loyalty, more resistance to the competitive promotional activity, greater barriers to competitive entry and higher perceived product quality (Farquhar, 1989). In short, the power and value of these assets lie in their ability to attain competitive advantage and prevent the competitors from damaging the customer base through effective brand efforts. Hence, the management of brand assets targeted at customers is critical. Figure 2.1 provides Aaker's (1991) BE model.

Similar to Aaker's (1991) beliefs of customers as a decisive source of BE, Keller (1993) posits BE as individual customer knowledge about the brand. According to Keller (1993) CBBE is "the differential effect of brand knowledge on consumer response to the marketing of the brand" (p. 2). In this scheme, brand knowledge composes of brand awareness (brand recall and brand recognition) and brand image (any association related to the brand in the customer's memory). Clearly, BE emerges when the customer is already familiar with a brand and has already held some favorability and/or strong and unique associations with the brand. Thus, BE enhancement can be created if a firm is able to create marketing activities that are "favorable response to

pricing, distribution, advertising, and promotional activity that is related to the brand” (Keller, 1993, p. 9).

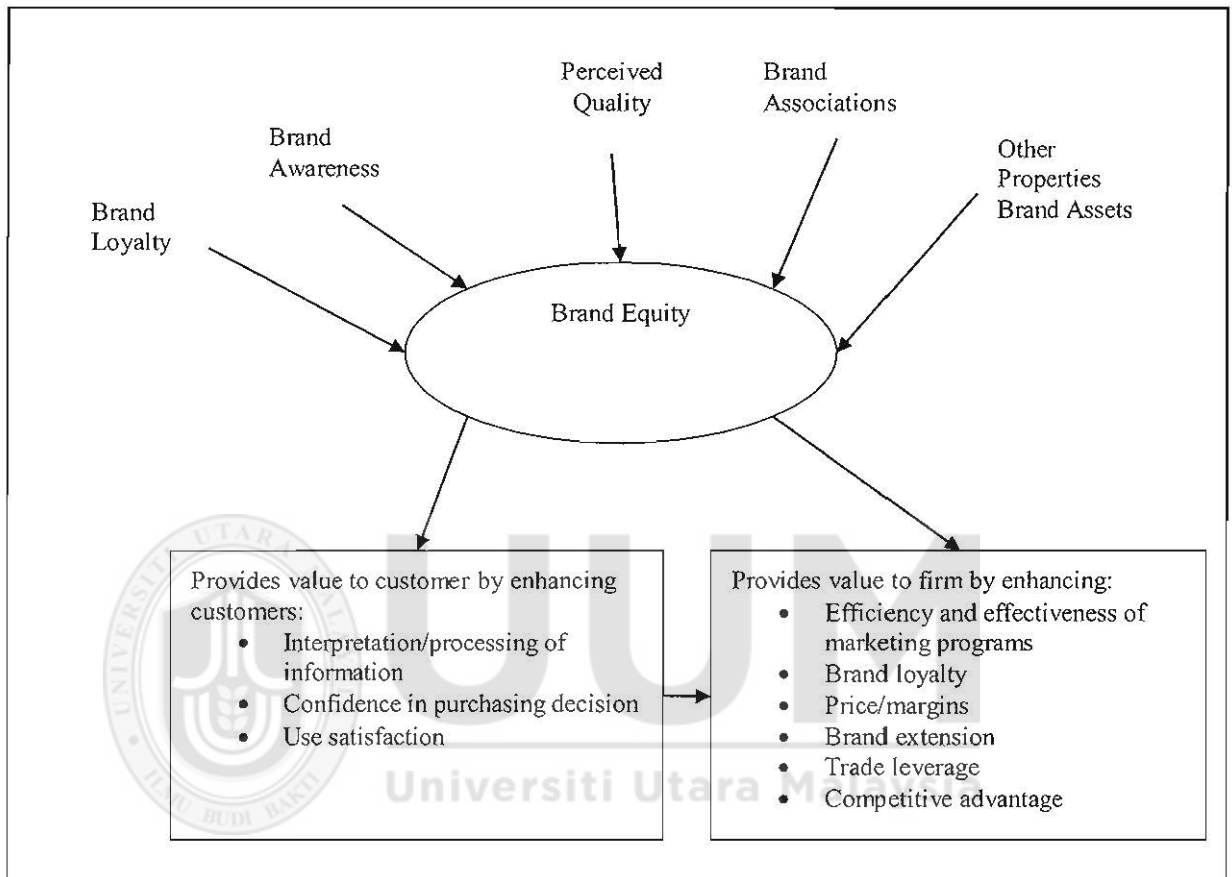


Figure 2.1
Original Brand Equity Building Model, Aaker (1991)

For this reason, marketing efforts such as pricing, marketing channels, marketing communications (e.g. word of mouth and advertising), and other marketing efforts need to be planned cautiously and effectively (Aaker, 1996; Keller, 1993). Therefore, it is fundamental to the management of the brand to realize how their marketing activities inspire customer knowledge in order to maximize the potential value of the brand.

However, despite the important role of marketing programs in building BE, neither Aaker's (1991) nor Keller's (1993) studies explored how marketing actions affect BE building. In this sense, in order to explore which marketing activities may enhance BE building, Yoo *et al.* (2000) proposed a BE model that indicates that brand building programs affect BE assets. This model is based on Aaker's (1991) proposition and Keller's (1993) idea that (a) BE generates value for both parties, the customer and the firm, (b) value for the customer fosters value of the firm, and (c) BE includes multi-dimensionality represented by various BE assets. In simple words, Yoo *et al.* (2000) investigated the antecedents-dimensions-BE linkages by proposing an extension model to Aaker's (1991) original model, and was supported by Keller's (1993) idea.

Practically, Yoo *et al.* (2000) extended Aaker's (1991) original model and incorporated Keller's (1993) idea in two ways. First, by adding a separate construct representing the overall BE and located between the BE assets and the value for the customer and the firm, in order to understand how each asset contributes to BE. Second, marketing activities were added as sources of BE, assuming their significant effects on BE dimensions which are advertising spending, price deals, price, store image, and distribution intensity. The introduction of marketing programs is based on Keller's (1993) idea and treated as the main predictor of the BE assets such as brand loyalty, perceived quality, brand association, and brand awareness. Brand awareness and brand association have emerged as a single dimension. Figure 2.2 illustrates BE construct according to Yoo *et al.* (2000).

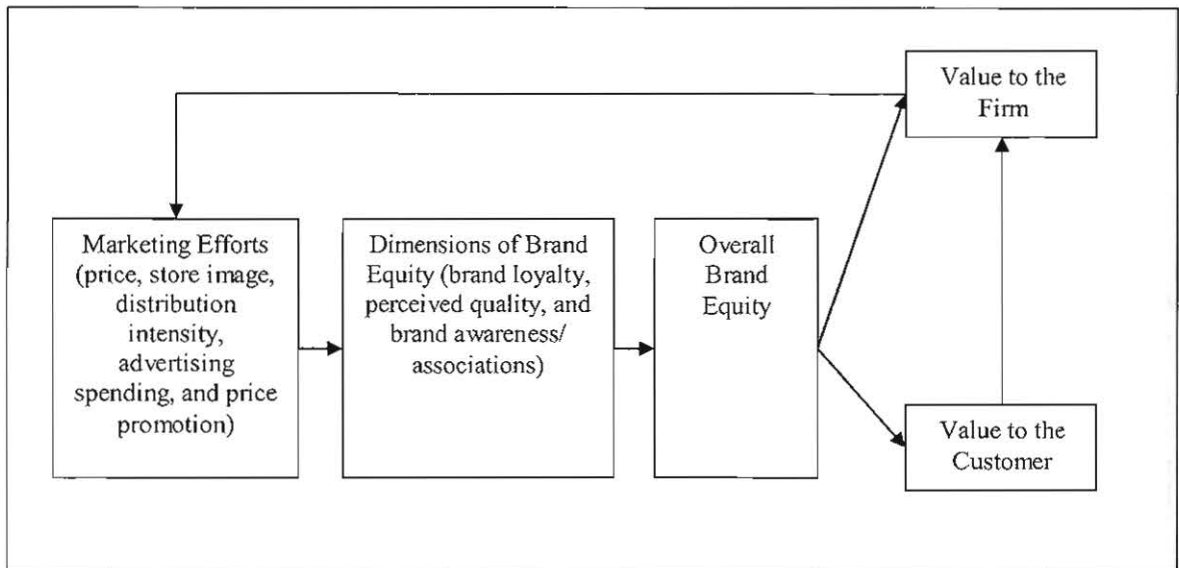


Figure 2.2
Brand Equity Building Model, Yoo et al. (2000)

Yoo *et al.* (2000) concluded that marketing mix elements exert positive brand-building activities, particularly in terms of advertising, distribution intensity, store image, and high prices, while price promotion and low prices are brand-harming activities. Moreover, BE assets are able to leverage BE building because each of them is significantly attached to BE. However, Yoo *et al.* (2000) empirically investigated a few marketing efforts. Many more studies are needed to explore other marketing actions that have the potential to affect BE formation directly and indirectly from different perspectives, from different subjects, and from different cultures such as medical tourist's perspective with regards to the healthcare system, which as a result will maintain and enhance CBBE.

Keller (2013) believes that maintaining a good relationship with customers is at the heart of successful marketing activities that strongly enhance BE (Aaker, 1991). SQ, as perceived by customers, plays a critical role in creating favorable customer response towards a brand (Aaker, 1991, 1996; Yoo *et al.*, 2000). In addition, innovation can create a point-of-difference that permits a brand to develop greater equity (Aaker, 2010; Aaker & Joachimsthaler, 2000). According to this, Lingavel (2015) indicated that, CRM is a key predictor of BE. Hanaysha and Hilman (2015c) also indicated that SQ and innovation in products are significant drivers of BE building. However, Keller and Lehmann (2006) argued that little empirical research in the BE theory area has been done in relationship to CRM, SQ, and innovation and further stated that a variety of “marketing activities can be conducted to help achieve the desired build brand equity. Their ultimate success depends to a significant extent not only on how they work singularity, but also on how they work in combination” (p. 743). Šerić (2017) support this, saying that “the development of a theory of brand equity is still at its initial phase, which is why additional research is urgently needed to understand the concept and its antecedents” (p. 647), particularly in the domain of medical tourism (Al-Azzam, 2013; Yang *et al.*, 2015). Thus, this present study implements CRM, SQ, and innovation in predicting BE formation in the Jordanian medical tourism area.

In addition, the CBBE suggests that, although marketing activities can be important in BE formation, they are not necessarily sufficient in building BE (Yoo *et al.*, 2000). Therefore, a business must identify other marketing efforts that have the potential to achieve superior performance through mediating

variables (Davicik *et al.*, 2015; Rios, 2007; Yoo *et al.*, 2000). Yoo *et al.* (2000) clearly highlighted the importance of examining the interaction among BE sources to produce an indirect effect on BE. In this sense, Fadzline, Nor, and Mohamad (2014) highlighted the role of innovation as a key mediating variable in BE formation. Therefore, this present study considered innovation as a mediator variable between CRM and SQ towards BE.

To conclude, CBBE is considered a suitable approach for studies examining the relationships among CRM, SQ, innovation, and BE (Davicik *et al.*, 2015; Keller & Lehmann, 2006; Rios, 2007; Yoo *et al.*, 2000).

2.17 THEORITICAL FRAMEWORK OF THE STUDY

The theoretical framework is a logical foundation of the interrelationships among several variables (independent, moderating, mediating, and dependent) that are identified through theories and literature review to arrive at a good solution to the problem statement. Moreover, it provides a solid base for developing the hypothesis and measurement instruments (Sekaran & Bougie, 2013).

Based on the literature review and the research problems, the theoretical framework for this present study is proposed in Figure 2.3. The proposed integrated conceptual framework is mainly based on the BE theory. In the BE theory, Aaker (1991), Keller (1993), and Yoo *et al.* (2001) are among the frontier brand researchers who proposed the BE conceptual framework. The work of Yoo *et al.* (2000) is expanded in the model based on Aaker's (1991)

and Keller's (1993) basic models. Aaker (1991) and Keller (1993) who recommended covering the BE antecedents and linkages for the purpose of building BE, nonetheless investigated the influence of marketing efforts on BE building. In this sense, Yoo *et al.* (2000) proposed an extension model to Aaker's (1991) original model based on the antecedents-dimensions-BE linkages. Yoo *et al.* (2000) proposed that BE antecedents be independent variables that are limited to marketing mix elements such as price, price promotion, distribution intensity, and store image, while BE dimensions be treated as mediating variables which refer to multidimensional constructs of BE (perceived quality, brand loyalty, and brand awareness/brand association). Overall BE is treated as the dependent variable for the purpose of better understanding how individual dimensions are related to BE. However, due to the limitation of their study Yoo *et al.* (2000) indicated that: (a) any marketing action other than the 4Ps that have the potential to affect BE should be investigated in different contexts and different cultures, (b) the interactions between marketing efforts in relation to BE must also be investigated to create BE directly and indirectly, (c) the study rather than the products has also to be applied in a consumer's perspective, for instance, healthcare services from a medical tourist's perspective. Therefore, based on Aaker's (1991) basic model and the suggestion of Yoo *et al.* (2000), this study aims to contribute to CBBE by adding three important marketing efforts to BE building which refers to CRM, SQ and innovation. In addition, innovation is treated as a mediator, while CRM and SQ are treated as independent variables, and overall BE as a dependent variable (overall BE in this present study is based on Yoo *et al.*'s (2000) propositional model which proposed that overall BE is a uni-

dimensional concept). Moreover, this study aims to investigate the interrelations between CRM and SQ on innovation in the context of health services represented by a medical tourist's view in the Hashemite Kingdom of Jordan.

Aaker's (1991, 1996) and Keller (2013) stressed the fundamental role of the customer in BE leverage and also highlighted the important role of relationship with customers, SQ, and innovation in firming up and maintaining the BE assets such as perceived quality, brand loyalty, and brand association/brand awareness. As emphasized by Aaker (1991), BE can be evaluated by the intangible assets and liabilities linked to a brand. Thus, the proposed CRM takes into account the relationship with the customer as the intangible value and the core focused element in building BE. In addition to Aaker's (1991, 1996) argument, Keller (2013) stressed that CRM is an intangible entity that provides the basis for understanding the evolving requirements of customers and identifying the most appropriate ways of satisfying them better than competitors, which can be considered a "softer" skill and provide greater opportunities for attaining superior value. Therefore, CRM makes a significant contribution in the formation of BE theory (Kim *et al.*, 2008; Lingavel, 2015). In addition, relationships with customers, if managed properly, will enhance innovation capabilities and lead to superior performance such as customer value and BE enhancements (Aaker, 2014).

In terms of SQ, Aaker's (1991, 1996) indicated that BE assets are the core of CBBE. Being able to manage these assets could protect a brand from others

and enable it to enhance its overall BE. Thus, perceived quality is highly associated with BE building (Keller, 1993; Yoo *et al.*, 2000). Keller (2013) emphasized that perceived quality is often at heart of great BE. Perceived quality is expressed according to SERVPERF (Cronin & Taylor, 1992), which was derived originally from the gap model by dropping the expectations and measuring the SQ perceptions only. Alongside with the CBBE, proper investments in SQ will stimulate the introduction of innovativeness (Nanda *et al.*, 2013; Sund, 2008). Cho and Pucik (2005) added that SQ is an important organizational source that strengthens innovation and BE.

In addition, innovation is another important variable that enhances BE and improves the power of the brand (Aaker, 1996). Innovative brands include differentiated features with added values for the customer (Aaker, 1996). Aaker (2010) indicated that innovation is one of the main cornerstones of the brand building strategy, as well as a key competitive weapon for firms. The development of new products and services will absolutely reflect that the brand delivers what a customer wants and enhance the perceptions of a customer of a brand (Aaker, 1991, 1996, 2010). Enhancements in innovation indicate superior achievements in BE creation, protection, and expansion (Aaker, 1991, 1996; Hanaysha & Hilman, 2015b, 2015c; Keller, 1993; 2013; Shiau, 2014).

Furthermore, innovation is treated as a mediator construct between CRM and SQ, and overall BE assets. This notion is line with Yoo *et al.*'s (2000) recommendation suggesting the exploration of the mediating variable between

BE sources and BE. In this sense, Fadzline *et al.* (2014) indicated that innovation mediates the relationship between certain independent variables and BE (Shriedeh & Ghani, 2016). In this sense, following Baron and Kenney's mediating procedures (1986), the role of the mediator may exist if the relationship between the predictor and the dependent variable is always significant. Based on literature review section, most of the relationship between the predictor variables (CRM, SQ, and innovation) and organizational performance, including BE assets is found to be significant, even the relationship between CRM and SQ and innovation is also found to be significant. For example, the successful implementation of CRM is regarded as a vital way to enhance innovation (Al-Hawary & Aldiahani, 2016; Hu *et al.*, 2015) and improve organizational performance (Abbasi *et al.*, 2014; Karahan & Kuzu, 2014). Similarly, the enhancement of SQ is reflected in innovation (Dao & Yang, 2014; Kiumarsi, Jayaraman, & Isa, 2015) and organizational performance (Hanaysha & Hilman, 2015c; Ntale & Ngoma, 2013; Zarei & Kazemi, 2014). Furthermore, innovation efforts are also found to be significant predictors of a subjective performance index such as BE (Hanaysha & Hilman, 2015b, 2015c; Hanaysha *et al.*, 2014).

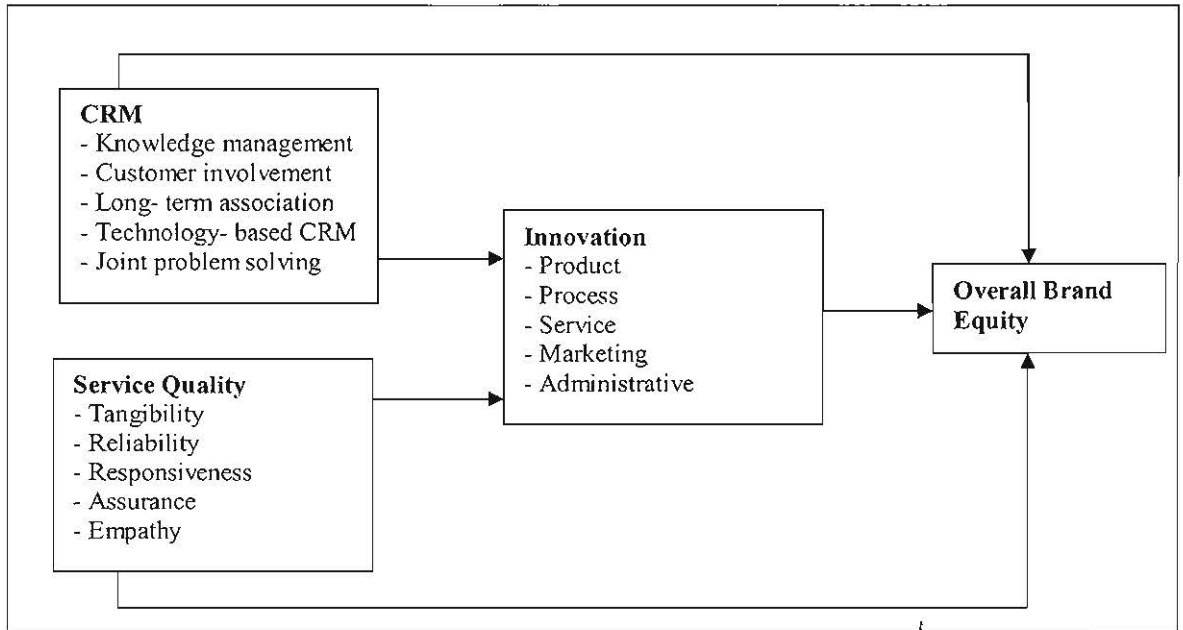


Figure 2.3
Theoretical Framework of the Study

Based on the above discussion, this study stresses the importance of innovation and the aforementioned strategic variables (CRM and SQ) linkages with BE. Based on the CBBE models of Aaker (1991) and Yoo *et al.* (2000), the proposed variables are vital for firms seeking to build a strong BE. Therefore, the conceptual framework of the present study comprises of four sets of variables, two exogenous constructs (CRM and SQ), one mediator construct (innovation), and one endogenous construct (overall BE). The main idea of this study is to comprehensively account for the pertinent variables (CRM, SQ, innovation, and BE) that enhance the understanding of BE building, other than the 4Ps in the Jordanian healthcare context, from a medical tourist's perspective as shown previously in Figure 2.3.

Comparing the variables of this framework with those of the underpinning, the contribution of this framework that differs from other past research is: 1) the relationship between CRM and BE, 2) the linkages between CRM and innovation, 3) the validation of SQ and BE, 4) the interdependency between SQ and innovation, and 5) the influence of innovation on BE in addition to innovation as a key mediator between CRM and SQ towards BE.

2.18 HYPOTHESES DEVELOPMENT

A hypothesis is a form of the logically guessed relationship between two or more variables, which is based on the theory of theoretical framework that is empirically testable to find the expected solution to the problem statement (Sekaran & Bougie, 2013). The main argument of the present study is to investigate the effect of CRM and SQ on overall BE mediated by innovation (see Figure 2.3 in this section). The literature reviews that support these relationships together with the development of the hypotheses are illustrated.

2.18.1 Customer Relationship Management and Overall Brand Equity

In the present study CRM is a combination of different dimensions, namely KM, long-term association, customer involvement, joint problem solving, and technology-based CRM. These five activities are the most popular components of CRM and further tailored by Shriedeh and Abd. Ghani (2017), but there is, so far, a little of empirical studies that investigate the integration of these components in one research framework. However, studies have shown a significant relationship between CRM activities and organizational performance (Almotairi, 2016; Ghafari *et al.*, 2011; Kesuma *et al.*, 2013;

Rashid & Tahir, 2013; Sadek *et al.*, 2011; Shofiah, 2017). Regardless of an earlier investigation, there are still very few studies that have investigated the effect of CRM on overall BE from an inclusive viewpoint (Gholami, 2017; King, 2017; Kim *et al.*, 2008; Sehhat, 2013) in developing countries (Agariya & Singh, 2013; Chahal, 2010; Kumar *et al.*, 2011), specifically in the medical tourism industry (Agariya & Singh, 2013; Rahimi *et al.*, 2017).

In fact, the firm's ability to achieve superior performance is highly associated with the establishment of long-lasting relationships between engaged parties, the firm and the customer. In Table 2.7, (p. 81), there is much evidence on the significant effect of CRM on customer response in terms of customer satisfaction (Long *et al.*, 2013; Saeed *et al.*, 2013), intention to purchase (Hakim & Susanti, 2017), and customer retention (Almotairi, 2016; Long *et al.*, 2013). In addition, CRM is also found to have a significant effect on BE (Abbasi *et al.*, 2014) and its dimensions (Karahan & Kuzu, 2014; Khalafinezhad & Long, 2013; Saadat & Nas, 2013). For example, Kim *et al.* (2008) empirically indicated that maintaining strong relationship with customers significantly enhanced BE formation for Korean hospitals. Also, a study conducted by Marinova *et al.* (2012) on the linkages between CRM and BE in the context of the Chinese banking sector, provided empirical evidence that CRM had a significant effect on BE. In the same context, Mugdadi (2015) empirically produced results like those of Marinova *et al.* (2012). Therefore, the following is postulated:

H1: CRM has a significant effect on overall BE.

2.18.2 Customer Relationship Management and Innovation

Although the main focus of CRM is to improve innovation, several studies have highlighted the lack of empirical evidence in investigating the effect of CRM on innovation (Battor & Battor, 2010; Ghafari *et al.*, 2011). In addition, a dearth of research and less attention has been devoted to innovation in developing countries (Ernst *et al.*, 2015; Tangaza *et al.*, 2015).

Lin *et al.* (2010) demonstrated that utilizing CRM in building, maintaining and enhancing valuable relationships with customers and retaining long-term relationships are vital strategic tools for expanding innovation capability (Battor & Battor, 2010; Chen *et al.*, 2011; Fazlzadeh *et al.*, 2011; Jaelani, 2016). Previous studies have found that CRM has a significant impact on innovation (Battor & Battor, 2010; Toma *et al.*, 2014) and its types, mainly process innovation (Kolís & Jirinova, 2013a) and product innovation (Hu *et al.*, 2015; Shofiah, 2017). For instance, Jalali and Sardari (2015) empirically confirmed the significant effect between CRM and innovation. Similarly, Al-Hawary and Aldaihani (2016) investigated the impact of CRM on innovation in a study of employees of Kuwaiti airways and indicated that a significant relationship existed between CRM implementation and innovation capabilities. Innovation is presented in a construct of five types, namely product, service, process, administrative and marketing innovation tailored by Lin *et al.* (2010) and Toma *et al.* (2014). Accordingly, this following is postulated:

H2: CRM has a significant effect on innovation.

2.18.3 Innovation and Overall Brand Equity

Innovation plays a key role in the success and survival of any organization in the face of today's seemingly accelerating and changing market environment (Durst *et al.*, 2015; Liu & Xie, 2014; Wong, 2014). Further, innovation is a necessary ingredient for firms that simply want to remain competitive and pursue long-term advantages (Chen & Huang, 2009; Darroch & McNaughton, 2002; Lin, 2013; Shiau, 2014; Thornhill, 2006). Generally, prior research provides evidence that innovation and its types is a key instrument for organizational performance (see Table 2.12, p. 123). However, more research is needed due to the complex relationship between innovation and organizational performance (Atalay *et al.*, 2013; Camisón & Villar-López, 2010; Rajapathirana & Hui, 2017), and scholars paid less attention to empirically determine the effect of innovation on subjective performance such as BE (Hanaysha *et al.*, 2014; Henard & Dacin, 2010; Keller & Lehmann 2006; Rajapathirana & Hui, 2017; Sanayei *et al.*, 2013). Literature indicates that innovation significantly influences BE building (Hanaysha & Hilman, 2015b, 2015c; Hanaysha *et al.*, 2014; Shiau, 2014). For example, in investigating the effect of innovation on BE in the automobile industry in Taiwan. Chien (2013), found that innovation was a significant driver of BE building. A similar result is also found in the hospitality industry in Ghana by Opuni *et al.* (2014). Therefore, the following is posited:

H3: Innovation has a significant effect on overall BE.

2.18.4 Service Quality and Overall Brand Equity

Grönroos (1984) and Keller and Lehmann (2006) stressed the vital role of SQ in attaining superior organizational performance and strong BE. In principle, the benefits of SQ enhance positive word of mouth (Achmad, 2015; Zeithaml *et al.*, 1996) and definitely differentiate brand image (Berry, 2000; Ming *et al.*, 2012), BE is not exceptional (Hanaysha, 2016b; Hanaysha & Hilman, 2015c; Kiumarsi, Isa, & Jayaraman, 2015). However, even with a large body of literature documenting the significant influence of SQ on organizational performance (Achmad, 2015; Aliman & Mohamad, 2013; Osman & Sentosa, 2013; Ramez, 2012); the inconsistent results have been shown by scholars (Chitty & Soutar, 2004; Dib & Alhaddad, 2014; Loureiro *et al.*, 2014). One possible reason for the inconsistent results is that customer's perception of SQ varies among countries due to cultural background and industry dependence (Achmad, 2015; Alrubaiee & Alkaa'ida, 2011; Zeithaml *et al.*, 1996). Thus, the exploration of SQ on BE is still in a state of evolution (Akdeniz & Calantone, 2017; Hanaysha, 2016b; Loureiro *et al.*, 2014; Moghaddam, 2014). Anyway, SQ is found to have a significant effect on BE assets such as brand image and brand loyalty (Aspizain, 2016; Ming *et al.*, 2012). In addition, previous study has highlighted that SQ is a strong predictor of BE development. For instance, Hanaysha (2016b) and Hanaysha and Hilman (2015c) investigated the influence of SQ on automotive BE formation, finding significant linkages between SQ and BE in the Malaysian context. Chahal and Bala (2012) also indicated that healthcare BE is greatly influenced by SQ. Thus, in the context of this study, the following is postulated:

H4: SQ has a significant effect on overall BE.

2.18.5 Service Quality and Innovation

In fact, scholars have paid attention to the vital role of quality management in the continuity of innovation (Dao & Yang, 2014; Pekovic & Galia, 2009). According to Parasuraman (2010), the integration of SQ and innovation is vital to enhance customer response and building a strong BE, which are regarded as strong weapons against competitors. However, the significant effect of quality on innovation is still concentrated on the specific type of innovation, mainly product innovation, specifically in the industrial domain, particularly from the perspective of management (Bon & Mustafa, 2013). In addition, empirical evidence of the effect of quality on innovation is still rare (Bon *et al.*, 2012; Chen *et al.*, 2016; Nanda *et al.*, 2013).

The significant influence of SQ on innovation has been empirically validated in different research contexts (Cho & Pucik, 2005; Sund, 2008). For instance, Nanda *et al.* (2013) demonstrated that SQ has a direct and significant effect on innovation in the retail environment. Dao and Yang (2014) and Kiumarsi, Jayaraman, and Isa (2015) also found that SQ significantly enhanced innovation in the service industry. However, so far, no such study has targeted the link between SQ and the five types of innovation in the medical tourism industry in the Jordanian context. Therefore, the following is expected:

H5: SQ has a significant effect on innovation.

2.18.6 Mediating Effects of Innovation on the Relationship between Customer Relationship Management and Overall Brand Equity

In fact, the important role of innovation in achieving superior performance cannot be denied as shown in Table 2.12 (p. 123). In addition, the key role of innovation as a mediator has also been clarified in past studies (Akgün *et al.*, 2009; Carmen & José, 2008; Wong, 2014). According to Yoo *et al.* (2000), BE assets/dimensions such as innovation (Keller, 2013) mediate the relationship between marketing activities and overall BE. In this line with this, Fadzline *et al.* (2014) empirically demonstrated that innovation is a key mediator variable between marketing activities and BE building. The result was also empirically supported by Battor and Battor (2010) who found that innovation mediates the relationship between CRM and subjective performance. However, as clearly demonstrated in Table 2.13 (p. 127), empirical studies concerning the mediating role of innovation in the context of CRM toward BE still remain limited, are rare, and are incomprehensible (Battor & Battor, 2010; Shriedeh & Ghani, 2016).

In this regard, the indirect effect of CRM on overall BE through innovation had had little attention. In such conditions, indirect hypotheses have been formulated (Baron & Kenny, 1986) to build a consistent argument based on the researchers' empirical evidence of innovation as a mediating variable to improve organizational performance (see Table 2.13, p. 127). Thus, this study hypothesized that:

H6: Innovation mediates the relationship between CRM and overall BE.

2.18.7 Mediating Effects of Innovation on the Relationship between Service Quality and Overall Brand Equity

Briefly, innovation plays a vital role in organizational performance as demonstrated previously in Table 2.12 (p. 123); this includes innovation as a mediator (see Table. 2.13, p. 127). Obviously, less attention has been given to the mediating effect of innovation in the context of SQ and BE building. Cho and Pucik (2005) indicated that innovation fully mediates the relationship between quality and firm performance. Sadikoglu and Zehir (2010) further indicated that innovation significantly mediates the relationship between quality and firm performance. However, the gap still remains in empirical studies concerning the mediating role of innovation in the context of SQ and BE (Cho & Pucik, 2005; Shan *et al.*, 2016; Wong, 2014). This argument is also tailored by Jahanzeb *et al.* (2013) who stressed the necessity of exploring the impact of SQ on BE through the mediating factors of subjective and intangible experience. Therefore, the following hypothesis is posited:

H7: Innovation mediates the relationship between SQ and overall BE.

Zikmund, Babin, Carr, and Griffin (2009) argued that research hypotheses should be logically derived from and linked to research questions and research objectives. Therefore, Table 2.14 illustrates the logical linkages between research questions, research objectives, and research hypotheses of this present study.

Table 2.14

The Linkages between Research Questions, Research Objectives, and Research Hypotheses

Research Questions	Research Objectives	Research Hypotheses
1. Does CRM have a significant effect on BE?	1. To examine whether CRM has a significant effect on BE.	H1: CRM has a significant effect on overall BE.
2. Does CRM have a significant effect on innovation?	2. To examine whether CRM has a significant effect on innovation.	H2: CRM has a significant effect on innovation.
3. Does innovation have a significant effect on BE?	3. To examine whether innovation has a significant effect on BE.	H3: Innovation has a significant effect on overall BE.
4. Does SQ have a significant effect on BE?	4. To examine whether SQ has a significant effect on BE.	H4: SQ has a significant effect on overall BE.
5. Does SQ have a significant effect on innovation?	5. To examine whether SQ has a significant effect on innovation.	H5: SQ has a significant effect on innovation.
6. Does innovation mediate the relationship between CRM and BE?	6. To examine the mediating effect of innovation between CRM and BE.	H6: Innovation mediates the relationship between CRM and overall BE.
7. Does innovation mediate the relationship between SQ and BE?	7. To examine the mediating effect of innovation between SQ and BE.	H7: Innovation mediates the relationship between SQ and overall BE.

2.19 CHAPTER SUMMARY

This chapter has presented an overview of previous studies focused on CRM, SQ, innovation, and BE in different sectors. The existing literature confirms that these strategies are essential for organizational survival, stability, and growth in the era of globalization, stiff competition, customer-driven information, and strong and rapidly changing environment. The key success factor for organizations is the proper implementation of CRM and enhancements in SQ which will stimulate developments in innovation, which in turn may maximize customer value achievements. However, a gap exists in the literature that interconnects CRM, SQ, and innovation to BE, resulting in a lack of understanding the mechanisms behind building strong brands, particularly in the context of healthcare-medical tourism. In addition, a large gap also exists in the role of innovation as a mediator between CRM and SQ

and BE. Consequently, empirical studies that examined the relationships among these variables are limited, very rare, and incomprehensible. The interrelationships among the variables, coupled with the fact that empirical studies are limited, have led to the present study, which investigates the relationships among CRM, SQ, innovation, and BE in the Jordanian healthcare system from a medical tourist's perspective in a comprehensive manner. Accordingly, a detailed discussion on the CBBE theory that underpins this study, followed by theoretical framework and hypotheses development also included.



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CHAPTER THREE

METHODOLOGY

3.1 INTRODUCTION

The previous chapter has thoroughly reviewed the existing literature related to CRM, SQ, innovation and BE in addition to theoretical framework and hypotheses development. This chapter presents the research design, population, sampling design, which includes sample size and sampling methodology, the operational definitions and measurement of variables, and the questionnaire instruments. Then, the pre-test, pilot study, and the main study of data collection procedures are presented. This is followed by the chapter summary.

3.2 RESEARCH DESIGN

A research design is “a master plan that specifies the methods and procedures for collecting and analyzing the needed information which is then used for solving the problem” (Zikmund *et al.*, 2009, p. 66). An appropriate research design is vital to identify the kind of data, data collection techniques, and sampling procedure in achieving the research objectives (Sekaran & Bougie, 2013). This study was conducted to investigate the direct effect of CRM, SQ, and innovation on medical tourist BE. This study also investigates the mediating role of innovation between CRM and SQ towards BE. This study is cross-sectional, whereby data gathered once to achieve the study’s research questions. Although a longitudinal design is often considered over cross-sectional because it makes the quality of the data collected and the depth of

analysis more reliable, it is time consuming and expensive (Sekaran & Bougie, 2013). As a result the cross-sectional design is adopted for this on-going research (Zikmund *et al.*, 2009).

Furthermore, this study depends on a quantitative research design using the survey technique. A survey method is a widely used method for collecting primary data about personal and social facts, attitudes and beliefs (Zikmund *et al.*, 2009). In addition, a survey is also fast, inexpensive, efficient, and a precise means of assessing data about a population (Zikmund *et al.*, 2009). As a complement to this, this method is regarded as the most appropriate in generalizing the findings to the population (Creswell, 2013). Thus, self-administrated questionnaires are developed to obtain a comprehensive overview of the study variables.

In the same line, this study is descriptive and explanatory in nature as far as the major concern is to test the hypotheses to explain the relationships among the variables (Zikmund *et al.*, 2009) and conclusions can be drawn from the relationships established (Hair, Black, Babin, & Anderson, 2010).

3.2.1 Unit of Analysis

The unit of analysis refers to “the level of aggregation of the data collected during the subsequent data analysis stage” (Sekaran, 2003, p. 132). Thus, the unit of analysis for this study refers to foreign tourists who visited hospitals in Jordan for medical treatment as outpatients.

Although CRM from the medical tourist's perspective is featured in this study, empirical studies in CRM and relationship marketing that involve a dyad allow the data to be gathered from only one of the party (Blesa & Bigné, 2005; Morgan & Hunt, 1994). This clarification is further enhanced by previous CRM researchers (Akroush *et al.*, 2011, Demo, Watanabe, Chauvet, & Rozzett, 2017; Sin *et al.*, 2005). In such a case, each international outpatient is treated as an individual data source (Sekaran, 2003).

3.2.2 Target Population

The population can be as the entire group of people or organization which the researcher has an interest in (Zikmund *et al.*, 2009). The target population of this study is foreign tourists who are visiting Jordanian hospitals for medical treatment, specifically as outpatients. According to PHA statistics in 2016, in 2015, at least 240,000 medical tourists were treated in Jordanian private hospitals (PHA, 2016). However, it is impracticable, costly, and difficult to study an entire population (Sekaran, 2003; Zikmund *et al.*, 2009) and is associated with the fact that accurate data pertaining to the size of this population is not feasible. Therefore, the target population of this study is individual foreign tourists who are visiting Jordanian private hospitals for medical treatments as outpatients at the time of the survey.

The medical tourists mainly the outpatients were chosen to answer the questionnaire for many reasons. First, they are a remarkable driver source of the medical tourism industry (Friedman, 2017). Second, the bulk of medical tourists are outpatients (70%) (Oxford Business Group, 2017). Third, they are

the most qualified informants (Han & Hyun, 2015; Sankrusme, 2013) being more experienced and knowledgeable than others in mapping their perceptions regarding medical services offered (CRM, SQ, innovation, and BE) by private hospitals through their daily and frequent interactions with service encounters and, thus, to respond properly to the research questions (Combs, Laohasirichaikul, & Chaipoo Pirutana, 2011).

Fourth, outpatients as medical tourists still have fresh memories to express their medical service experience through their ability to access and interact with different staff levels, such as receptionists, admissions, nurses, doctors, and billing staff during their treatment in the hospital (Chahal, 2010; Sarwar, 2013). Fifth, existing knowledge in medical tourism area and mainly outpatient perspective in Jordan is lacking (Al-Maaitah, 2016). Sixth, the selection of the outpatient perspective is in line with previous medical tourism-healthcare research (e.g. Chang *et al.*, 2013; Han & Hyun, 2015; Lee *et al.*, 2012; Sankrusme, 2013). Seventh, outpatient medical tourists have similar characteristics and can be considered as a homogenous group. Therefore, outpatient medical tourists are considered a relevant and representative of the entire population that experiences medical services.

The private sector (the main provider of medical tourism healthcare services) has 59 hospitals across Jordan and 39 are in Amman, the capital of Jordan (MOH, 2015a). Amman is well known as the center of attraction for medical tourists as well the center of key private hospitals (PHA, 2013). However, only a few hospitals can actively provide healthcare services for large numbers

of medical tourists (Al-Maaitah, 2016, PHA, 2016). Other private hospitals are also available but are not popular among foreigners for many reasons; among them are less equipment and less promotion and most of them were built for serving locals. Some hospitals are public or government hospitals, which were built only for serving Jordanian people. Therefore, in this study, six private hospitals were identified to represent medical tourists in this country.

The selection of these brands was based on location, size, specialization, accreditation, and attraction. Practically, most private hospitals are located in Amman, which is well known as medical tourism hub (PHA, 2013). In addition, these hospitals are ranked as the top biggest branded hospitals in Amman representing around 40% of the total private hospital beds in Amman based on bed capacity (Al-Maaitah, 2016; MOH, 2015a) as well as being licensed as multi-medical specialization hospitals (Ahmad, 2007; MOH, 2015a). Thus, they have all characteristics and facilities of medical services.

Moreover, these six hospitals are accredited by an international accreditor (Malkawi, 2015) in addition to being the top hospitals treating around 60% of medical tourists (Al-Maaitah, 2016). These criteria are also based on MOH (2015a, 2015b) and comparable to most previous research (e.g. Ahmad, 2007; Al-Maaitah, 2016; Combs *et al.*, 2011; Debata, Patnaik, Mahapatra, & Sree, 2015; Kesuma *et al.*, 2013; Noree, Hanefeld, & Smith, 2014).

Furthermore, these hospitals are considered as being a representative example of strong medical tourist-based BE. As stated previously, these six hospitals

attract about 60% of medical tourists. Keller (1993) clearly stated that strong brands “occurs when a ‘medical tourist’ is familiar with the brand and holds some favorable, strong, and unique brand associations in memory” (p. 1), thus, medical tourists only visit those hospitals which, hold positive associations in their minds and, therefore, making them popular and more preferred destinations (Chow *et al.*, 2017; Keller, 2003, 2013).

Given that the aim of this study is to investigate the direct and indirect effects of strategic factors on BE through innovation from medical tourist perspective, the first criterion for inclusion in the target population was outpatients who had travelled from foreign countries primarily for getting medical treatment. In addition, outpatients who were literate, above 18 years and had first-time experience and more (e.g. Han & Hyun, 2015; Lee *et al.*, 2012; Sankrusme, 2013; Wang, 2012) and were willing to participate were also included. Furthermore, the inclusion criterion includes medical tourists who actually received medical services in different care units and were later completely discharged, which in line with Han and Hyun (2015) and Guiry *et al.* (2013) due to the fact that inpatients are integrated into the flow of outpatients from the post-operative phase during discharge.

In addition, the study excluded the foreign medical respondents who already lived in Jordan and expatriates in addition to any accompanying visitor with a medical tourist, and medical tourists who were seriously ill and could not provide reliable information.

3.2.3 Sampling Frame

Sampling frame is a master list of all elements from which the sample may be drawn (Sekaran, 2003; Zikmund *et al.*, 2009). However, the sample frame does not always correspond perfectly to the population (Burns & Bush, 2010). In other words, there is no physical master list of qualified international outpatients-medical tourists, but there is a stream of medical tourists that can be sampled (Burns & Bush, 2010). This study was only interested in international outpatients who were receiving medical treatment in the selected private hospitals. Thus, no proper sampling frame was available because records of outpatients who have obtained treatments are kept confidential by the hospitals, plus no list was available for the incoming foreign tourists seeking medical treatments in Jordanian hospitals.

Taking into consideration of the above problems, Malhotra, Birks, and Wills (2012) indicated that, although the sampling frame is useful in providing a listing of each element in the population, it may not always exist or be feasible (Sekaran, 2003). Therefore, systematic sampling is often used (Daniel, 2011; Kinnear & Taylor, 1991; Rossi, 2010; Zikmund *et al.*, 2009). Burns and Bush (2010) proposed a method in order to obtain the random sample when the sampling frame is unavailable. In the first stage, the technique requires the researcher to collect as much as possible data from respondents selected using the convenience and purposive sampling method, but this is not strictly dependent on the non-probability sampling technique (convenience and purposive). In the second stage, the researcher develops the sampling frame from the questionnaires obtained in the first stage. Finally, in the third stage,

the researcher selects a random sample from the sampling frame using the proper probability sampling method, normally the simple random sampling. This sampling procedure is considered a probability sample and capable of producing a representative sample because every respondent in the sampling frame has an equal chance of being selected. The main idea of the Burns and Bush (2010) method is that the sampling frame is created based on the returned questionnaires by using the probability sampling technique.

Based on the above discussion, the sampling frame for this study was developed during the data collection process (Mazzocchi, 2008) using the systematic random sampling technique (Malhotra *et al.*, 2010; Rossi, 2010). Based on the returned questionnaires (Burns & Bush, 2010), a simple random sampling technique using the Statistical Package for Social Sciences (SPSS) v.23 was employed to select the respondents randomly by a "Random Sample of Cases" (Burns & Bush, 2010). Put simply, a sampling frame was built based on the 589 returned questionnaires, representing around 80% of the population in the sampling frame as seen in section 3.3.3.

Furthermore, the sampling frame also includes the selection of research setting. As stated previously, of 59 private hospitals listed in MOH (2015a) serving medical tourists in Jordan, only six private hospitals in medical tourism hub (Amman) were chosen purposively. These six hospitals had most of medical tourists that was around 60% of these tourists and around 40% of total hospitals beds in Amman (Al-Maaitah, 2016). Therefore, an invitation letter was sent to the directors of the selected hospitals for their approval to

conduct this study in their hospitals as shown in Appendix C, part 1. However, of the six private hospitals, only five agreed to participate, namely Jordan, Islamic, Arab Medical Center, Specialty, and Al-Isra'a as shown in Appendix C, part 2. One hospital refused to participate in this study due to the internal policy of the hospital (Al Khalidi). By selecting these hospitals based on the above mentioned criteria, this study followed the path of other scholars (Ahmad, 2007; Al-Azzam, 2016; Al-Maaitah, 2016; Combs *et al.*, 2011; Kesuma *et al.*, 2013; Noree *et al.*, 2014).

3.2.4 Sampling Design

Sampling is “the process of selecting a sufficient number of elements from the population” (Sekaran, 2003, p. 266), so that an understating of samples’ properties would facilitate generalizing such properties to the entire population (Sekaran & Bougie, 2013). In such a case, sample size and sampling methodology must be fairly identified (Sekaran, 2003).

3.2.4.1 Sample Size

According to Sekaran (2003), a reliable and valid sample size is very important to generalize the findings from the sample to the population under examination. In other words, the sample size should be statistically reliable and closely reflect the population parameters within a narrow margin of error (Sekaran & Bougie, 2013). However, endless debate exists in the literature concerning an accurate sample size, which depends on the statistical methods used in the research (Hair *et al.*, 2010).

Krejcie and Morgan (1970) introduced a scientific guideline for determining representative sample size, suggesting that a sample size of 382 respondents for the population of 75000 and 384 respondents for the population of one million and more. Burns and Bush (2010) designed a formula for calculating the sample size, proposing that the population size is irrelevant as long as the population is considered large. Therefore, Burns and Bush (2010) calculated the sample size based on the confidence interval method, assuming that the maximum variability was equal to 50% ($p = 50\%$), $q = 100\% - p$, the confidence level was 95% with a $\pm 5\%$ acceptable margin of error ($e = \pm 5\%$), and a critical value of 1.96 ($z = 1.96$). According to Burns and Bush (2010), the required sample size was 384 ($n = z^2 (pq)/e^2$).

Moreover, Hair *et al.* (2010) ideally suggested a sample size between 100 and 400 is appropriate for analysis using SEM application. Besides, Hair *et al.* (2010) indicated that SEM was too sensitive to a sample size of more 500 as it could be prone to committing Type II errors, meaning that, even weak relationships might reach a statistical significance level (Sekaran, 2003). By considering the model complexity and the basic measurement model characteristics, Hair *et al.* (2010) recommended a sample size of 300 for identified models with seven or less constructs. In addition, Hair *et al.* (2010) indicated that an acceptable sample size should be at least five times as many as the items to be analyzed to determine the dimensionality of the measuring items. Byrne (2013) and Hoe (2008) stated that a sample size of 200 and more is understood to provide satisfactory statistical power for data analysis using

SEM, a sample less than 200 typically leads to instability of parameter estimates (Kline, 2011).

Keeping all the aforementioned issues in mind, the questionnaire for this study has 79 items, thus $79 \times 5 = 395$ sample as suggest by Hair *et al.* (2010), meeting the recommended sample size as proposed by Burns and Bush (2010), Byrne (2013), Hoe (2008), and Krejcie and Morgan (1970).

Considering all suggestions from the experts, namely Burns and Bush (2010), Byrne (2013), Hair *et al.* (2010), Hoe (2008), and Krejcie and Morgan (1970) and taking precautions for non-response, this study decided to obtain a sample size of 500 respondents. To be involved further in creating a sampling frame as Burns and Bush (2010) recommended, this study decided to distribute 650 questionnaires.

To have proportionally distributed data according to normal data diagram, the allocation of questionnaires was based on the proportionality to size sampling technique using hospital capacity as a general guide for the number of questionnaires to be distributed at each hospital (Ahmad, 2007; Al-Maaitah, 2016). This meant that a large sample was obtained at hospitals with higher capacity because a larger element has a greater chance of being selected than smaller one (Piazza, 2010). Thus, these hospitals are the biggest in the area but vary in terms of capacity in line with Combs *et al.* (2011) and Noree (2015) observations. Table 3.1 illustrates the proportionate distribution of questionnaires to the sample population from the five private hospitals in

Amman based on probability proportional to size sampling formula [$n_i = n \times (N_i/N)$] given by Pandey and Verma (2008).

Table 3.1
Sample Size Distribution of Questionnaire

Hospital Name	Hospital Capacity	Percentage of Population N_i/N	Proportionate to Size $n \times (N_i/N)$
Jordan	252	$252/898 = 28\%$	$28\% \times 650 = 182$
Islamic	237	$237/898 = 26\%$	$26\% \times 650 = 169$
Arab Medical Center	144	$144/898 = 16\%$	$16\% \times 650 = 104$
Specialty	140	$140/898 = 16\%$	$16\% \times 650 = 104$
Al-Israa	125	$125/898 = 14\%$	$14\% \times 650 = 91$
Total	898	100%	650

3.2.4.2 Sampling Methodology

The sample for this study was chosen in two stages. The non-probability sampling technique (judgmental purposive sampling) was used for selecting the research setting (the five biggest branded hospitals) which is also in line with previous studies in medical tourism such as Al-Azzam (2016), Combs *et al.* (2011), and Noree *et al.* (2014). In probability sampling, a two-stage sampling process is employed, namely systematic random sampling as the main sampling approach in this study and the simple random sampling approach using SPSS as a supporting approach.

The systematic random sampling approach was used for selecting the unit of analysis (international outpatients) because accurate data regarding sampling frame is not accessible. This probability sampling technique is paramount for the sample to represent the population (Creswell, 2013). The selection of the medical tourists was through the systematic random selection procedure

proposed by Malhotra *et al.* (2012), which depends on a random starting point and then a systematic or 'fixed interval' point until the required sample size is obtained (Daniel, 2011).

The probability systematic random sampling technique was used in this study for several reasons. First, the probability systematic random sampling technique is more representative and reliable than simple random sampling and has the smallest bias and gives the greatest generalization, where every element has an adequate chance of being selected as a subject from the population (Creswell, 2013; Sudman, 1976). Second, it can be applied even if there is no well-defined sampling frame (Daniel, 2011; Levy & Lemeshow, 2013; Malhotra *et al.*, 2012; Scheaffer, Mendenhall, & Ott, 2006). Mazzocchi (2008) clearly emphasized this, noting that "a desirable feature of systematic sampling is that it can also be used without requiring a sampling frame, or more precisely, the sampling frame is built while doing systematic sampling" (p. 112). Third, this sampling technique is often used for the study of large populations such as medical tourists (McMillan, 2000; Malhotra *et al.*, 2012).

Fourth, the technique can often be employed in a continuous flow of population elements at specific locations such as a hospital (Daniel, 2011; Levy & Lemeshow, 2013; Malhotra *et al.*, 2012; Rossi, 2010). Fifth, it reduces the potential for human bias (Creswell, 2013; Malhotra *et al.*, 2012). Sixth, it is simple to collect and often less expensive than other sampling methods (Blumberg, Cooper, & Schindler, 2008; Malhotra *et al.*, 2012; Rossi, 2010). Finally, it is less time consuming and is accomplished in a shorter time period

than the random sampling technique (Blumberg *et al.*, 2008; Burns & Bush, 2010).

According to Levy and Lemeshow (2013), systematic sampling is a probability sampling approach in which a random selection is made on the first element in the sample, then the following elements are selected using a 'fixed interval' continuously until the desired sample size is obtained (Malhotra *et al.*, 2012; Zikmund *et al.*, 2009). According to Hansen, Hurwitz, and Madow (1953, p. 51), "systematic sampling calls for taking every k th element ($k = \text{total population} / \text{sample size}$) in the population, or some other specified pattern" (Kinnear & Taylor, 1991; Scheaffer *et al.*, 2006) such as selecting a 'skip interval' using a random number table (e.g. Daud, 2017; Hanaysha, 2015), particularly "when the population size is unknown" (Scheaffer *et al.*, 2006, p. 234). As stated earlier, the total number of international outpatients of the private hospitals was unavailable and too difficult to be obtained. Therefore, following the above stated protocol in this study, the fixed interval (k) was identified by dropping a pin vertically and blindly on the random number table. The sampling interval would be where the pin landed, which aligned with Daud (2017), Daud *et al.* (2016), Hanaysha (2015), Hanaysha and Hilman (2015a, 2015b, 2015c) and Hanaysha *et al.* (2014).

The interval sampling number was 4 (04744) and therefore, every respondent at an interval of 4 was selected after a random start from 1 through 4 until data collection was exhausted. For example, the first random selection was 3 ($r = 3$)

and then, every 4th foreign outpatient leaving the hospital was asked to participate in the survey. Thus, the frame was 3, 7, 11, and so forth (r , $r + k$, $r + 2k$, $r + 3k$, and so on). This method is called a 1-in-4 systematic sample. If the 4th respondent was incompatible with the questionnaire, then the next one would serve as substitute. However, to avoid sampling error and bias, several different random starting points were used which is in the same line with suggestions that Daniel (2011), Hansen *et al.* (1953), and Scheaffer *et al.* (2006) made.

3.2.5 Operational Definition of Variables

This study investigated the formation of overall BE in the medical tourism context with the introduction of three important marketing elements: CRM, SQ and innovation. Overall BE in this study was represented as the dependent variable, CRM and SQ as independent variables, and innovation as the mediator variable. The following sections discussed the operational definition of each variable.

3.2.5.1 Operational Definition of Overall Brand Equity

Overall BE in the present study is a uni-dimensional construct, which refers to the added value of a branded hospital over any other identical hospital (Farquhar, 1989; Yoo *et al.*, 2000). Overall BE is postulated as the outcome of CRM, SQ, and innovation.

3.2.5.2 Operational Definition of Customer Relationship Management

Table 3.2 presents the operational definition of CRM. Pertaining to this, it reflects five basic components of CRM: KM, customer involvement, 'long-term association, technology-based CRM, and joint problem solving.

Table 3.2

Operational Definition of Customer Relationship Management

Variable	Dimension	Operational Definition
CRM		A business strategy that enables organizations to identify, acquire, retain and interact with customer to establish long-term relationships with them (Akroush <i>et al.</i> , 2011; Sin <i>et al.</i> , 2005).
	KM	Information activities that directed towards collecting, capturing, organizing, and sharing it to serve current and prospective customers according to his needs and preferences for the purpose of creating learning relationship and creating value (Akroush <i>et al.</i> , 2011; Sin <i>et al.</i> , 2005).
	Customer Involvement	Customer participation in relation to multiple activities of healthcare for value co-creation such as new product development and improvement, market evaluation conferences, and technical meetings (Lin <i>et al.</i> , 2010; Toma <i>et al.</i> , 2014).
	Long -term Association	Refers to relationship with exchange partner based on trust and commitment (Lin <i>et al.</i> , 2010; Toma <i>et al.</i> , 2014).
	Joint Problem Solving	Collaboration between healthcare providers and patients in solving problems and sharing responsibilities for maintaining the relationship itself (Lin <i>et al.</i> , 2010; Toma <i>et al.</i> , 2014).
	Technology-based CRM	Using any computer technology or systems to facilitate organizations in collecting, storing, analyzing, and sharing customers' information in ways that offer assistance to customers (Akroush <i>et al.</i> , 2011; Lin <i>et al.</i> , 2005; Sin <i>et al.</i> , 2005; Toma <i>et al.</i> , 2014).

3.2.5.3 Operational Definition of Service Quality

Originally, Parasuraman *et al.* (1988) developed a SQ measurement scale of tangibility, reliability, assurance, responsiveness, and empathy. Therefore, this study attempted to address the SQ dimensions which consist of tangibility, reliability, assurance, responsiveness, and empathy. Table 3.3 below, demonstrates the definition of these dimensions.

Table 3.3

Operational Definition of Service Quality

Variable	Dimension	Operational Definition
SQ		The patient's judgment about healthcare's overall superiority or excellence (Parasuraman <i>et al.</i> , 1988).
	Tangibility	Refers to physical facilities, appearance of personnel image, and equipment (Parasuraman <i>et al.</i> , 1988).
	Reliability	Ability to perform the promised service dependably and accurately by healthcare providers (Parasuraman <i>et al.</i> , 1988).
	Responsiveness	Being willing to assist patients and providing prompt service (Parasuraman <i>et al.</i> , 1988).
	Assurance	Refers to staff courtesy and their ability to build adequate trust and having adequate knowledge (Parasuraman <i>et al.</i> , 1988).
	Empathy	Individualized attention and caring the staff provides its patients (Parasuraman <i>et al.</i> , 1988).

3.2.5.4 Operational Definition of Innovation

Overall, the innovation variables in this study were operationalized in terms of five important components: product, process, service, marketing, and administrative innovation. These elements are conducive to innovation success. Table 3.4 shows the definition of each variable.

Table 3.4

Operational Definition of Innovation

Variable	Dimension	Operational Definition
Innovation		"The implementation of a new or significantly improved products (goods or services), or processes, a new marketing method, or a new organizational method" (OECD Oslo Manual, 2005, p. 46).
	Product Innovation	Organizational capability to introduce products that is significantly new or improved with regard to its characteristics or intended use (Atalay <i>et al.</i> , 2013; Wu & Hsieh, 2015).
	Process Innovation	Creating and improving the operational processes of prevention, diagnosis, and treatment of the disease in the hospital (Lin & Chen, 2007).
	Service Innovation	Engagement in a variety of innovative, useful and life quality services to enhance customer satisfaction (Shiau, 2014).
	Marketing Innovation	The introduction of a new marketing method including significant changes in pricing strategy, product placement and product promotion or pricing (Ghafari <i>et al.</i> , 2011; Toma <i>et al.</i> , 2014).
	Administrative Innovation	The supporting activities in the hospital and more immediately related to the organizational structure and administrative processes (Wu & Hsieh, 2015).

3.2.6 Research Instruments

The Likert-type scale is extremely popular in business research to get a respondent's attitude on a specific statement to indicate the degree of agreement or disagreement. The 7-point Likert scale is widely used and commonly acceptable in market research (Sekaran & Bougie, 2013). Responses can range from strongly disagree (1) to strongly agree (7), although the level of alternatives may range from three to nine points (Zikmund *et al.*, 2009). In addition, it is always more favorable in terms of respondent's ability to express their view precisely and comfortably (Krosnick & Fabrigar, 1997). Furthermore, a 7-point Likert-type reduces the respondent's bias and increases the data quality (validity and reliability) with midpoint scaling (Krosnick & Fabrigar, 1997).

In line with the above, Awang, Afthanorhan, and Mamat (2016) stressed that a Likert-type scale must be used without labeling (interval scale), which is continuous to meet the data assumption for parametric analysis. As such, all the items in the present study were rated on a 7-point interval Likert-type scale (1= strongly disagree to 7 = strongly agree) to ensure consistency among the variables and to avoid confusion among the respondents (Kline, 2011), with only demographic characteristics as an exclusion that were rated through categorical variables.

The study comprised two independent variables that are CRM and SQ, one mediator variable that was innovation, and one dependent variable that was overall BE. The following section describes the set of instruments used to

measure these variables and the sources of adapted instruments for each construct, which were selected from previous studies with acceptable internal consistency (reliabilities/ Cronbach's alpha).

3.2.7 Measurement of Variables

In the present study, all the measurement items were estimated through reflective measures and were adapted and adopted from previous studies and customized to suit the current study because those instruments were developed in different industries. There was total of 80 scale items (8 additional items for demographic factors). All the items were highly reliable and had strong construct validity as the values of the original Cronbach's alpha (α) ranged from 0.704 to 0.95, as shown in Table 3.5. Statistically, scholars have recommended that a (α) value of 0.70 or higher is considered adequate for any study (Hair *et al.*, 2010).

Table 3.5
The Number of Items and Original Value of Cronbach's Alpha

Variable	Dimension	No. of Items	Cronbach's Alpha (α)	Adapted/Adopted	Source
CRM	KM	4	0.801	Adapted	Sin <i>et al.</i> (2005)
	Customer Involvement	5	0.943	Adapted	Lin <i>et al.</i> (2010)
	Long -term Association	6	0.937	Adapted	Lin <i>et al.</i> (2010)
	Technology -based CRM	5	0.807	Adapted	Sin <i>et al.</i> (2005)
		1		Adapted	Lin <i>et al.</i> (2010)
	Joint Problem Solving	3	0.813	Adapted	Lin <i>et al.</i> (2010)
SQ	Tangibility	4	0.81	Adapted	Aliman and Mohamad (2013)
	Reliability	4	0.836	Adapted	Ramseook-Munhurrun, Lukea-Bhiwajee, and Naidoo (2010)
	Responsiveness	4	0.864	Adapted	Ramseook-Munhurrun <i>et al.</i> (2010)
		1		Adapted	Chakravarty (2011)

Table 3.5 (Continued)

Variable	Dimension	No. of Items	Cronbach's Alpha (α)	Adapted/Adopted	Source
Innovation	Assurance	4	0.89	Adapted	Aliman and Mohamad (2013)
	Empathy	5	0.91	Adapted	Aliman and Mohamad (2013)
	Product Innovation	5	0.832	Adapted	Shiau (2014)
		1		Adapted	Hanaysha <i>et al.</i> (2014)
	Process Innovation	3	0.95	Adopted	Wu and Hsieh (2015)
	Service Innovation	4	0.787	Adapted	Shiau (2014)
		1		Adapted	Lin <i>et al.</i> (2010)
	Marketing Innovation	4	0.841	Adapted	Lin <i>et al.</i> (2010)
	Administrative Innovation	5	0.95	Adopted	Wu and Hsieh (2015)
		1		Adapted	Shiau (2014)
Overall BE		10	0.931	Adapted	Vatjanasaregagul (2007)
TOTAL INSTRUMENTS		80			

Furthermore, this study is aimed at evaluating the influence of CRM, SQ, and innovation on overall BE and the role of innovation as a mediator from the perspective of medical tourists. Realizing that the medical tourists have different demographic and socio-economic backgrounds, the study integrated certain demographic factors in the questionnaire (8 items). The demographic factors were age, gender, education, marital status and income, country of origin, payment mode, and visit frequency. The measurement instruments of study variables are explained in the subsequent sections.

3.2.7.1 Customer Relationship Management

The CRM variable is a combination of five dimensions, namely KM, customer involvement, long-term association, joint problem solving and technology-based CRM. From the literature review, the study did not find any general agreement by past researchers as to what items constitute CRM because it depends on the working environment and the viewed perspective. The main stream of previous studies measured CRM from the perspective of managers. Therefore, Akroush *et al.* (2011), Demo and Rozzett (2013), Demo *et al.* (2017), and Sin *et al.* (2005) highly stressed the importance of individuals as key informants in CRM assessment. Therefore, this study adapted, customized, and validated the measurement items to fit the medical tourism context using the medical tourist perspective (individual), appropriately reworded to fit this context. This perspective aligned with a study of Angamuthu (2015) who measured CRM management practices from the customer's perspective. In addition, in this study, the measurement items of CRM having followed the scale development validity and reliability as DeVellis (2003) and Hinkin, Tracey, and Enz (1997) suggested through different measures during the pilot study and main study as well. The 24 measurement items were adapted from Lin *et al.* (2010) and Sin *et al.* (2005) having alpha value ranging from 0.801 to 0.943 (Table 3.5). Table 3.6 shows the items used to measure each dimension of CRM.

Table 3.6
The Items Used to Measure Customer Relationship Management

Dimension	Item
KM	The employees of this hospital are motivated to help patients in a responsive manner, e.g. through interaction and touch points.
	This hospital provides channels to enable interactive two-way communication between patients and hospital.
	The employees of this hospital fully try to understand patient's needs via generating a lot of information about me.
	Patients can expect prompt service from employees of my organization.
Customer Involvement	This hospital is very interested in development of new products and services in collaboration with the patients.
	This hospital is responsive to modifying the products and services according to my suggestions.
	This hospital involves me regarding health market evaluations.
	This hospital involves me regarding technology-based health services.
Long -term Association	This hospital involved me regarding the development of my health status directly or indirectly through person representing me.
	This hospital is committed to making adjustments to suit patients' need.
	This hospital is trusted and willing to provide suggestions for products and services for patients.
	This hospital provides personalized products and services to meet patients' needs.
	This hospital has patient loyalty or retention programs.
	This hospital maintains interactive, two-way communication with patients.
Technology-based CRM	This hospital really takes cares of developing successful long-term relationship with patients.
	This hospital has the right software to serve patients.
	This hospital has the right hardware to serve patients.
	Individual patient information is available at every point of touch.
Joint Problem Solving	This hospital has perfect web-based patient interaction.
	This hospital maintains a comprehensive database of patients.
	The employees of this hospital are able to build relationship with patients through utilization of computer technology.
	Responsibility is taken by hospital and patients to overcome the difficulties.
	The hospital works with patients to help solve each other's conflicts.
	The parties are jointly responsible for getting things done.

3.2.7.2 Service Quality

The SQ construct was grouped into five dimensions, namely tangibility, reliability, responsiveness, assurance, and empathy, which were drawn from the work of Parasuraman *et al.* (1988). Further, Parasuraman *et al.* (1988) indicated that “appropriate adaption of the instrument may be desirable when

only a single service is investigated” (p. 28) and, therefore, the 22 items of the SQ measurement were adapted and customized from Aliman and Mohamad (2013), Chakravarty (2011), and Ramseook-Munhurrin *et al.* (2010) to fit the medical tourism setting in Jordan. The measurement of SQ in this study was based on the customer perception of SQ known as SERVPERF (Cronin & Taylor, 1992; Taylor & Cronin, 1994). The (α) values of reliability ranged from 0.810 to 0.910 (Table 3.5). However, SQ was measured with the following items as shown in Table 3.7.

Table 3.7
The Items Used to Measure Service Quality

Dimension	Item
Tangibility	This hospital has visually appealing materials associated with the service.
	The physical facilities of this hospital are visually appealing.
	The employees of this hospital are well dressed and appear neat.
	Availability of modern equipment in this hospital.
Reliability	The employees of this hospital show a sincere interest in solving patients' problems.
	This hospital maintains error-free records.
	This hospital provides services at promised times.
	This hospital performs the service right from the first time.
Responsiveness	I could make an appointment easily at this hospital.
	The staff of this hospital tells patients exactly when services will be provided.
	This hospital gives prompt services to patients.
	The employees of this hospital are always willing to help patients'.
Assurance	The employees of this hospital readily to respond to patient requests'.
	I feel safe in dealing with this hospital.
	I could trust the employees of this hospital.
	The employees of this hospital are consistently courteous.
Empathy	The employees of this hospital are knowledgeable.
	The staff of this hospital gives me personal attention.
	The staff of this hospital treats me with warm and caring attitude.
	The staff of this hospital understands patients' feeling of discomfort.
	This hospital does have operating hours convenient to all patients.
	The staff of this hospital has best interests of patients in their heart.

3.2.7.3 Innovation

The innovation construct comprises five dimensions: product, process, service, marketing, and administrative innovation. Innovation measurements (24 items) were adapted, adopted and customized from the Hanaysha *et al.* (2014), Lin *et al.* (2010), Shiao (2014), and Wu and Hsieh (2015) and slightly modified to suit the medical tourism context. The reliability values ranged from 0.787 to 0.950 (Table 3.5). Accordingly, innovation was measured by following items as shown in Table 3.8.

Table 3.8
The Items Used to Measure Innovation

Dimension	Item
Product Innovation	This hospital frequently supplements unique new diagnostic and treatment equipments for the patients.
	This hospital is highly innovative compared to other hospitals in the market.
	This hospital often launches diagnostic and treatment equipments not available in the market.
	This hospital launches personalized diagnostic and treatment equipments according to the patients' needs.
	This hospital diagnostic and treatment equipments have functions and features other hospitals lack.
	This hospital regularly updates and well maintains its medical equipment.
Process Innovation	This hospital provides innovation in diagnostic procedures.
	This hospital provides innovation in treatment processes.
	This hospital provides skills and experience medical staff.
Service Innovation	This hospital's healthcare services are particularly comprehensive.
	This hospital's services put my mind at ease.
	This hospital is particularly fast when handling patient complaints.
	This hospital provides innovative services before and after treatment.
Marketing Innovation	This hospital instantly updates the internet services.
	This hospital often leads over other hospitals in launching innovative prices.
	This hospital provides innovative distributing methods to the market such as electronic health, mobile health, and convenient opening hours in outpatient clinics.
	This hospital leads over other hospitals in promoting the hospital such as advertising in magazines, gifts, and free medical days.
	This hospital continually enlarges potential demand markets.
Administration Innovation	This hospital readily updates its products and medical functions to meet patients' needs.
	This hospital is innovative in building patient relationship.
	This hospital is innovative in registration process when using different care units.
	This hospital is innovative in admission/discharges process.
	This hospital is innovative in patient care process.
	This hospital is innovative in computer based payment process.

3.2.7.4 Overall Brand Equity

The ten overall BE scale was adapted and customized from the empirical study of Vatjanasaregagul (2007) with an alpha value of 0.931 and minor adjustments were made to fit the purposes of the current study as shown in Table 3.9.

Table 3.9
The Items Used to Measure Overall Brand Equity

Dimension	Items
Overall BE	I would prefer the name of this hospital to other names, even if another hospital is identical to the quality of this hospital.
	It makes sense to frequently choose this hospital, even if another hospital has the same services.
	The name of this hospital is more attractive to me than any other hospital name.
	It seems smarter to choose the services of this hospital rather than the services of any other hospital.
	Low risk strategy would be to purchase the services of this hospital instead of the services of any other hospital.
	The name of this hospital implies something superior to other hospitals.
	It is smarter to choose this hospital, even if another hospital has the same price and quality as this hospital.
	I would choose this hospital even when I am not very sure that this hospital has better features than other hospital names.
	The name of this hospital may be the primary reason to use the services of this hospital.
	I would choose this hospital, even if I have given a choice between this hospital and another hospital that seems identical with the quality of this hospital.

3.2.8 Questionnaire Instrument

For the purpose of this present study, a questionnaire was employed for data collection from the respondents. The questionnaire design and translation follows in the next sub-sections.

3.2.8.1 Questionnaire Design and Layout

Questionnaire design and layout attractiveness are crucial in self-administered questionnaires. According to Zikmund *et al.* (2009) questionnaires should be

neat, organized, and designed to appear as short as possible. In many situations, using a double-page booklet form of the questionnaire is advisable and preferable when questionnaires are long or require the respondent to fill in a large amount of information. Also, headings and subtitles are extremely important. A cover letter explains that the research is part of an academic research; it also points out the importance of the research, the research objectives, and the assurance of confidentiality statement to induce the respondents to complete and return the questionnaire as seen in Appendix B, part 1 and part 2. In addition, another cover letter sent to the concerned hospital management, clarifying the purpose of the study and requesting their cooperation as seen in Appendix C, part 1. Thus, a higher rate of return is definite.

The structured questionnaire in the field study contained five sections excluding the cover page. Section A included a screening question to ask respondents about the purpose of their visit to ensure that respondents met the study inclusion criteria. In this section, 18 statements were used to measure CRM ranging from question 1 to 18, in which the respondents were instructed to circle their appropriate responses to the multiple-choice questions. Answers ranged from 1 (strongly disagree) to 7 strongly agree. The score for each measurement item was provided on the right-hand side. Section B addressed the quality of medical services (SQ). The 15 statements of SQ ranged from question 1 to 15. The score for each item was given on the right-hand side, in which the respondent could provide a score from 1 (strongly disagree) to 7 strongly agree.

Section C items measured the innovation construct. The innovation items in this section ranged from 1 to 18, and the respondents instructed to circle their appropriate responses to the multiple-choice questions with potential answers ranging from 1 (strongly disagree) to 7 strongly agree. The score for each measurement item was provided on the right-hand side. Section D included 5 items to measure the overall BE of medical tourism, which ranged from question 1 to 5 in this section. The respondents could circle their score for each item, which was shown on the right-hand side depending on their level of agreement or disagreement with the statement provided using a scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Section E included items to measure the demographic factors and the respondents were asked to tick their responses on the appropriate circle. All of these are presented in Appendix B, part 2.

3.2.8.2 Translation of the Questionnaire

For this empirical survey, five hospitals located in Amman that were frequented by medical tourists were chosen. Most of their medical tourists usually communicated in Arabic and English; so two different versions of the questionnaire were prepared. To minimize translation errors, the blind translation-back-translation method, which is the most common, was applied because of its consistency and accuracy (Zikmund *et al.*, 2009). The translated questionnaire reviewed and improved by academics in this field. The Arabic questionnaire is included in Appendix B, part 3. In relation to this and based

on the results of pilot study, a new print of Arabic questionnaire which contains 56 items was used in the field study is shown in Appendix B, part4.

3.3 DATA COLLECTION PROCEDURES

This section demonstrates a detailed plan of the data collection procedures, including the pre-test and the pilot study related to the generation of the final questionnaire. Furthermore, there is a discussion about the main study in the following sub-sections.

3.3.1 Pre-Test Study

Usually, the main purpose of the pre-test is to investigate to what extent the measure constitutes an adequate and representative set of items that cover the concept, by sharing the questionnaire with others for feedback (Zikmund *et al.*, 2009). This concept is well known as content validity, sometimes called technical validity (Anastasi, 1988), or face validity (Sekaran & Bougie, 2013).

This process is very valuable to determine whether the respondents are able to understand the questionnaire and whether there are inadvisable words or poor construction. This judgmental (subjective) evaluation can be carried out by a panel of experts in this field. Therefore, a draft of the questionnaire was distributed to seven professional academicians in three colleges in Jordan during January, 2016 in line with suggestions made by Sekaran (2003). They were from the College of Business at the University of Jordan, the College of Economics and Administrative Science at the Applied Science University, and the College of Administrative and Financial Science at the University of Petra.

Based on their comments concerning the suitability, layout, sentence structure, and the study instruments under investigation, modifications, and validations were made to better fit medical tourism in the Jordanian context. For example, double-barreled questions were split into two questions (e.g. this hospital involved me regarding the development of my health status *directly or indirectly* through the person representing me (customer involvement); this hospital provides innovative services *before and after* treatment (service innovation); and it is smarter to choose this hospital, even if another hospital has the same *price and quality* as this hospital [overall BE]).

In addition, one question was also found to measure two different issues (this hospital is trusted and is willing to provide suggestions for products and services for patients [long-term association]) and, therefore, the phrase (this hospital is trusted) was deleted because it was like another statement in the questionnaire (Section B, statement 14). In addition, some questions were also reported to be like the other questions, and, therefore, they were recommended to be deleted. These included: (1) this hospital gives prompt service to patients (responsiveness); (2) this hospital provides personalized products and services to meet patients' needs; (3) this hospital maintains interactive, two-way communication with patients (long-term association); and (4) this hospital readily updates its products and medical functions to meet patients' needs (marketing innovation).

Furthermore, the CRM measurement items were reworded to reflect the patient's evaluation of CRM. Instead of using the terms such as "my

organization”, “my organization’s employee”, and “customers”, the terms “this hospital”, “the employee of this hospital”, and “patients” were used. For example, in Appendix B, part 1, the 4th statement of CRM became “the employees of this hospital are willing to provide prompt service to the patients” instead of “customers can expect prompt service from employees of my organization”. Likewise, the 17th statement of CRM became “this hospital has adequate information about patients available in every touch point” instead of “individual customer information is available at every point of touch”.

In the SQ section, more precisely statement number 12 was changed to become “the employees of this hospital are never too busy to respond to patients’ requests” instead of “readily to respond to patients’ requests”. In addition, two demographic questions were recommended to be added, which related to payment mode and visit frequency. In total, 4 statements were divided into two parts to measure a single issue and five statements were deleted due to similarities and duplications with other statements. All the above explanation is shown in Appendix B, part 1.

To this end, an improved version of the questionnaire, which contained 79 items, was administrated for the pilot study as discussed in the next subtitle.

3.3.2 Pilot Study

A pilot study is “a small-scale research project that collects data from respondents similar to those that will be used in the full study” (Zikmund *et al.*, 2009, p. 65). It is a requisite initial step in assessing the operational aspects of the questionnaire such as content and flow, question ambiguity, completion time, validity, and reliability of the questions (Sekaran & Bougie, 2013). Commonly, pilot test (feasibility) results can identify modifications needed in the design and the implementation of a main study. A pilot study was conducted to assess the validity and reliability of the questionnaire measure (Malhotra *et al.*, 2012).

Validity is the degree to which a measure is correctly and accurately representing what it is intended to measure (Zikmund *et al.*, 2009). Even if validity is assured, reliability still needs to be considered. Reliability is more about the stability and consistency of the measure and error free. For instance, more reliable measures will show greater consistency than less reliable measures (Malhotra *et al.*, 2012).

Therefore, a pilot study was conducted to identify the validity and reliability of the measures. In determining the sample size of the pilot test, Sudman (1976) stated that “a pilot test of 20-50 cases is usually sufficient to discover the major flaws in a questionnaire” (p. 181). Cooper and Schindler (2003) suggested that using a pilot study with from 25 to 100 respondents. Meanwhile, Blumberg *et al.* (2008) recommended 100 cases as a maximum requirement and added that “there are a number of variations on pilot study.

Some of them are restricted, intentionally, to data-collection activities” (p. 74). Therefore, following Blumberg *et al.* (2008), the feasibility study was managed personally, and 100 questionnaires were allocated systematic randomly and proportionally to medical tourists having a similar background with the actual respondents across the private hospitals in Amman (Heiman, 1998) as shown in Table 3.10.

Table 3.10
Allocation of Sample Size of Pilot Study

Hospital Name	Hospital Capacity	Percentage of Population	Proportionate to Size
Jordan	252	$252/898 = 28\%$	$28\% * 100 = 28$
Islamic	237	$237/898 = 26\%$	$26\% * 100 = 26$
Arab Medical Center	144	$144/898 = 16\%$	$16\% * 100 = 16$
Specialty	140	$140/898 = 16\%$	$16\% * 100 = 16$
Al-Israa	125	$125/898 = 14\%$	$14\% * 100 = 14$
Total	898	100%	100

This phase of the pilot study also included a cover page and was divided into five parts main parts: Part A: The CRM variables, which included 23 items; Part B: The medical tourism SQ dimensions, which comprised 21 measurement items; Part C: The innovation components, which comprised 24 items; Part D: The overall BE, which includes of 11 statements; and, Part E: The Demography elements, which comprised 8 questions. The pilot study questionnaire is shown in Appendix B, part 1.

In total, 89 questionnaires (89%) were returned, and 87 questionnaires were used for validating the construct through Exploratory Factor Analysis (EFA) in addition to measuring the internal consistency. The sample size for pilot

study (87) was acceptable for conducting EFA and reliability tests because the minimum requirement is 50 respondents (Hair *et al.*, 2010). The pilot study data was only used for EFA procedures to filter items to be used in the real study. EFA results are discussed in more detail in the next sub-section.

To capture face validity (non-technical), a consistent effort was made during an almost five-week period between January and February 2016 to check the respondents' understanding of the sentence construct; to determine vague words; to check the flow of questions and the ease of completion; and find their comments and suggestions for the improvement process.

As expected, some confusion was noted in the sentences and wording. According to their comments, adjustments were made to the original questionnaire. For instance, in Appendix B, part 1, marketing innovation statement (number 19) "this hospital continually enlarges potential demand markets" was misunderstood by respondents and, therefore, changed to "this hospital continually attracts different patient groups". Further, a question combining mobile-based health services and web e-services was added to the customer involvement statement (number 8). This became "this hospital involves me in technology-based health such as mobile-based health services and web e-services" instead of "this hospital involves me in technology-based health" to improve the respondents' understanding. In addition, one confusing KM-statement (number 2) was changed to become "this hospital provides communication channels to enable interaction between patients and hospital" instead of "this hospital provides channels to enable interactive two-way communication between patients and hospital". Likewise, respondents

reported one vague joint problem solving sentence (number 21). This statement, which was “this hospital works with us to overcome difficulties” was reworded to “no matter who is the source of problem, responsibility is taken by this hospital and patients to overcome the difficulties”. All these changes are shown in Appendix B, part 2.

3.3.2.1 Exploratory Factor Analysis (EFA)

As noted earlier, all the measurement items were adapted and adopted, and their stability and consistency confirmed from previous studies. However, it is necessary to re-investigate the accuracy of the measurement items when the instruments are adapted and customized from previous researchers. This is due to the fact the work of previous researchers was carried out in a different context which, might be hugely different from the current study in terms of their field of study, the characteristics of their population such as socio-economic status, the location and even the time duration (Awang, 2012). In fact, this study borrowed and applied measurement items for the Jordanian healthcare system from a medical tourist perspective, where the organizational culture and business environment are completely different from the international perspective. Therefore, accurately and consistently identifying variables under investigation is vital.

EFA is a useful technique to ascertain the construct validity (that is, the measurement items are measuring what they are supposed to measure) and to identify the relationships between large sets of interrelated variables in terms of forming a few underlying factors or dimensions (Malhotra *et al.*, 2012). It is

an introductory technique for data reduction and summarization (Awang, 2012; Hair *et al.*, 2010). In simple words, the purpose of EFA is to explore the dimensionality of items, to assess the factor loading for every item (to drop the poor loading items), and to compute internal reliability of the retained items measuring the same construct. EFA is a procedure conducted using pilot study data. After EFA, the retained items will be used for field study data collection. Meaning that, the results from EFA procedure should dictate the data structure of the actual study. If the EFA deletes certain items, the real study data should follow suit (Awang, 2012, 2015).

Although there are many assumptions about the minimum requirements for applying EFA, the general guideline is that a sample size greater than 50 is acceptable, and more than 100 is better for EFA. Attesting to this, Hair *et al.* (2010) clearly stated that “the minimum absolute sample size should be 50 observations” (p. 101). Therefore, the sample size of 87 for this pilot study is satisfactory and valid for EFA. The factorability of a matrix of correlation statistical process based on factor loading, which represents the correlation between an original variable and its factor, reflects a significant correlation at ≥ 0.5 on only a single factor and a significant correlation ≤ 0.32 on the other factor (Yong & Pearce, 2013), but in a practical sense, the inter-correlation matrix must show at least some correlations (r) of 0.3 and greater (Hair *et al.*, 2010). In this sense, Hair *et al.* (2010) considered that factor loadings of 0.60 and above are required for significance when the sample size in the range of 85 and 100 (p. 116).

In terms of cross-loadings, any item with a loading more than 0.32 (Yong & Pearce, 2013), 0.4 (Hair *et al.*, 2010), or 0.6 (Awang, 2012, 2015) can be deleted. Interestingly, the communality value which explains the proportion of the variance in the original variable should be above 0.5, or otherwise should be considered for elimination during Confirmatory Factor Analysis (CFA) (Hair *et al.*, 2010; Yong & Pearce, 2013).

Importantly, the eigenvalue, Bartlett's test of sphericity, and the measure of sampling adequacy, which is based on the Kaiser-Meyer-Olkin (KMO) test, are the key statistics associated with factor analysis. While the eigenvalue measures the variance of each factor and must be greater than 1.0 (Awang, 2012; Pallant, 2005; Zikmund *et al.*, 2009), KMO represents the suitability of factor analysis, ranging from 0 to 1, with a value of 0.5 and above (Hair *et al.*, 2010; Malhotra *et al.*, 2012; Yong & Pearce, 2013) or 0.6 and above (Awang, 2012, 2015; Pallant, 2005), and the significance value of Bartlett's test must be less than 0.05 (Awang, 2012), indicates the appropriateness of factor analysis.

According to Hair *et al.* (2010), the KMO index can be translated into meritorious (≥ 0.8), middling (≥ 0.7), mediocre (≥ 0.6), miserable (≥ 0.5), and unacceptable (< 0.5). The Bartlett's test of sphericity statistic is used to test the significance of all correlations within the correlation matrix at $p < 0.05$ (Hair *et al.*, 2010).

The factors that exist in the component matrix as a result of factor analysis show the measurement items that are most suitable for each variable, and, therefore, enhance construct validity. In further supporting the discriminant and convergent validity from the inter-item correlation matrix outputs, items measuring a certain construct were found to have high correlations, thus supporting convergent validity, and the items measuring different constructs were found to be uncorrelated, thus supporting discriminant validity. Discriminant and convergent validity will be discussed later and separately in chapter four.

Based on the above discussion, EFA was conducted individually on each of the independent variables (CRM and SQ), mediating variable (innovation), and the dependent variable (overall BE). The items for each variable were grouped individually using Principle Component Analysis (PCA) (employed to determine the items of the scale and to explore the underlying dimensions for every construct) with varimax rotation (employed to minimize the number of variables that have high loadings on each factor) through SPSS v23. The findings of each factor analysis are presented in the following subsections.

3.3.2.1.1 Results of EFA on Customer Relationship Management

The factor analysis implemented for the CRM dimensions of the medical tourists was based on 23 measurement items and 5 factors, which were extracted based on the literature review, using an interval scale ranging from 1 to 7. The KM dimension of CRM was measured using 4 items coded as KM1 to KM4. The customer involvement (CI) was measured using 6 items coded as CI1 to CI6. Meanwhile, long-term association (L.T) and technology-based CRM (TB) were measured using 4 items (LT1 to LT4) and 6 items (TB1 to TB6), respectively. Besides, joint problem solving (JP) was measured using 3 items coded as JP1 to JP3.

A common practice to improve the suitability of the factor analysis and the scale reliability is to delete the items that have a factor loading of < 0.6 on a specific factor and have a cross-loading of ≥ 0.4 on another factor (Hair *et al.*, 2010). On this basis, 5 items were identified and deleted due to non-performing loading items (TB4, CI1, CI3, CI6, and LT4). 18 items were retained, producing a good model. The mean score as well as the Standard Deviation (SD) for each item that measures CRM is shown in Table 3.11.

Table 3.11

Descriptive Statistics of Customer Relationship Management Measurement Items

Items	Mean	SD	Analysis N
KM1	4.38	1.31	87
KM2	4.78	1.13	87
KM3	4.80	1.24	87
KM4	4.48	1.15	87
CI2	2.38	1.11	87
CI4	2.46	1.15	87
CI5	2.82	1.04	87
LT1	4.44	1.12	87
LT2	4.46	1.15	87
LT3	4.71	1.11	87
TB1	4.14	1.46	87
TB2	4.16	1.37	87
TB3	3.95	1.32	87
TB5	4.25	1.18	87
TB6	4.29	1.38	87
JP1	4.24	1.32	87
JP2	3.84	1.24	87
JP3	4.05	1.35	87

The output shown in Table 3.12 represents the suitability of the data for factor analysis. For example, the KMO was meritorious, with a value of 0.824 and was supported by the significant value of Bartlett's Test of Sphericity (sig 0.000), indicating the appropriateness of the data for factor analysis (Awang, 2012; Hair *et al.*, 2010). Inspection of the anti-image correlation indicates a satisfactory level of ≥ 0.5 , ranging from 0.745 to 0.928. The underlying assumptions of factor analysis were thus attained.

According to PCA output, 5 factors were extracted with eigenvalues greater than 1, and produced 76.521% of the total variance. This solution generated acceptable levels of communalities for all items ≥ 0.5 , which had values between 0.597 and 0.902. The factor loading of the items were also above the

minimum requirements of > 0.6 , with values between 0.679 and 0.898 as shown in Table 3.12. The factors were labeled in terms of technology -based CRM, KM, customer involvement, long- term association, and joint problem solving. More details are given in Appendix D.

Table 3.12
EFA on Customer Relationship Management

Component						Eigenvalues			Anti-Image	
Items	TB	KM	CI	LT	JP	Communality	Total	% of Variance	Cumulative %	Value
TB3	0.870					0.783	6.373	35.407	35.407	.866 ^a
TB2	0.865					0.802				.836 ^a
TB1	0.849					0.755				.846 ^a
TB5	0.802					0.746				.886 ^a
TB6	0.796					0.724				.928 ^a
KM2		0.878				0.850	2.433	13.517	48.923	.807 ^a
KM4		0.846				0.751				.818 ^a
KM1		0.816				0.757				.835 ^a
KM3		0.806				0.737				.871 ^a
CI4			0.898			0.902	2.191	12.174	61.097	.751 ^a
CI5			0.871			0.789				.795 ^a
CI2			0.852			0.813				.759 ^a
LT1				0.827		0.782	1.547	8.597	69.694	.795 ^a
LT2				0.817		0.759				.813 ^a
LT3				0.726		0.656				.881 ^a
JP1					0.863	0.824	1.229	6.826	76.521	.745 ^a
JP2					0.830	0.747				.754 ^a
JP3					0.679	0.597				.789 ^a
KMO of Sampling Adequacy						0.824				
Bartlett's Test of Sphericity				Approx. Chi-Square		949.087				
				df		153				
				Sig.		0.000				

3.3.2.1.2 Results of EFA on Service Quality

Factor analysis was also conducted on SQ construct using 21 items in the 5 components, mainly tangibility (TA), reliability (RE), responsiveness (RS), assurance (AS), and empathy (EM). The dimensionality of SQ was measured using 4 items for tangibility (TA1 to TA4), 4 items for reliability (RE1 to RE4), 4 items for responsiveness (RS1 to RS4), 4 items for assurance (AS1 to AS4), and 5 items for empathy (EM1 to EM5). All the measurement items were measured using an interval scale ranging from 1 to 7. Accordingly, the run of factor analysis resulted in 6 items that had inconsistent factor loading issues, namely in TA2, RE1, EM1, EM3, RS1, and AS3. The common practice of deleting the non-performing factor was applied in order to improve the suitability of factor analysis and the reliability scale. Thus 15 items were retained, presenting a good model. The mean score and the SD for each item that measures SQ is shown in Table 3.13.

Table 3.13
Descriptive Statistics of Service Quality Measurement Items

Items	Mean	SD	Analysis N
TA1	4.52	1.32	87
TA3	4.38	1.42	87
TA4	4.52	1.23	87
RE2	4.69	1.29	87
RE3	4.29	1.39	87
RE4	4.54	1.31	87
RS2	4.78	1.31	87
RS3	4.84	1.19	87
RS4	4.77	1.45	87
AS1	4.92	1.22	87
AS2	4.92	1.31	87
AS4	4.28	1.40	87
EM2	5.00	1.28	87
EM4	5.16	1.12	87
EM5	4.91	1.38	87

The output as shown in Table 3.14 represents the suitability of data for factor analysis. For example, the KMO value was meritorious, accounting for 0.815, and supported by the significant value of Bartlett's Test of Sphericity (sig 0.000), indicating the appropriateness of the data for factor analysis (Awang, 2012; Hair *et al.*, 2010). An inspection of the anti-image correlation indicates a satisfactory level of ≥ 0.5 , which is ranged from 0.706 to 0.887. The underlying assumptions of factor analysis were therefore attained.

According to PCA output, 5 factors were extracted with eigenvalues greater than 1, contributing to exactly 83.790% of the total variance. With regard to the communality value, all items explained more than 0.5 of the variance in the original variable, which ranged from 0.702 to 0.919. The factor loading of the items was also above the minimum requirements > 0.6 representing values between 0.757 and 0.914 as shown in Table 3.14. The factors were labeled in terms of tangibility, reliability, empathy, responsiveness, and assurance. More details are given in Appendix D.

Table 3.14
EFA on Service Quality

Component						Eigenvalues			Anti-Image	
Items	TA	RE	EM	RS	AS	Communality	Total	% of Variance	Cumulative %	Value
TA1	0.914					0.903	6.464	43.093	43.093	.761 ^a
TA3	0.893					0.884				.787 ^a
TA4	0.879					0.839				.850 ^a
RE4		0.856				0.873	2.175	14.498	57.591	.837 ^a
RE3		0.846				0.859				.856 ^a
RE2		0.817				0.837				.835 ^a
EM2			0.903			0.881	1.422	9.478	67.069	.778 ^a
EM4			0.878			0.919				.778 ^a
EM5			0.770			0.846				.824 ^a
RS3				0.881		0.885	1.363	9.089	76.158	.797 ^a
RS2				0.865		0.872				.828 ^a
RS4				0.762		0.702				.885 ^a
AS4					0.851	0.755	1.145	7.632	83.790	.706 ^a
AS2					0.800	0.782				.887 ^a
AS1					0.757	0.731				.798 ^a
KMO of Sampling Adequacy						0.815				
Bartlett's Test of Sphericity				Approx. Chi-Square		1000.684				
				df		105				
				Sig.		0.000				

3.3.2.1.3 Results of EFA on Innovation

The factor analysis was also implemented for the innovation construct of the medical tourists using 5 components and 24 items. Each item was also measured using an interval scale ranging between 1 and 7. The product innovation (PD) component of innovation construct was measured using 6 items coded as PD1 to PD6. Similar to product innovation, service innovation (SV) was also measured using 6 items coded as SV1 to SV6. Meanwhile, the process innovation (PS) was measured using 3 items coded as PS1 to PS3.

Besides, marketing innovation (MK) was measured using 4 items (MK1 to MK4) and administrative innovation (AD) was measured using 5 items labeled as AD1 to AD5.

The run of factor analysis resulted in 6 items that had a factor loading less than 0.6 (PD1, PD6, AD5, SV1, SV5, and SV6). The common practice of eliminating the non-performing factors was applied in order to improve the suitability of factor analysis and the reliability scale (Hair *et al.*, 2010). Eighteen items were thus retained, presenting a good model. The mean values as well as the SD values for each measurement item that measures innovation is shown in Table 3.15.

Table 3.15
Descriptive Statistics of Innovation Measurement Items

Items	Mean	SD	Analysis N
PD2	4.77	1.31	87
PD3	4.82	1.46	87
PD4	4.99	1.24	87
PD5	5.21	1.26	87
PS1	4.64	1.62	87
PS2	4.39	1.68	87
PS3	4.43	1.60	87
SV2	5.03	1.38	87
SV3	5.15	1.27	87
SV4	5.01	1.35	87
MK1	4.98	1.33	87
MK2	5.13	1.18	87
MK3	5.00	1.39	87
MK4	5.15	1.31	87
AD1	5.22	1.28	87
AD2	5.21	1.28	87
AD3	4.91	1.47	87
AD4	5.56	1.14	87

The output, as shown in Table 3.16, represents the suitability of data for factor analysis. For example, the KMO value was meritorious, accounting for 0.816, and supported by the significant value of the Bartlett's Test of Sphericity (sig 0.000), indicating the appropriateness of the data for factor analysis (Awang, 2012; Hair *et al.*, 2010). An inspection of the anti-image correlation indicates a satisfactory level of ≥ 0.5 , which ranged from 0.764 to 0.859. The factor analysis assumptions were thus satisfied.

Table 3.16
EFA on Innovation

Component						Eigenvalues				Anti-Image
Items	PD	MK	AD	SV	PS	Communality	Total	% of Variance	Cumulative %	Value
PD4	0.854					0.777	6.682	37.123	37.123	.810 ^a
PD3	0.816					0.812				.838 ^a
PD2	0.812					0.740				.767 ^a
PD5	0.763					0.689				.830 ^a
MK3		0.843				0.740	2.291	12.730	49.853	.785 ^a
MK2		0.790				0.756				.837 ^a
MK4		0.710				0.612				.805 ^a
MK1		0.630				0.613				.859 ^a
AD3			0.777			0.640	1.474	8.187	58.040	.763 ^a
AD1			0.761			0.722				.812 ^a
AD4			0.701			0.598				.822 ^a
AD2			0.611			0.663				.858 ^a
SV2				0.816		0.790	1.220	6.780	64.820	.833 ^a
SV3				0.799		0.791				.764 ^a
SV4				0.749		0.698				.809 ^a
PS3					0.802	0.791	1.104	6.131	70.952	.781 ^a
PS2					0.713	0.661				.825 ^a
PS1					0.709	0.678				.851 ^a
KMO of Sampling Adequacy						0.816				
Bartlett's Test of Sphericity						Approx. Chi-Square	806.065			
						df	153			
						Sig.	0.000			

According to PCA output, 5 factors were extracted with eigenvalues greater than 1, contributing to almost 71% of the total variance. This solution generated acceptable level of communalities for all items ≥ 0.5 , ranging from 0.598 to 0.812. The factor loading of the items was also above the minimum requirements of > 0.6 , demonstrating values between 0.611 and 0.854 as shown in Table 3.16. The factors were labeled in terms of product, marketing, administrative, service, and process innovation. More details are given in Appendix D.

3.3.2.1.4 Results of EFA on Overall Brand Equity

Factor analysis implemented for the overall BE of the medical tourists, based on 11 measurement items coded as BE1 to BE11, using an interval scale ranging between 1 and 7. A common practice to improve the suitability of the factor analysis and the scale reliability is to delete the items that have a factor loading of < 0.6 on a specific factor (Awang, 2012; Hair *et al.*, 2010). On this basis, 6 items were identified and deleted because of poor loadings (BE1, BE5, BE7, BE9, BE10, and BE11) and only 5 items were retained, with factor loadings above 0.6, producing a good model. The mean values and the SD scores for each item of overall BE are shown in Table 3.17.

Table 3.17
Descriptive Statistics of Overall Brand Equity Measurement Items

Items	Mean	SD	Analysis N
BE2	4.38	1.37	87
BE3	4.08	1.53	87
BE4	4.55	1.40	87
BE6	4.11	1.49	87
BE8	4.28	1.57	87

The output, as shown in Table 3.18, demonstrates the suitability of data for factor analysis. For example, the KMO was meritorious, with a value of 0.819 and supported by the significant value of Bartlett's Test of Sphericity (sig 0.000), indicating the appropriateness of the data for factor analysis (Awang, 2012; Hair *et al.*, 2010). An examination of the anti-image correlation indicates a satisfactory level of ≥ 0.5 , which ranged from 0.780 to 0.899. The underlying assumptions of factor analysis were thus satisfied.

According to PCA output, 1 factor was extracted with eigenvalues greater than 1, and produced 77.200% of the total variance. This solution generated acceptable level of communalities for all items, which have values between 0.718 and 0.833. The factor loading of the items was also above the minimum requirements of > 0.6 , with values between 0.847 and 0.913 as shown in Table 3.18. The factor was labeled in terms of overall BE. More details are given in Appendix D.

Table 3.18
EFA on Overall Brand Equity

Component		Eigenvalues				Anti-Image
Items	Overall BE	Communality	Total	% of Variance	Cumulative %	Value
BE4	0.913	0.833	3.860	77.200	77.200	.820 ^a
BE6	0.883	0.779				.780 ^a
BE8	0.877	0.769				.817 ^a
BE3	0.872	0.761				.795 ^a
BE2	0.847	0.718				.899 ^a
KMO of Sampling Adequacy		0.819				
Bartlett's Test of Sphericity	Approx. Chi-Square	359.302				
	df	10				
	Sig.	0.000				

3.3.2.2 Reliability Test for Pilot Study

To investigate reliability, Cronbach's alpha (α) is commonly used in this sense as a manner of measuring the internal consistency of the entire scale (Awang, 2012; Hair *et al.*, 2010; Zikmund *et al.*, 2009). The normal range of (α) is between 0 and 1. The closer (α) is to 1, the greater is the reliability. Preferably, (α) should not be less than 0.70; otherwise, it is considered poor (Awang, 2012; Sekaran & Bougie, 2013). Based on the internal reliability test, the results showed a range from 0.786 to 0.928 as shown in Table 3.19, indicating that these items can be used in this study (Awang, 2012). The final form of the questionnaire appears in Appendix B, part 2.

Table 3.19
Reliability Test for Pilot Study

Construct	Component	No. of Original Items	Original (α)	Validated Items (Pre-Test)	No. of Items (Pilot)	Items Deleted	Retained Items	Pilot (α)
CRM	KM	4	0.801	4	4	0	4	0.891
	Customer Involvement	5	0.943	6	6	3	3	0.893
	Long-term Association	6	0.937	4	4	1	3	0.810
	Technology-based CRM	6	0.807	6	6	1	5	0.915
	Joint Problem Solving	3	0.813	3	3	0	3	0.789
Total Items - CRM		24		23	23	5	18	
SQ	Tangibility	4	0.810	4	4	1	3	0.923
	Reliability	4	0.836	4	4	1	3	0.910
	Responsiveness	5	0.864	4	4	1	3	0.871
	Assurance	4	0.890	4	4	1	3	0.811
	Empathy	5	0.910	5	5	2	3	0.908
Total Items - SQ		22		21	21	6	15	

Table 3.19 (Continued)

Construct	Component	No. of Original Items	Original (α)	Validated Items (Pre-Test)	No. of Items (Pilot)	Items Deleted	Retained Items	Pilot (α)
Innovation	Product	6	0.832	6	6	2	4	0.879
	Process	3	0.950	3	3	0	3	0.786
	Service	5	0.787	6	6	3	3	0.799
	Marketing	5	0.841	4	4	0	4	0.822
	Administrative	5	0.950	5	5	1	4	0.797
Total Items - Innovation		24		24	24	6	18	
Overall BE		10	0.931	11	11	6	5	0.925
TOTAL INSTRUMENTS		80		79	79	23	56	

3.3.3 Main Study

In Amman, 6 private hospitals affiliated with the listed biggest hospital brands were invited to participate in this study. Therefore, 6 covering letters were sent to the general managers of the hospitals in early of January 2016 with a questionnaire enclosed for their reference. In the covering letter, the purpose of this study was introduced, and the letters highlighted the benefits that private hospitals might obtain from this study that result in BE building (Appendix C, part 1). One hospital did not wish to participate due internal policy. Five hospitals granted permission to conduct a hospital survey (Appendix C, part 2).

After gaining permission from the hospitals, this study used the self-administrated approach with the aid of two research assistants who had previous experience in data collection. Meaning that, three persons distributed and collected the questionnaire simultaneously where ever possible from the respondents of the five hospitals in Amman. This approach of data collection

is less expensive, and a completed questionnaire can be collected within a short period of time. This process gives the researcher an opportunity to clarify any doubts on the spot and motivate the respondents to answer frankly in addition to enhancing the response rate (Sekaran & Bougie 2013).

The survey was conducted over a period of about three months from the first week of March, 2016 to the end April, 2016 and from the fourth week of October, 2017 to mid-November, 2017. This implies two separate time periods for ease of data collection and administration. The first period started from 10:00 morning till 14:00 in the afternoon, and the second period started after the launch break from 15:00 till 18:00 in the evening. A systematic random sampling method was used, choosing every 4th individual after a random start, following the selection procedures suggested by Malhotra *et al.* (2012) and using the random number table, following Daud (2017), Daud *et al.* (2016), Hanaysha (2015), and Hanaysha and Hilman (2015a, 2015b, 2015c).

The researcher and the two research assistants approached the foreign patients who visited the hospital at the hospital's lobby near the main entrance, which is aligned with the empirical studies of Han and Hyun (2015) and Lee *et al.* (2012). First, the assistants introduced themselves as research assistants and obtained the respondents verbal permission to participate in the study. Only patients who met the selection criteria were included in the study (refer to section 3.2.2). If the respondent failed to fulfill the inclusion criteria, then the next respondent would be the substitute.

Once the respondents were determined to meet the inclusion criteria, the researcher and the assistants gave the self-administered questionnaire along with a self-addressed envelope for the respondents to attend at their own convenient time without any fear or pressure from anybody. They were also given the questionnaire with complete instructions on how to respond and, they were assured that their response would be treated as private and anonymous. They did not have to write their identity on the questionnaire. Such a method helps ensure the least bias in the response.

In addition, the respondents were informed that they could return the completed questionnaire either by hand to the researcher or the two assistants or drop it in a box near the counter, they could mail the response using the self-addressed envelope or they could deliver it to the reception desks located in different care units. In relationship to this, the reception desks and drop boxes were checked continuously and on daily basis. Moreover, a small gift (pen and notebook) was given to the respondents in the hope of increasing their response rate.

After almost three months of exhaustive data collection processes using the systematic random sampling which is probability, the study managed to obtain 589 returned questionnaires. The researcher developed a sampling frame comprising these 589 units available to be selected as sample for this study. The sampling frame thus comprised a list of 589 respondents. Using the simple random sampling procedure, the study obtained randomly 500 samples, producing almost 80% of the population in the sampling frame and around a

90% response rate. And after removing missing data and some outliers, a total of 454 valid questionnaires were available for this study. This figure (454) is higher than the recommendation of Burns and Bush (2010) and Krejcie and Morgan (1970), which is 384, Hair *et al.* (2010), which is 379, and Byrne (2013), which is 200.

Overall, the data were collected from international outpatients who visited the five biggest hospitals in Amman during different times of the day, where every 4th leaving outpatient was approached at the main entrance of the hospital to fill the questionnaire. If the 4th medical tourist did not meet the inclusion criteria, the questionnaire was given to the next respondent as substitute.

3.4 STATISTICAL ANALYSIS PROCEDURES

Several statistical tools and methods such as the SPSS v23 and the AMOS v23 systems for the purpose of data coding and editing, cleaning, treating, and testing; and demonstrating the respondents' profiles were used. However, at this stage, the identification of the data analysis techniques that were used in this study was fundamental. Table 3.20 illustrates the most recommended statistical analysis procedures and mechanisms, which should be employed in quantitative research (Sekaran & Bougie 2013; Zikmund *et al.*, 2009). These were used in this study.

Table 3.20

Statistical Analysis Procedures, Mechanisms and Programs

Analysis Procedures	Analysis Mechanism	Description	Analysis Programs
Data Preparation for Analysis	Response Rate	Reflects the number of respondents compared to number of sample size (Zikmund <i>et al.</i> , 2009).	Manual Calculation
	Data Coding	It is conducted to transform the raw data into intelligible format by statistical software (Zikmund <i>et al.</i> , 2009).	SPSS v23
	Missing Data	It is conducted to ensure that all the measurements in the study have been answered fairly (Sekaran & Bougie, 2013; Zikmund <i>et al.</i> , 2009).	SPSS v23
Descriptive Analysis	Frequency	It is implemented to record the number of times a specific observation exists (Zikmund <i>et al.</i> , 2009).	SPSS v23
	Mean	It is employed to measure an average of the observation numbers (Zikmund <i>et al.</i> , 2009).	SPSS v23
	Standard Deviation (SD)	A test of a distribution's variability, or spread; it is the square root of the variance for a distribution (Zikmund <i>et al.</i> , 2009).	SPSS v23
Preliminary Data Analysis	Outliers	It is conducted to confirm that all values are lying within the normal range of the data by using Mahalanobis Distance test (Hair <i>et al.</i> , 2010; Zikmund <i>et al.</i> , 2009).	SPSS v23
	Non-Response Bias	A test employed to confirm that there is no prejudice or difference in the answer between two different groups on a particular issue through independent sample t-test (Pallant, 2005). Also, Levenne's test that is extracted from t-test supports the variation test between groups.	SPSS v23
	Normality	It is employed to confirm that the data corresponds to a normal distribution through the Skewness and Kurtosis (Hair <i>et al.</i> , 2010), and the normal curve (Pallant, 2005).	SPSS v23 and AMOS v23
Underlying Statistical Assumptions	Linearity	A test applied to ensure that the patterns of association between the independent variables and dependent variables represent a straight relationship through scatterplots (Hair <i>et al.</i> , 2010; Pallant, 2005).	SPSS v23
	Homoscedaticity	It is a test used to confirm that the variance of the independent variable values show relatively same values of the dependent variable by using scatterplots (Hair <i>et al.</i> , 2010).	SPSS v23
	Multicollinearity	A test used to prove that the predictor variables in regression analysis are not strongly correlated with each other through correlation matrix or Tolerance value and Variance Inflation Factor (VIF) (Hair <i>et al.</i> , 2010; Pallant, 2005).	SPSS v23 and AMOS v23
Goodness of the Measurement Instrument	Factor Analysis	It is a statistical technique used to identify the underlying structure (measurements) among the variables (factors or dimensions) in the analysis by using EFA and CFA (Hair <i>et al.</i> , 2010).	SPSS v23 (EFA) and AMOS v23 (CFA)
	EFA	It is implemented to define highly intercorrelated structure from a larger number of measured variables (Zikmund <i>et al.</i> , 2009).	SPSS v23 (Pilot Study)
	CFA	It is employed to verify the factor structure that resulted from EFA and to ensure the validity of the measurement model (Byrne, 2013).	AMOS v23
	Construct Reliability	It is conducted to prove the internal consistency of the measurement through (α) and Composite Reliability (CR) (Zikmund <i>et al.</i> , 2009).	SPSS v23 and AMOS v23

Table 3.20 (Continued)

Analysis Procedures	Analysis Mechanism	Description	Analysis Programs
	Validity	It is applied to ensure that a measure definitely explains a concept (Zikmund <i>et al.</i> , 2009). Different validity test were used as explained below.	
	Face and Content Validity	It is employed to validate the concept being measured among a panel of expert and a small number of respondents (Anastasi, 1988).	Pilot Test
	Construct Validity	It is conducted to validate whether a measure shows a unique concept (Creswell, 2013) through Goodness of Fit (GOF) indexes (Awang, 2015). Also, convergent validity and discriminant validity are considered as sub-types of construct validity (Awang, 2015).	AMOS v23
	Convergent Validity	It is applied to ensure that the same concept is positively correlated with other concepts of the same construct (Zikmund <i>et al.</i> , 2009) through Average Variance Extracted (AVE), (α), and CR (Hair <i>et al.</i> , 2010).	SPSS v23 and AMOS v23
	Discriminant Validity	It is conducted to confirm that a construct is discriminant from other constructs (Zikmund <i>et al.</i> , 2009) by ensuring that the square root of AVE for each construct is greater than its correlation with any other construct (Awang, 2015).	AMOS v23
Hypotheses Testing	Structural Equation Modeling (SEM)	It is a multivariate statistical technique employed to examine the direct and indirect path among exogenous and endogenous latent variables (Awang, 2015; Byrne, 2013).	AMOS v23

3.5 CHAPTER SUMMARY

This chapter demonstrated the research methodology that was used to investigate the relationship between CRM, SQ, innovation, and overall BE in the Jordanian private hospitals. Following the research objectives, a relevant master plan was employed, which included sampling design, population and sampling, operational definitions and measurements, and questionnaire instruments. Furthermore, this chapter critically discussed the data collection method that was used, mainly the pre-test, the pilot study and the main study.

This was followed by the statistical analysis protocol. The next chapter describes the data analysis and the research findings.



CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 INTRODUCTION

This chapter describes the data analysis procedures and presents the findings of a study based on data collected from targeted respondents through survey questionnaires. SPSS and AMOS version 23 were integrated to analyze the data collected. The first section presents an overview of the data collected, and is followed by a description of the data preparation for analysis in the second section. The third section describes the descriptive statistics, and the preliminary analysis is in the fourth section. Underlying statistical assumptions are presented in the fifth section. Goodness of measurement testing results is given in the sixth section. The next sections are devoted to hypotheses testing using SEM, and the final section provides a chapter summary.

4.2 OVERVIEW OF THE DATA COLLECTED

As stated previously in chapter three, a questionnaire survey was used for this quantitative study. Questionnaires were systematically randomly delivered to the respondents. The data were collected using self-addressed envelopes, reception desks as delivery points, drop box, and personally. A pen and a notebook were gifted to the respondents to attract a high response rate. Six hundred and fifty questionnaires were distributed to medical tourists at the five biggest private hospitals in Jordan during two time periods, including one weekday morning and one afternoon throughout three months. Of the 650 surveys circulated, 589 questionnaires were returned, reflecting a 90.62%

overall response rate. Of these 589, 500 respondents were selected randomly for further analysis, representing 84.89% of the target population in the sampling frame as described in next subsection.

4.2.1 Response Rate

For data collection in the present study, 650 questionnaires were distributed personally to medical tourists who visited Jordan for medical treatment purposes. Four hundred and sixty-two questionnaires were distributed to the medical tourists of the selected private hospitals in phase one; four hundred and twenty-nine (429) were returned. Meanwhile, one hundred and eighty-eight (188) was distributed in phase two, and one hundred and sixty (160) were received.

On receipt of the five hundred and ninety-three questionnaires, four were omitted on physical examination on the grounds because respondents failed to meet the sampling criteria, leaving the researcher with a total of five hundred and eight nine (589) questionnaires, giving an overall response rate of 90.62%. Generally, the response rate for such studies ranging from 80% (Lee *et al.*, 2012) to 90% (Debata *et al.*, 2015). Table 4.1 presents the response rate summary.

Table 4.1
Summary of the Response Rate

Questionnaires Status	Phase 1		Phase 2		Total	
	n	Percentage	n	Percentage	n	Percentage
Total Distributed Questionnaires	462	100%	188	100%	650	100%
Total Not-Returned Questionnaires	33	7.14%	28	14.89%	61	9.38%
Yield Response Rate	429	92.86%	160	85.11%	589	90.62%

Upon receiving a 589 questionnaire, a simple random sampling method was run to create the sampling frame using “Random Sample of Cases” function in SPSS v23. Based on the outcome, 500 respondents were randomly obtained, showing approximately 80% of the target population in the sampling frame. After missing data cleaning, a total of 491 cases were used for further analysis.

Overall, the response rate for this study is considered high (Fincham, 2008) and exceeds the absolute minimum sample size required to conduct a CFA and SEM (Hair *et al.*, 2010). This response rate was achieved with considerable effort and at extra financial cost. Thus, it was sufficient for further subsequent analysis.

4.3 PREPARATION OF THE DATA FOR ANALYSIS

The main concern of this initial section is to prepare the collected data for further analysis, including descriptive and multivariate analysis, meaning in part that the quality and the significance of outcomes relies on data cleaning and screening (Zikmund *et al.*, 2009). Data coding, data entry, and missing data are discussed in the subsequent sections.

4.3.1 Data Coding and Data Entry

Coding is the process of transforming raw data into an understandable format using computer statistical software, by assigning numerical scores and character symbols to raw data (Zikmund *et al.*, 2009). The raw data in the present study was coded by allocating unique numerical scores, and the variables and sub-items were coded by allocating unique character symbols.

Appendix E clarifies the coding sheet of the data presented. The raw data was entered manually into SPSS v23 computer software.

4.3.2 Missing Data

Missing data is a technical term results for unanswered or uncompleted questionnaires (Zikmund *et al.*, 2009) and it can affect findings significantly (Sekaran & Bougie, 2013). In order to reduce the negative effects of missing data, preventative action is taken by checking the completed questionnaire quickly to guarantee that all the items were answered in a proper manner. In a few cases, the participants were gently asked to complete the questionnaire properly.

According to Hair *et al.* (2010) and Sekaran and Bougie (2013), missing data is a common problem in surveys and mainly occurs when respondents misunderstand or are not knowledgeable about a particular question. A procedure is followed to identify cases and variables that have a high percentage of missing data (50% or more). In this study, only 24 questionnaires had missing values less than 50%, equal to 0.048%. The missing values were replaced using SPSS with median or nearby points as recommended by Hair *et al.* (2010). Nine questionnaires out of 500 were deleted because they had missing values and unanswered sections more than 50% (Hair *et al.*, 2010). This process for treating missing values is essential for running SEM.

4.4 COMPARE GROUP STATISTICS

The statistical test for the variation between two independent samples is popularly known as Levene's test or F-test (Pallant, 2005). This test demonstrates whether two groups of data differ significantly in term of their variation. A large F-statistics demonstrates that there is more variability between the groups. Meanwhile, the non-significant value of Levene's test indicates that there is no variation between the two groups (Pallant, 2005).

In order to examine the variation, the study employed the F-test using SPSS v23 for testing the difference in variation of the score between two sets of data namely, phase one and phase two. The phase one data has 365 respondents while the phase two data consists of 126 respondents. Output in Table 4.2 presents the descriptive statistics for each component in this study between session one and session two.

Table 4.2
Descriptive Analysis between Phase One and Phase Two (n=491)

Construct	Data Set	N	Mean	Std. Deviation	Std. Error Mean
CRM	Phase one	365	4.1842	0.98173	.05139
	Phase two	126	4.0739	0.95903	.08544
KM	Phase one	365	4.3041	1.17494	.06150
	Phase two	126	4.1766	1.12030	.09980
Customer Involvement	Phase one	365	3.8447	1.24242	.06503
	Phase two	126	3.6429	1.14401	.10192
Long -term Association	Phase one	365	4.1452	1.21972	.06384
	Phase two	126	4.0238	1.20678	.10751
Technology -based CRM	Phase one	365	4.3458	1.17932	.06173
	Phase two	126	4.2778	1.16536	.10382
Joint Problem Solving	Phase one	365	4.2813	1.21951	.06383
	Phase two	126	4.2487	1.26064	.11231
SQ	Phase one	365	4.6455	1.52164	.07965
	Phase two	126	4.6317	1.48918	.13267

Table 4.2 (Continued)

Construct	Data Set	N	Mean	Std. Deviation	Std. Error Mean
Tangibility	Phase one	365	4.6256	1.68664	.08828
	Phase two	126	4.5952	1.62678	.14493
Reliability	Phase one	365	4.9087	1.79579	.09400
	Phase two	126	4.7937	1.73531	.15459
Responsiveness	Phase one	365	4.4868	1.50849	.07896
	Phase two	126	4.5106	1.58026	.14078
Assurance	Phase one	365	4.5945	1.80302	.09437
	Phase two	126	4.5423	1.88077	.16755
Empathy	Phase one	365	4.6119	1.81334	.09491
	Phase two	126	4.7169	1.73439	.15451
Innovation	Phase one	365	4.5251	1.14104	.05972
	Phase two	126	4.4956	1.13004	.10067
Product	Phase one	365	4.6726	1.17509	.06151
	Phase two	126	4.6567	1.21850	.10855
Process	Phase one	365	4.4466	1.36790	.07160
	Phase two	126	4.2989	1.34186	.11954
Service	Phase one	365	4.6329	1.39588	.07306
	Phase two	126	4.6217	1.46809	.13079
Marketing	Phase one	365	4.3630	1.32912	.06957
	Phase two	126	4.4067	1.36152	.12129
Administrative	Phase one	365	4.5103	1.24355	.06509
	Phase two	126	4.4940	1.17748	.10490
Overall BE	Phase one	365	5.4121	1.05250	.05509
	Phase two	126	5.3635	1.08853	.09697

The mean score and the SD between the two sessions for each component are almost identical. The formal Levene's test was carried out and the output is presented in Table 4.3. The output shows that the computed F value for all constructs are found to be very low and all p-values are greater than 0.05. Thus, the variation between two groups (phase one and phase two) do not differ significantly. In other words, the study failed to reject the null hypothesis. Hence, the researcher combined the two data sets for further analysis.

Table 4.3
Levene's Test of Variation

Construct	Dimension	Levene's Test for Equality of Variances	
		F-Test	Sig.
CRM		0.334	0.564
	KM	1.245	0.265
	Customer Involvement	0.848	0.358
	Long -term Association	0.322	0.571
	Technology -based CRM	0.119	0.730
	Joint Problem Solving	0.045	0.832
SQ		0.395	0.530
	Tangibility	2.175	0.141
	Reliability	1.149	0.284
	Responsiveness	0.575	0.449
	Assurance	0.930	0.335
	Empathy	1.418	0.234
Innovation		0.146	0.702
	Product	0.212	0.646
	Process	0.009	0.926
	Service	0.094	0.760
	Marketing	0.007	0.934
	Administrative	0.303	0.583
Overall BE		0.784	0.376

4.5 DESCRIPTIVE STATISTICS

A descriptive analysis can provide a valuable summary of responses based on demographic characteristics and variables of interest to draw conclusions about an entire population in a simple and understandable manner (Sekaran & Bougie, 2013). In other words, descriptive analysis is used to describe the characteristics of respondents statistically in terms of mean, SD, frequencies, and percentage (Zikmund *et al.*, 2009). The demographic characteristics and variables of this study are discussed in the following subsections.

4.5.1 Respondent Demographic Profiles

The main purpose of this section is to interpret and understand the socio-demographic characteristics of the respondents. In accordance with the common practice among medical tourism studies, the demographic characteristics of the respondents were requested at the end of a questionnaire. Generic questions were related to demographic information about the participants, such as gender and age, qualifications, marital status, income, type of payment used, country of origin, and relevant information about the frequency of visits to Jordan for medical treatment purposes. Table 4.4 shows the descriptive characteristics of the sample, using SPSS v23.

As depicted on the output, 302 medical tourists were male, accounting for approximately 60% of the medical tourists, the rest were female (38.5%). The majority of medical tourists were married; almost 66%, followed by nearly 21% single participants and 13.2% were either of divorced, widowed, or separated status. The two most common age groups were 36-45 and 26-35 years, at 30.8% and 28.1%, respectively.

The highest educational qualifications held by medical tourists were bachelor degrees (47.5%), followed by diplomas (22.0%) and master degrees (15.5%), high school levels (10.6%), PhDs (4.3%), and then other certificates (0.2%). The largest proportion of medical tourists earned less than USD1000, and accounted for more than 55% of the total sample, those earning between USD 1001-2000 accounted for approximately 28%, and the lowest proportion earned more than USD 3001, and accounted for almost 6% of the total sample.

Table 4.4
Summary of Demographic Characteristics (n=491)

	Category	Frequency	Percent
Gender	Male	302	61.5
	Female	189	38.5
Age	18-25 years	63	12.8
	26-35 years	138	28.1
	36-45 years	151	30.8
	46-55 years	78	15.9
	Over 56 years	61	12.4
Education	High School	52	10.6
	Diploma	108	22.0
	Bachelor	233	47.5
	Master	76	15.5
	PhD	21	4.3
	Others	1	0.2
Marital Status	Single	104	21.2
	Married	322	65.6
	Divorced	29	5.9
	Widowed	30	6.1
	Separated	6	1.2
Income	Below 1000 USD	272	55.4
	1001-2000 USD	137	27.9
	2001-3000 USD	55	11.2
	Over 3001 USD	27	5.5
Payment Type	Insurance	131	26.7
	Government	191	38.9
	By Own	123	25.1
	Others	46	9.4
Country of Origin	Yemen	148	30.1
	Gulf Countries	26	5.3
	Libya	126	25.7
	Palestine	50	10.2
	Sudan	31	6.3
	Algeria	44	9.0
	Iraq	20	4.1
	Syria	26	5.3
	Others	20	4.1
Visit Frequency	One time	301	61.3
	2 times and above	190	38.7
	Total	491	100

The most common payment type was governmental (38.9%), followed by insurance and self-payment, at 26.7% and 25.1%, respectively. As expected, the majority of medical tourists specified that they were from Middle East and

North Africa. The Middle East was the most frequently specified area of origin, accounting collectively for 55%, followed by North Africa, which collectively comprised 41% of the total.

It is worth noting that more than 60% of the respondents had visited Jordan for the first time for medical treatment and 190 medical tourists had visited Jordan more than once, representing 38.7% of the total sample, which is absolutely in line with similar studies in the medical tourism field such as Al-Maaitah (2016), Lee *et al.* (2012), Sankrusme (2013), and Wang (2012). In relationship to this, the decision to include first time medical tourists was based on the premise that this group of patients became high frequently multi-healthcare users during their stay. Meaning that, this type of medical tourists needs to visit the same hospital facilities repeatedly over time until a diagnosis is reached after a series of medical tests. Thus, they become highly engaged in high contact medical services during service encounters. It has been found that as patients become more educated and more experienced, they tend to engage in comprehensive processing of all available factors, and, therefore, are able to assess certain aspects of the healthcare (Cho, Lee, Kim, Lee, & Choi, 2004) including patient relationship management, overall quality, innovation, and equity of the brand (Aaker & McLoughlin, 2010).

It should be stressed, however, that medical tourists rely more heavily on the internet as the most valuable source of information tool for communicating and connecting with medical tourism brands (Jotikasthira, 2010). Many online tools open up two-way communication routes through which medical tourists

can share medical information, medical reports, and diagnostic images with healthcare providers for possible healthcare solution. Related to this, medical tourists experience may shape perceptions during the pre-travel stage but as the level of interaction increases, a patient's relationships gain more strength (Aaker & Joachimsthaler, 2000; Lindgreen & Chaturvedi, 2008), and the evaluation criteria may evolve from the day they first visit the hospital (Cho *et al.*, 2004). However, more details about respondent demographic profile are provided in Appendix F.

4.5.2 Descriptive Analysis of the Variables

A seven-point interval Likert scaling was used in the questionnaire. The mid-point ("4") of the scale indicated a neutral position on the survey questions. Table 4.5 describes the independent, mediator, and dependent variables statistically, as generated in SPSS v23. The independent variables CRM and SQ were conceptualized with five dimensions for each construct, and mediated by innovation construct with five dimensions to measure the overall BE.

Among the CRM dimensions, technology-based CRM scored the greatest mean value (4.328), while customer involvement considered the lowest (3.793). It is also worth noting that joint problem solving had the highest SD score (1.229) among CRM dimensions, greater than other dimensions, while KM had the lowest SD scores (1.161). Clearly, to some extent, there was a lesser degree of convergence in evaluating the CRM activities.

In terms of SQ, reliability and empathy were the most highly rated dimensions, with mean values of 4.879 and 4.639, respectively, followed by tangibility (4.618), assurance (4.581), and responsiveness (4.493). The SD for SQ dimensions were ranged from 1.526 to 1.821, suggesting that participants differed to a certain extent in their ratings of SQ performance.

Among the innovation types, product and service innovation were the highest rated dimensions, with almost similar mean values of 5.0, whereas marketing innovation had the worst mean value of 4.374. The SD for innovation types ranged from 1.185 to 1.413. Process innovation and service innovation were rated relatively similar, with SDs of almost 1.4. In terms of BE, the composite mean value for overall BE was 5.40 with a SD of 1.061.

In a nutshell, the results revealed a satisfactory rating index among the key factors, with mean values above the mid-point of 4 excluding customer involvement (3.793), ranging from 4.114 to 5.40. Overall BE had the highest mean value of 5.40, and long –term association had the worst mean value of 4.114. The SD for all variables was almost between 1.061 and 1.821, indicating that there is a little volatility in the sample. Appendix G shows the descriptive statistical analysis for all measurement items.

Table 4.5
Descriptive Analysis of the Variables (n=491)

Construct	Dimension	Items No.	Minimum	Maximum	Mean	SD
CRM		18	1.47	6.36	4.156	0.976
	KM	4	1.50	7.00	4.271	1.161
	Customer Involvement	3	1.00	7.00	3.793	1.220
	Long -term Association	3	1.00	7.00	4.114	1.216
	Technology -based CRM	5	1.20	7.00	4.328	1.175
	Joint Problem Solving	3	1.00	7.00	4.273	1.229
SQ		15	1.00	7.00	4.642	1.512
	Tangibility	3	1.00	7.00	4.618	1.670
	Reliability	3	1.00	7.00	4.879	1.779
	Responsiveness	3	1.00	7.00	4.493	1.526
	Assurance	3	1.00	7.00	4.581	1.821
	Empathy	3	1.00	7.00	4.639	1.792
Innovation		18	1.83	7.00	4.518	1.137
	Product	4	1.00	7.00	4.669	1.185
	Process	3	1.00	7.00	4.409	1.361
	Service	3	1.00	7.00	4.630	1.413
	Marketing	4	1.25	7.00	4.374	1.336
	Administrative	4	1.25	7.00	4.506	1.226
Overall BE		5	2.00	7.00	5.400	1.061

4.6 PRELIMINARY DATA ANALYSIS

This section presents the introductory analysis of 491 questionnaires that were used in order to assess the fitness of sample data, and an evaluation of outliers and non-response bias was made, as described in the following subsections.

4.6.1 Outliers

According to Zikmund *et al.* (2009), an outlier is any observation that lies outside the normal range of the dataset. Usually, an outlier is commonly correlated with an extreme high value or extreme low value that could be questioned in further analysis, such as multivariate analysis. One of the most useful and common methods for detecting potential outliers is the

Mahalanobis distance test, which refers to “the distance in standard deviation units between a set of scores for one case and the sample means for all variables” (Byrne, 2013, p. 106).

Pallant (2005) suggested that outliers can be detected through SPSS by running a linear regression, which creates a new variable, symbolized as Mah_1, and then compares the values with that of the Chi-square critical value (χ^2) table (a degree of freedom (df) equal to the number of measurement items and $p < 0.001$).

Pallant (2005) suggested that any Mahalanobis value (D^2) exceeding Chi-square value (χ^2) should be considered as an outlier and should be deleted. In simple words, if $D^2 > \chi^2$, then the case is considered an outlier and must be deleted. In this study, 56 items were employed, representing Chi-square (χ^2) value equal to 94.47. Therefore, any Mahalanobis values (D^2) greater than 94.47 must be deleted. Table 4.6 shows that the minimum value of Mahalanobis is 4.577 and the maximum value of Mahalanobis is 157.304.

Table 4.6
Mahalanobis Distance Test (n=491)

	Minimum	Maximum	Mean	SD
Predicted Value	96.054	474.8	246	60.276
Std. Predicted Value	-2.488	3.796	0	1
Standard Error of Predicted Value	14.557	77.573	45.389	10.118
Adjusted Predicted Value	64.181	492.225	244.809	63.095
Residual	-295.249	300.324	0	128.444
Std. Residual	-2.163	2.201	0	0.941
Stud. Residual	-2.333	2.267	0.004	1.001
Deleted Residual	-343.463	357.987	1.191	145.485
Stud. Deleted Residual	-2.345	2.278	0.004	1.002

Table 4.6 (Continued)

	Minimum	Maximum	Mean	SD
Mahal. Distance	4.577	157.304	55.886	24.967
Cook's Distance	0	0.039	0.002	0.003
Centered Leverage Value	0.009	0.321	0.114	0.051

a. Dependent Variable: ID

Based on SPSS results and for the purpose of attaining valid regression results, as well as not violating the underlying assumptions of data examination, 37 cases were identified as outliers and deleted in this study, as described in Table 4.7. Therefore, 454 usable questionnaires remained for data analysis.

Table 4.7
Outliers List

Count	Case ID	Mahalanobis Distance	Count	Case ID	Mahalanobis Distance
1	484	157.30393	20	486	105.41974
2	277	154.12223	21	213	104.28147
3	192	147.8262	22	116	103.04966
4	345	138.57953	23	478	102.84254
5	491	137.07487	24	479	102.84254
6	490	135.46901	25	157	101.8609
7	488	134.1809	26	156	101.131
8	414	132.56279	27	144	100.83069
9	415	129.8665	28	217	99.49599
10	487	129.80838	29	410	99.48357
11	288	129.52403	30	482	99.24541
12	180	126.03076	31	483	98.37656
13	485	119.42724	32	249	97.84662
14	181	115.93778	33	411	97.00626
15	187	114.06689	34	155	96.75305
16	278	109.61925	35	9	96.36182
17	489	107.84901	36	100	94.82513
18	295	107.84545	37	153	94.64698
19	225	107.2099			

4.6.2 Non-Response Bias

A non-response bias exists when there is a prejudice or difference in the answers between two different groups of people on specific issues (Zikmund *et al.*, 2009). The independent sample t-test is a common used technique for testing the significant variations between two independent groups on continuous variables (Pallant, 2005). An independent sample t-test using SPSS v23 was conducted in this study to determine whether the means of all variables, including demographic characteristics, varied between morning respondents and afternoon respondents (Pallant, 2005).

Pallant (2005) demonstrated that there are significant differences between early respondents and late respondents if the significant value of a “2-tailed” test is equal to or lower than 0.05 ($p \leq 0.05$), and otherwise significant differences do not exist (if the significant value of a 2-tailed test > 0.05), assuming that equal variance value according to Levene’s test is greater than 0.05 ($p > 0.05$). Conversely, if the Levene’s test is ≤ 0.05 , then variances are significantly different and thus the information provided in the equal variance not assumed must be used. As mentioned previously, the respondents were classified according to the response time into two groups, morning and afternoon.

According to the descriptive statistics of the variables, as shown in Table 4.8, the mean values of the morning respondents ($n=297$) and the afternoon respondents ($n=157$) did not reflect a markedly significant variation in any

variable. More details about group statistics of study dimensions and demographic factors are given in Appendix H, part 1 and part 2, respectively.

Table 4.8
Group Statistics of Main Variables (n=454)

Construct	Survey Time	N	Mean	SD	Std. Error Mean
CRM	Morning	297	4.2039	0.92040	.05341
	Afternoon	157	4.1637	0.96683	.07716
SQ	Morning	297	4.7522	1.45270	.08429
	Afternoon	157	4.6968	1.47454	.11768
Innovation	Morning	297	4.6068	1.08721	.06309
	Afternoon	157	4.4897	1.20099	.09585
Overall BE	Morning	297	5.4826	0.99328	.05764
	Afternoon	157	5.4268	1.07706	.08596

Clear evidence also verifies that a difference between the morning and afternoon response does not exist as shown in Table 4.9, as the lowest significance (2-tailed) value was 0.293, and the greatest value was 0.701, which means that there are no significant differences between the two groups. More details about non-response bias in study dimensions and demographic factors are given in Appendix H, part 1 and part 2, respectively.

Table 4.9
Independent Samples Test of Main Variables (n=454)

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
CRM	1	0.919	.338	.435	452	.664
	2			.428	304.446	.669
SQ	1	0.096	.757	.384	452	.701
	2			.383	313.633	.702
Innovation	1	2.654	.104	1.053	452	.293
	2			1.021	291.595	.308
Overall BE	1	3.807	0.052	.589	452	.556
	2			.574	296.243	.566

1 Equal variances assumed

2 Equal variances not assumed

Furthermore, this study was also interested to examine whether the means of all variables varied between first time medical visitors and repeat-medical visitors. Appendix H, part 3 provides clear evidence that there are no significant differences between the two groups.

4.7 UNDERLYING STATISTICAL ASSUMPTIONS

In order to fulfill the key assumptions of AMOS, different techniques of data screening were carefully conducted, including normality and linearity assessment as well as homoscedasticity and multicollinearity evaluation. More details are given in the following subsections.

4.7.1 Normality Assumption

Normality or normal distribution is represented by a normal curve, referring to “the shape of the data distribution for an individual metric variable and its correspondence to the normal distribution” (Hair *et al.*, 2010, p. 70). A normal distribution of the data is portrayed as a symmetrical bell-shaped curve where the intensity of the points lies in the middle values, with a smaller range of points toward the extremes (Zikmund *et al.*, 2009). Careful treatment of the normality is very important before conducting any statistical analysis of SEM (Hair *et al.*, 2010).

Statisticians have commonly stated that the distribution of sample data is normally safely distributed when $n \geq 30$ (Ghasemi & Zahediasl, 2012; Rose, Spinks, & Canhoto, 2014), however, normality might be tested through graphical plot (Zikmund *et al.*, 2009), summarized using Kolmogorov-

Smirnov or Shapiro-Wilks tests (Pallant, 2005), or demonstrated through measures skewness and kurtosis values (Awang, 2015; Hair *et al.*, 2010).

As a visual method of normality, a probability- probability plot (P-P) provides a graphical means to determine the level of normality. The data is normally distributed if the majority of the points lie in a reasonably straight line (Ghasemi & Zahediasl, 2012). Histogram is also useful method of normality test (Pallant, 2005). The bell-shaped curve reflects the distribution of data. In this case, a visual examination of the histogram shows that the data is fairly normal distributed, as seen in Appendix J.

A Kolmogorov-Smirnov test and a Shapiro-Wilk test can also be conducted for assessing normality. The Kolmogorov-Smirnov test is normally used when $n \geq 50$ (n , the sample size), and the Shapiro-Wilk test is used when $n < 50$ (d'Agostino, 1971). Normality is assumed when the significant value is greater than 0.05 (Coakes & Ong, 2011).

Equally important, Skewness and kurtosis are commonly used methods to assess normality for samples greater than 300 (Kim, 2013; Rose *et al.*, 2014). According to Hair *et al.* (2010), skewness refers to the balance of the distribution. A positively skewed distribution occurs when the data is shifted to the left (data scores are below the mean); and a negatively skewed distribution occurs when the data is shifted to the right (data scores are above the mean). Kurtosis relates to the height of the distribution, either “peakedness” or “flatness”. Positive kurtosis reflects a taller tail and greater

peak, and negative kurtosis reflects the opposite. A rule of thumb commonly employed for assessing normality based on skewness and kurtosis values is that, normality can be achieved if the skewness value is within the range of ± 3 (Kline, 2011) or < 2 (Kim, 2013) and the kurtosis value is within the range of ± 3 (Coakes & Steed, 2003) or ± 7 (Hu, Bentler, & Kano, 1992, Kim, 2013) or ± 10 (Kline, 2011). Rose *et al.* (2014) also suggested that normality is affected by sample size and can be met either with an acceptable level of critical values within ± 1.96 or ± 2.58 (Ghasemi & Zahediasl, 2012) or ± 3.29 (Kim, 2013) at the significance level of 0.05, however, in large samples, greater than 300, the criteria of absolute value of skewness and kurtosis should be applied without considering the critical value (Kim, 2013). Relating to this, Awang (2015) indicated that the data is normally distributed if the absolute skewness value is below 1.5 and the critical value for the skewness is less than 8 or if the critical value of kurtosis below 3, and especially if the sample size greater than 200. However, Awang (2015) emphasized on the fact that normality evaluation is made by “assessing the measure of skewness for every item” (p. 79).

On this basis, and referring to SPSS output as shown in Table 4.10, the data seems to satisfy the normality assumption as suggested by (Kim, 2013). For example, the absolute skewness and kurtosis values for all dimensions were less than 2. Appendix I, displays the normality test for all measurement items based on SPSS v23 and AMOS v23.

Table 4.10

Skewness and Kurtosis Statistical Values of Normality

Construct	Dimension	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
CRM		0.089	0.115	-0.767	0.229
	KM	0.397	0.115	-0.212	0.229
	Customer Involvement	0.405	0.115	-0.276	0.229
	Long -term Association	-0.062	0.115	-0.530	0.229
	Technology -based CRM	0.033	0.115	-0.563	0.229
	Joint Problem Solving	-0.166	0.115	-0.310	0.229
SQ		0.142	0.115	-1.493	0.229
	Tangibility	-0.095	0.115	-1.210	0.229
	Reliability	-0.195	0.115	-1.398	0.229
	Responsiveness	0.036	0.115	-1.143	0.229
	Assurance	0.026	0.115	-1.292	0.229
	Empathy	-0.009	0.115	-1.362	0.229
Innovation		-0.738	0.115	-0.508	0.229
	Product	-0.665	0.115	0.300	0.229
	Process	-0.699	0.115	-0.080	0.229
	Service	-0.600	0.115	-0.115	0.229
	Marketing	-0.708	0.115	-0.257	0.229
	Administrative	-0.696	0.115	-0.059	0.229
Overall BE		-1.031	0.115	-0.127	0.229

However, another assessment for normality is also conducted using AMOS v23 before performing the structural modeling as suggested by Awang (2015) as seen in section 4.11, Table 4.23 (p. 268).

4.7.2 Linearity Assumption

Linearity is an implicit assumption in all correlation techniques, including factor analysis, multiple regression, and SEM, and refers to the linear relationship between the independent variables (IVs) and the dependent variables (DVs) (Pallant, 2005). In linear relationships, any changes in the independent variables will present corresponding changes in the dependent variables. Correlations always represent linear relationships between variables;

otherwise, non-linear effects will not be represented in the correlation value (Hair *et al.*, 2010).

The most straightforward technique for examining linearity is to identify scatter plot residuals which assume a roughly straight line between variables, and where the distribution of scatters are roughly concentrated around the center along the zero point (Hair *et al.*, 2010; Pallant, 2005). A visual examination of the scatter plot residuals from regression analysis using SPSS v23, as seen in Appendix J, shows that the overall equation is linear and that the linearity is met. The examination of other variables is also shown in Appendix J.

4.7.3 Homoscedastic Assumption

A scatter gram is also used to assess homoscedasticity. Homoscedasticity is related to the assumption that the variance (dispersion) of the independent variable values should be approximately equal at each value of the dependent variable (Hair *et al.*, 2010). Referring to Appendix J and taking a close look at the scatter plot, apparently, the results of standardized residuals demonstrate the existence of homoscedasticity among predictor variables selected for this study and the dependent variable, evidently indicating the absence of heteroscedasticity which can be seen at a glance from residuals distribution. However, the examination of other variables is also shown in Appendix J.

4.7.4 Multicollinearity Assumption

Multicollinearity refers to the degree in which the independent variables are correlated within a correlation matrix (Zikmund *et al.*, 2009). Put simply, multicollinearity exists when independent variables are strongly correlated (0.9 and above) (Pallant, 2005; Yong & Pearce, 2013). Meanwhile, Awang (2015) highlighted that serious multicollinearity problem occurs when exogenous constructs seems to be expressively inter-correlated with each other and have values more than 0.85. An extreme case of multicollinearity exists when two or more variables are perfectly interrelated, also called singularity (Pallant, 2005). Multicollinearity, which may include singularity, leads to complexity in terms of depicting and understanding the contribution effects of each independent variable on the dependent variable (Sekaran & Bougie, 2013).

When examining any multicollinearity effects, the test of the tolerance and its inverse, which is also known as the Variance Inflation Factor (VIF), must be conducted (Pallant, 2005). As strongly agreed by Hair *et al.* (2010) and Sekaran and Bougie (2013), multicollinearity exists when the average tolerance value is less than 0.10, or the VIF value is above 10. Based on SPSS v23 output as seen in Table 4.11, the tolerance values were above 0.10, ranging between 0.195 and 0.739 and VIF values were below 10, ranging between 1.353 and 5.129, indicating an absence of multicollinearity.

Table 4.11
Collinearity Statistics

Construct	Dimension	Collinearity Statistics	
		Tolerance	VIF
CRM		.523	1.912
	KM	.331	3.025
	Customer Involvement	.491	2.037
	Long -term Association	.341	2.936
	Technology based CRM	.555	1.800
	Joint Problem Solving	.532	1.878
SQ		.739	1.353
	Tangibility	.288	3.471
	Reliability	.321	3.110
	Responsiveness	.384	2.601
	Assurance	.327	3.054
	Empathy	.195	5.129
Innovation		.453	2.207
	Product	.379	2.642
	Process	.265	3.768
	Service	.292	3.428
	Marketing	.262	3.817
	Administrative	.205	4.872

a. Dependent Variable: Brand Equity

Further confirmation is also drawn from AMOS by assessing the correlation matrix between constructs in the measurement model, which is another requirement for discriminant validity (Awang, 2015). Observing from Figure 4.8 (p. 263), the findings also support the absence of multicollinearity because the correlation value between exogenous constructs is 0.44, below the cutoff criterion of 0.85 (Awang, 2015).

4.8 GOODNESS OF MEASURES

It is important to evaluate the “goodness” of measures. This is crucially important to make sure the instrument, which was developed to measure a certain variable, is indeed precisely measuring what it is supposed to measure. Sekaran (2003) highlighted that both the validity and reliability of measure must be established. In general terms, validity is the ability of a measure to represent the concept accurately and precisely (Zikmund *et al.*, 2009). Put simply, the survey questions must evaluate the entire domain of the object under investigation in an adequate manner. The literature demonstrates three types of validity, face, content, and construct validity, which includes convergent and discriminant validity (Sekaran, 2003; Zikmund *et al.*, 2009). Once the validity is assured, the assessment of reliability is still needs to be established (Awang, 2015; Zikmund *et al.*, 2009). For this reason, this study undertakes different types of validity and reliability assessment including, face validity, content validity, construct validity, convergent validity, discriminant validity, and reliability. Details of goodness of measure techniques are discussed in the following sub-sections.

4.8.1 Face Validity

Face validity refers to the non-technical assessment of the superficiality of a questionnaire (Anastasi, 1988), and this can be evaluated by obtaining feedback from experts, friends, or using a trial run to ensure that the questionnaire is connected and free from vaguely worded questions.

In order to achieve face validity (non-technical), a pilot study was conducted among small number of medical tourists in the five biggest hospitals in Jordan namely, Jordan, Islamic, the Arab Medical Center, Specialty, and Al-Isra'a. Based on their comments, some items were deleted and some items were modified as previously discussed in chapter three. This meant that the face validity that is also associated with content validity was established.

4.8.2 Content Validity

Malhotra *et al.* (2012), Sekaran and Bougie (2013), and Zikmund *et al.* (2009) defined content validity, sometimes called face validity, as being a subjective assessment reflects whether a scale covers the concept of interest. Normally, a panel of experts and academicians are more preferable to attest to the content validity of the research instrument (Sekaran, 2003).

As stated previously, a questionnaire was distributed to a panel of experts in three different universities in Jordan to determine content validity (technical). Based on their comments, modifications were made to the original questionnaire and thus, content validity is also established.

4.8.3 Construct Validity

Construct validity refers to the underlying theoretical framework in an attempt to identify whether a measure is a fit for the conceptual definition being employed (Malhotra *et al.*, 2012), or, in other words, whether the items measure hypothetical construct or concepts (Creswell, 2013). Construct validity can be examined through the evaluation of GOF indices of the

measurement model (Awang, 2014, 2015). Supporting this, Awang (2015) clearly stated that “the construct validity for the measurement model is achieved when all Fitness Indexes meet the required level” (p. 76).

Researchers commonly categorized several recommended indicators of model fit as discussed below:

1. Chi-square (χ^2) test for the extent misspecification. As such, a non-significant χ^2 ($p > 0.05$) is signal of a good model fit. In contrast, a significant χ^2 ($p < 0.05$) shows that the measurement model does not fit the sample data (Khine, 2013), however, Hair *et al.* (2010), Holtzman and Vezzu (2011), and Khine (2013) have noted that the χ^2 test is widely identified as problematic because it is too sensitive to sample size > 200 and the number of observed variables ≥ 12 . As such, χ^2 regularly tends to be significant. A non-significant p-value is thus uncommon. For this reason, other fit indicators must be considered to evaluate the model fit, regardless of the p-value (Awang, 2015; Khine, 2013).
2. The ratio of χ^2 to degrees of freedom (df) is required to be below 3 (Awang, 2015; Hair *et al.*, 2010; Kline, 2011) or below 2 (Byrne, 2013), however, researchers such as Marsh and Hocevar (1985) considered a ratio of 5 or less is acceptable.
3. The Goodness of Fit Index (GFI) is another indicator for assessing model fit (Khine, 2013, Kline, 2011). According to Khine (2013), it is related to the number of observed variances and covariances explained by the model. Khine (2013) has also stated that the GFI values are

allocated between 0 and 1 with higher values reflecting a preferable fit, however, for a better fit, Hair *et al.* (2010) recommend that the GFI value should be greater than 0.9.

4. An Adjusted Goodness of Fit Index (AGFI). This index takes into account differing degrees of model complexity by adjusting GFI by a ratio of df used in a model to the total df (Khine, 2013). A general guideline is that model fit is greater than 0.8 (Bollen, 1995; Khine, 2013; Sharma, 1996) or 0.9 (Awang, 2015).
5. Comparative Fit Index (CFI) is the most widely used index to evaluate whether the hypothesized model is a better fit than a null model (Khine, 2013). A CFI value above 0.9 is commonly associated with a better model fit (Hair *et al.*, 2010).
6. The Tucker-Lewis Index (TLI) is also used to compare the hypothesized model to the null model (Khine, 2013). It is recommended that the TLI value is greater than 0.9 for a good model fit (Hair *et al.*, 2010).
7. The Root Mean Square Error of Approximation (RMSEA) attempts to correct the tendency of χ^2 to reject models with a large number of variables or a large sample size (Khine, 2013). Better model fit is associated with lower RMSEA values of less than 0.08 (Awang, 2015).
8. Incremental Fit Index (IFI) developed to improve the Normed Fit Index by calculating the df and taking the sample size into account. A value larger than 0.9 is recommended for better fit (Awang, 2015; Byrne, 2013).

However, no general agreement exists among statisticians about GOF indexes to use and which cut-off values to report (Awang, 2014, 2015). In this sense, Hair *et al.* (2010) recommended evaluating a model GOF using at least one absolute fit index from each category and added that complex models “when samples are large and the model contains a large number of measured variables and parameter estimates, cutoff values of 0.95 on key GOF measures are unrealistic” (p. 650). According to the above discussion, the construct validity is considered valid if its GOF achieves the minimum level of acceptance (Awang, 2014, 2015). Therefore, Table 4.12 illustrates the most frequently used GOFs and their respective threshold, which are employed in this study.

Table 4.12
Goodness of Fit Indices and their Level of Acceptance

Name of Category	Fit Index	Level of Acceptance	Source
Chi-square Index	χ^2	Any model should include Chi-square value	Hair <i>et al.</i> (2010)
	df	Any model should include df value	Hair <i>et al.</i> (2010)
	p-value	$p > 0.05$. However, it is not applicable for sample size greater than 200	Awang (2015), Hair <i>et al.</i> (2010), and Khine (2013)
Absolute Fit	Ratio (χ^2 to df)	< 3	Awang (2015), Hair <i>et al.</i> (2010), and Kline (2011)
	RMSEA	< 0.08	Awang (2015) and Hair <i>et al.</i> (2010)
	GFI	> 0.9	Awang (2015) and Hair <i>et al.</i> (2010)
Parsimonious Fit	AGFI	> 0.9	Awang (2015)
Incremental Fit	TLI	> 0.9	Awang (2015)
	CFI	> 0.9	Awang (2015) and Hair <i>et al.</i> (2010)
	IFI	> 0.9	Awang (2015) and Byrne (2013)

Furthermore, standardized loading (factor loading) can also be used in supporting the construct validity when the factor loading is more than 0.5 (Hair *et al.*, 2010). Convergent validity and discriminant validity also work together to ensure overall construct validity. Both types are discussed in the following sub-sections.

4.8.4 Convergent Validity

Convergent validity exists when the same measures are positively correlated with other measures of the same construct (Zikmund *et al.*, 2009). AVE is one of the most common methods of measuring convergent validity and recommended by Hair *et al.* (2010). AVE refers to the amount of variance that is extracted by the construct relative to measurement error (Fornell & Larcker, 1981). Notably, if the AVE is > 0.5 , then the variance due to the construct is more than the variance due to measurement error and the convergent validity is therefore adequate (Fornell & Larcker, 1981). In addition, satisfactory level of indicators such as factor loading > 0.5 , reliability by $(\alpha) > 0.7$, and composite reliability (CR) > 0.7 are also support the convergent validity (Hair *et al.*, 2010).

4.8.5 Discriminant Validity

Discriminant validity testifies that the measures converge internally with each other and are not correlated with other items from other constructs (Zikmund *et al.*, 2009). More simply, discriminant validity evaluates the distinctiveness of a construct from other constructs. Although there are several methods to calculate discriminant validity, one of the highly recommended methods is

related to AVE. According to (Awang, 2014, 2015), discriminant validity is supported if the square root of the AVE for each construct is more than its correlation with any other construct. The AVE value must also be at least 0.5 (Fornell & Larcker, 1981), and is thus an indicator of discriminant validity (Byrne, 2013). In addition, discriminant validity is established “when all redundant items are either deleted or constrained as “free parameter” (Awang, 2015, p. 76).

Another method to examine the discriminant validity through AVE indicator, the value of each AVE should surpass the squared correlation between such constructs (Fornell & Larcker, 198; Hair *et al.*, 2010). In addition to that, the AVE value must be exceeding 0.5 (Byrne, 2013; Fornell & Larcker, 198; Hair *et al.*, 2010).

4.8.6 Construct Reliability

Reliability is a necessary but not sufficient condition for validity (Malhotra *et al.*, 2012). Reliability is an evaluation index of the internal consistency of measurement (Zikmund *et al.*, 2009). In quantitative research, reliability concentrates mainly on stability and consistency of the measurement (Sekaran & Bougie, 2013).

Cronbach's alpha (α) is one of the most commonly employed measurement techniques, and measures the consistency of the entire scale. This coefficient alpha (α) ranges in value from 0 to 1, and a value of 0.7 or more denotes

sufficient internal consistency (Hair *et al.*, 2010; Malhotra *et al.*, 2012; Zikmund *et al.*, 2009).

Another way to ensure the reliability is CR, which measures the internal consistency of a construct between items. In SEM, CR replaced the traditional method of computing (α). As a rule of thumb, internal consistency is confirmed when the CR values between variables are 0.6 (Awang, 2015) or 0.7 and above (Hair *et al.*, 2010). In addition, the CR test also provides evidence for convergent validity (Hair *et al.*, 2010). Furthermore, Awang (2015) indicated that AVE is also another criterion for evaluating the reliability. An AVE value > 0.5 and greater is required for every construct to prove internal consistency, which also supports the convergent validity of the construct (Hair *et al.*, 2010).

4.9 STRUCTURAL EQUATION MODELING (SEM)

Structural equation modeling is a multivariate statistical technique that is used to test and explain causal relationships among observed and latent variables (Byrne, 2013). Observed variables also called indicators or manifest variables, and are used as the measure of a latent construct (unobserved or factors) that cannot be measured directly (Hair *et al.*, 2010).

Khine (2013) compared SEM with older multivariate generation and highlighted some unique aspects of SEM: (1) SEM takes a confirmatory approach to reducing measurement error by specifying multiple indicators per latent variables. In contrast, the older generation techniques are exploratory

(descriptive), so hypothesis testing is considered difficult. (2) SEM provides explicit estimates of error variance parameters. Other multivariate techniques are not capable of either assessing or correcting for measurement error. (3) SEM procedures incorporate both unobserved (i.e. latent) and observed variables. Other multivariate techniques are based on observed measurements only. (4) SEM is capable of testing models with multivariate relations, and estimating the direct and indirect effects of variables under study.

According to Awang (2015), AMOS software is one of the newest programs developed for SEM, wherein a researcher could use AMOS graphic for modeling and analyzing the inter-relationships among latent constructs simultaneously, effectively, accurately, and efficiently (Lieberman, 2010). In dealing with SEM using AMOS, two main steps are necessary to handle the SEM approach. This two step approach includes: (1) validation of the measurement model by examining each cluster of observed variables individually through CFA and (2) fitting the structural relationships between latent variables through path analysis (Awang, 2015; Carvalho & Chima, 2014). The measurement model needs to be evaluated using CFA for unidimensionality, validity, and reliability prior to approaching the structural model. Then, the structural model is formulated based on the research hypotheses mentioned in the theoretical framework (Awang, 2015). In relationship to this, Hair *et al.* (2010) demonstrated six steps for examining measurement model validation with CFA. Steps 1 through 4 address testing the measurement model, while steps 5 and 6 involve linking the structural model constructs to each other as follows:

1. Defining individual constructs by listing the latent constructs that will cover the measurement model. At this step, all constructs must have previously achieved adequate validity;
2. Creating the overall measurement model. In this stage, unidimensionality and the number of items per each construct should be identified;
3. Designing the measurement model (CFA) to produce valid descriptive research. Prior to this, it is recommended to use a common scale (e.g., all 7 points) rather than using a different scale values and preferably to be an interval response. In addition, data should be drawn from multiple samples. Meaning that, performing CFA requires the use of data (e.g. field study) different than EFA data (e.g. pilot study). After that, the measurement model can be drawn using the graphical interface;
4. Evaluating measurement theory validity in terms of unidimensionality, validity, and reliability;
5. Specifying the structural model by transforming the measurement model to a structural model, using a path diagram; and
6. Evaluating the validity of the structural model and examining the hypotheses.

Based on the above discussion and, for the sake of demonstrating the effect of strategic factors (CRM, SQ, and innovation) on overall BE, Figure 4.1 illustrates the research framework constructs and their respective measures.

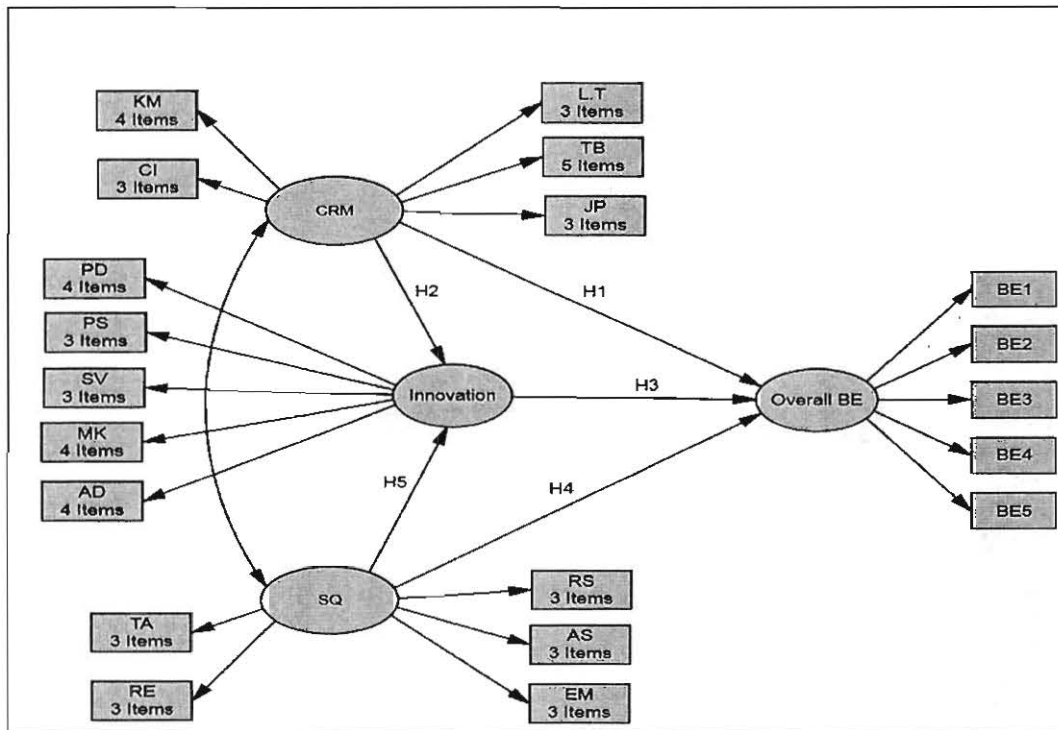


Figure 4.1

The Research Framework Constructs and their Respective Measures

According to Hair *et al.* (2010), the structure model differs from the measurement model in that “the emphasis moves from the relationship between latent constructs and measured variables to the nature and magnitude of the relationship between constructs” (p. 702). Referring to Figure 4.1, this study has proposed several hypotheses to be tested. Table 4.13 presents these hypotheses and their statistical methods of analysis, which will be employed in this study.

Table 4.13

The Research Hypotheses to be Tested and the Statistical Analysis to be Employed in this Study

Research Hypotheses		Statistical Analysis
H1	CRM has a significant effect on overall BE.	Path Analysis in SEM.
H2	CRM has a significant effect on innovation.	Path Analysis in SEM.
H3	Innovation has a significant effect on overall BE.	Path Analysis in SEM.
H4	SQ has a significant effect on overall BE.	Path Analysis in SEM.
H5	SQ has a significant effect on innovation.	Path Analysis in SEM.
H6	Innovation mediates the relationship between CRM and overall BE.	Path Analysis in SEM and Maximum Likelihood Estimation Bootstrapping.
H7	Innovation mediates the relationship between SQ and overall BE.	Path Analysis in SEM and Maximum Likelihood Estimation Bootstrapping.

To this end, the CFA is discussed in the next section 4.10, pooled measurement model is demonstrated in section 4.11, and structural model fitting is presented in section 4.12. Meanwhile, the CFA approach for validity tests is discussed in details in the following subsequent sections.

4.10 CONFIRMATORY FACTOR ANALYSIS (CFA)

The CFA is a special technique of factor analysis and is conducted to validate the latent construct before modeling in SEM to assess whether the indicator variables are satisfactory in defining the latent variable (Awang, 2015). In other words, the CFA approach is used to reduce the measurement error by using SEM to attain the model fit (Byrne, 2013) and to validate the measurement model (Awang, 2014, 2015). Generally, the exogenous latent construct is known as the independent variable, and the endogenous latent construct is known as the dependent variable whereas, the mediating latent construct acts as a dependent variable in the first equation and acts as an independent variable in the second equation (Awang, 2015).

CFA is a procedure conducted using the field study data to validate the measurement model of every latent construct involved in the study. The validation procedure will include an assessment for unidimensionality (which should be made first), validity, and reliability. Once validated, a need exists to develop the structural model and execute SEM to answer research questions and to test the research hypotheses (Awang, 2015). Meaning that, the study adopted the two-step approach of modeling.

In this regard, Awang (2014, 2015) and Hair *et al.* (2010) emphasized the fact that the measurement model of latent constructs needs to pass three types of validity, namely the construct validity, the convergent validity, and the discriminant validity. As stated previously, the construct validity is evaluated through GOF indices of the measurement model whereas the convergent validity is evaluated through calculating the AVE, and the discriminant validity is assessed through creating the discriminant validity index summary (square root of AVE for each construct is greater than its correlation with any other construct). Besides this, reliability is assessed through computing (α) (Hair *et al.*, 2010) and CR (Awang, 2015).

In addition, the unidimensionality assessment using SEM should also evaluate the parameter estimates and take into account the following issues:

1. The Standardized Regression Weights (SRW) or factor loading of latent variables to observed variables should be ≥ 0.5 , as suggested by Byrne (2013) and Hair *et al.* (2010) or 0.6 (Awang, 2015), and preferably ≥ 0.7 (Hair *et al.*, 2010).

2. The Squared Multiple Correlations (SMC) which is also known as Coefficient of Determination (R^2), the square of factor loadings (which represents the variance on an observed variable due to the latent variable) is considered weak when $SMC < 0.13$, moderate when $0.13 \leq SMC \leq 0.26$, and strong when $SMC > 0.26$ (Cohen, 1988).
3. The Critical Ratio (C.R) of $>\pm 1.96$ is an indicator of the parameter significance at $p = 0.05$ and $>\pm 2.56$ at $p = 0.01$ (Byrne, 2013; Hair *et al.*, 2010; Kline, 2011).
4. Standardized path coefficients with values less than 0.10 indicate a small practical significance effect, values around 0.3 indicate a medium effect and values > 0.5 indicate a large effect (Suhr, 2008).

However, where there are problematic model fit indices, and in order to improve the model fit, non-performing items (loading < 0.5) must be deleted (Hair *et al.*, 2010). If the GOF indexes do not satisfied the required level, then the highest values (> 15) of modification indices (MI) must be deleted until the GOF indices are improved. Alternatively, constrain a pair of redundant items as “free parameter estimate” in order to improve the model fit (Awang, 2015).

Based on the above discussion and looking back to Figure 4.1 (p. 241) in details, this study has four constructs, CRM and SQ (exogenous constructs), innovation (mediator construct), and overall BE (endogenous construct). The first exogenous construct CRM is a second order construct measured using five components, namely KM, customer involvement (CI), long -term

association (L.T), technology -based CRM (TB), and joint problem solving (JP). The second exogenous construct SQ is also a second order construct measured using five components: tangibility (TA), reliability (RE), responsiveness (RS), assurance (AS), and empathy (EM). The mediator construct (innovation) is also a second order construct measured using five components including product (PD), process (PS), service (SV), marketing (MK), and administrative innovation (AD). All components are measured using at least 3 measurement items which is in line with Hair *et al.* (2010) and Holtzman and Vezzu (2011) suggestions. Besides, the endogenous construct in the model is overall BE. This construct is a first order construct measured using 5 items in a questionnaire. All the measurement items used in this study are measured using interval scale which range from strongly agree (1) to strongly disagree (7). Thus, the measurement model is complicated in terms of number of constructs, sub-constructs, and their respective measuring items. In such a case, the study could evaluate the CFA for each measurement model individually and once the CFA for each construct is achieved the level of acceptance of validity and reliability and then, the study would integrate (pool) them together at the final stage in order to test the discriminant validity among constructs (Awang, 2014, 2015). Prior to testing the structural model, the study needs to prove that all constructs are discriminant from each other or they are not strongly correlated (correlation more than 0.85) particularly between the exogenous latent constructs (Awang, 2014, 2015; Hair *et al.*, 2010). In addition, the study needs to prove that all construct are normally distributed (Awang, 2015). The CFA procedure for validating the study constructs are discussed in the next sub-sections.

4.10.1 CFA for Validating Customer Relationship Management Construct

As has been stated earlier, the CRM is a second order construct with five sub-constructs measured using 18 items. Four items used to measure KM (KM1, KM2, KM3, and KM4); 3 items to measure customer involvement (CI1, CI2, and CI3); 3 items to measure long-term association, namely LT1, LT2, and LT3; 5 items to measure technology-based CRM (TB1, TB2, TB3, TB4, and TB5); and 3 items to measure joint problem solving (JP1, JP2, and JP3). It is worth noting that each sub-construct was measured using at least three measurement items as Hair *et al.* (2010) and Holtzman and Vezzu (2011) recommended. In Figure 4.2, the GOF indices, the factor loading for every sub-construct as well as the factor loading for every item are presented.

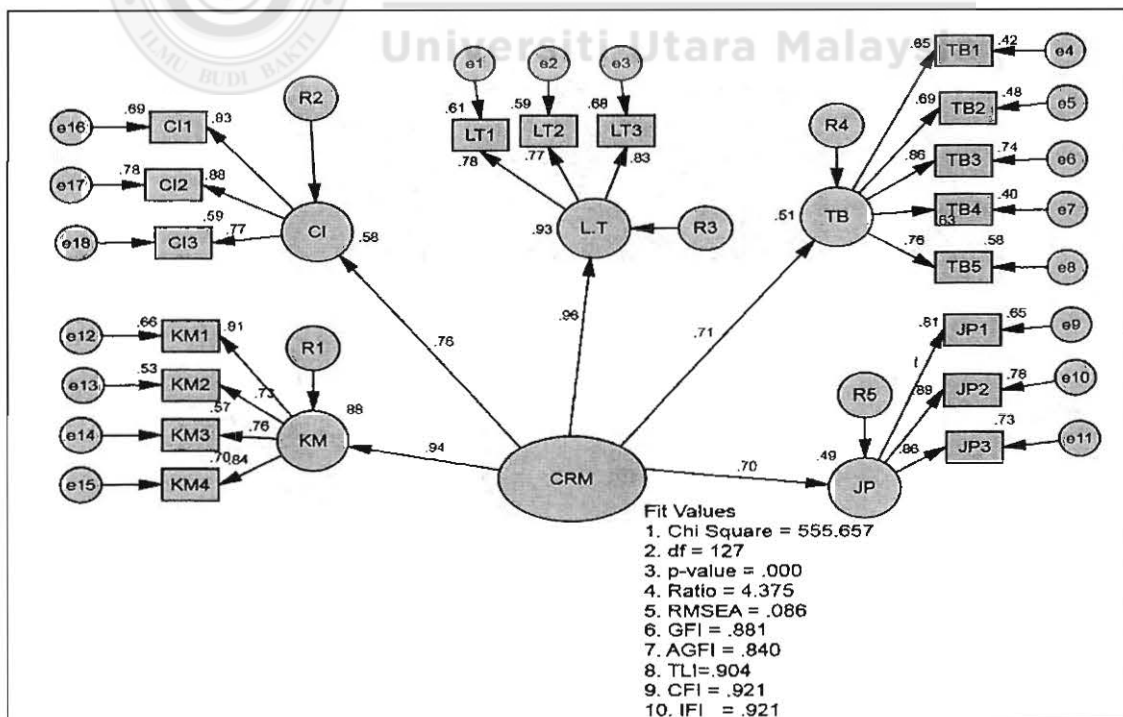


Figure 4.2
The Initial CFA Output for CRM Construct

To improve the unidimensionality, a widespread practice is to delete the problematic items with factor loading < 0.5 (Hair *et al.*, 2010). If the GOF indices do not attain the level of acceptance, then the highest values of MI must be deleted (one item at a time) or constrained as free parameter until the GOF indices are achieved (Awang, 2015). However, based on the CFA output, the factor loadings for all items were more than 0.5, but the GOF indices were still below the acceptable level and, therefore, this study decided to delete the highest values of MI. After deleting 2 redundant items in the model, KM4 and CI3, a satisfactory measurement model was produced with relatively a good fit as shown in Figure 4.3.

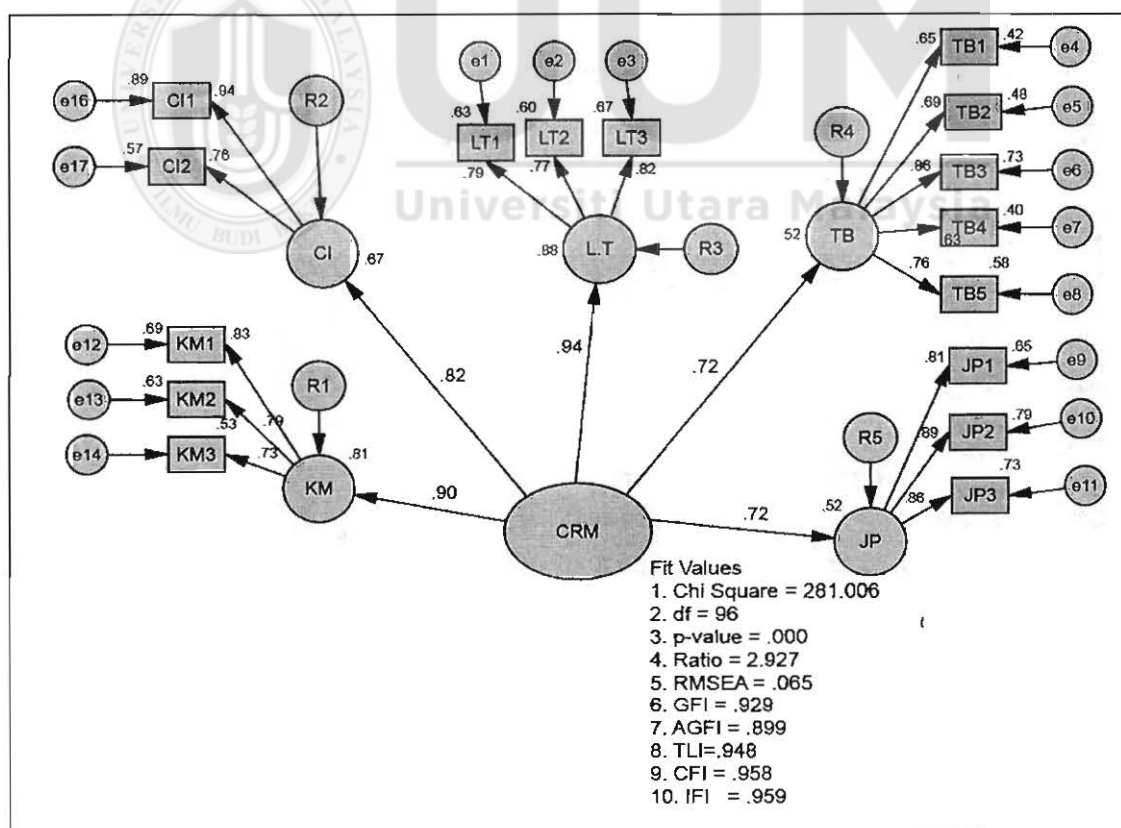


Figure 4.3
The New CFA Output for CRM Construct after e15 and e18 were deleted

Referring to Table 4.14, the new CFA estimation output for CRM shows that all the sub-constructs (5) and their respective measures (16) were valid, exceeding the cut off value of 0.5. For example, the factor loading of measurement items through SRW ranged between 0.63 and 0.94, which further supports the convergent validity and construct validity (Hair *et al.*, 2010). The SMC/R² values for all measurement items were strong > 0.26, ranging between 0.402 and 0.891, and their C.R values were greater than 1.96 ranging between 11.453 and 21.013 (reference points were excluded), indicating a highly significant value at $p < 0.001$.

Similar to the measurement items, the results indicated that CRM loads very well on its five components. The SRW of CRM on KM, CI, L.T, TB, and JP were 0.90, 0.82, 0.94, 0.72, and 0.72 respectively, supporting convergent validity and construct validity (Hair *et al.*, 2010). In addition, the SMC/R² for all components was strong > 0.26, ranging from 0.520 to 0.881, which reflects a high contribution of CRM on its components. Besides, the C.R values were between 10.801 and 16.175 (reference point was excluded) and were greater than the 1.96 associated with a highly significant value at $p < 0.001$.

Validity testing regarding the convergence of the entire construct for each component showed AVE values of 0.615 (KM), 0.731 (CI), 0.630 (L.T), 0.523 (TB), and 0.729 (JP). This shows acceptable convergent validity with values of more than 0.5, fulfilling the threshold value suggested by Awang (2015), Fornell and Larcker (1981), and Hair *et al.* (2010), in addition, this further

supports discriminant validity (Fornell & Larcker, 1981) and reliability (Awang, 2015).

As for the examination of reliability, CR and alpha (α) were calculated. The results showed excellent reliability with CR and an (α) value > 0.70 , exceeding the minimum cut-off value indicated by Hair *et al.* (2010). For instance, the internal consistency for KM, CI, L.T, TB, and JP showed CR values of 0.827, 0.843, 0.836, 0.844, and 0.890, respectively.

Table 4.14
Validity Tests for CRM Construct

Construct	Item	Factor Loading (SRW)	SMC (R ²)	C.R	P	Status	AVE > 0.5	CR > 0.7	(α) > 0.7
CRM	KM	0.90	0.814	Reference point			0.681	0.913	0.867
	CI	0.82	0.674	16.175	***	Sig.			
	L.T	0.94	0.881	15.348	***	Sig.			
	TB	0.72	0.522	10.801	***	Sig.			
	JP	0.72	0.520	12.788	***	Sig.			
KM	KM1	0.83	0.688	Reference point			0.615	0.827	0.827
	KM2	0.79	0.630	18.352	***	Sig.			
	KM3	0.73	0.534	16.575	***	Sig.			
	KM4	Deleted							
CI	CI1	0.94	0.891	Reference point			0.731	0.843	0.832
	CI2	0.76	0.570	17.357	***	Sig.			
	CI3	Deleted							
L.T	LT1	0.79	0.629	Reference point			0.630	0.836	0.854
	LT2	0.77	0.597	19.711	***	Sig.			
	LT3	0.82	0.668	17.753	***	Sig.			
TB	TB1	0.65	0.417	Reference point			0.523	0.844	0.855
	TB2	0.69	0.476	14.920	***	Sig.			
	TB3	0.86	0.734	14.110	***	Sig.			
	TB4	0.63	0.402	11.453	***	Sig.			
	TB5	0.76	0.583	13.228	***	Sig.			
JP	JP1	0.81	0.653	Reference point			0.729	0.890	0.885
	JP2	0.89	0.785	21.013	***	Sig.			
	JP3	0.86	0.731	20.315	***	Sig.			

To further confirm the construct validity, Awang's (2014, 2015) rule was followed in what construct validity is achieved when the GOF indices for a construct have achieved the minimum level of acceptance. An examination of GOF indices as shown in Figure 4.3 (p. 247) and supported in Table 4.15, verified that the measurement model of CRM achieved the requirement for construct validity (Awang, 2014, 2015). For example, in the Absolute Fit category, the ratio (2.927) was lower than the threshold of 3, RMSEA (0.065) was less than the threshold of 0.08, GFI (0.929) was greater than 0.9. In the same line, the Parsimonious Fit category, namely AGFI (0.899) showed an acceptable value, which was very close to threshold of 0.9 and in line with Awang's (2015) and Sharma's (1996) recommendation. In terms of the Incremental Fit category, TLI (0.948), CFI (0.958), and IFI (0.959) had values greater than the threshold of 0.90.

Table 4.15
Summary of GOF for CRM

Name of Category	Name of Index	Level of Acceptance	Index Value	Comments
Chi-square Index	χ^2	Any model should include χ^2 value	281.006	The required index value is reported.
	df	Any model should include df value	96	The required index value is reported.
	p-value	$p > 0.05$. However, it is not applicable for sample size greater than 200	$0 < 0.05$	The required index value is reported.
Absolute Fit	Ratio	< 3	2.927	The required level of acceptance is achieved.
	RMSEA	< 0.08	0.065	The required level of acceptance is achieved.
	GFI	> 0.9	0.929	The required level of acceptance is achieved.

Table 4.15 (Continued)

Name of Category	Name of Index	Level of Acceptance	Index Value	Comments
Parsimonious Fit	AGFI	> 0.9	0.899	The required level of acceptance is achieved (e.g. Sharma, 1996).
Incremental Fit	TLI	> 0.9	0.948	The required level of acceptance is achieved.
	CFI	> 0.9	0.958	The required level of acceptance is achieved.
	IFI	> 0.9	0.959	The required level of acceptance is achieved.

On the whole, the conclusion can be made that the measurement model of CRM achieved the requirement for unidimensionality, validity, and reliability. Of the 18 items used to measure CRM construct, only two items were deleted. Thus, 16 items remained.

4.10.2 CFA for Validating Service Quality Construct

As has been explained earlier, the SQ is a second order construct with five sub-constructs measured using 15 items. These five sub-constructs and their respective measures were labeled as follows: (1) tangibility (TA) measurement items were labeled in terms of TA1, TA2, and TA3; (2) reliability (RE) measurement items were coded in consequence from RE1 to RE3; (3) responsiveness (RS) indicators were labeled in terms of RS1, RS2, and RS3; (4) assurance (AS) indicators were coded from AS1 to AS3; and (5) empathy (EM) measurement items were labeled as follows (EM1, EM2, and EM3). It is worth noticing that, 3 items were used to measure each sub-construct, which is in line with Hair *et al.* (2010) and Holtzman and Vezzu (2011) suggestion. In Figure 4.4, the GOF indices, the factor loading for every sub-construct as well as the factor loading for every item are presented.

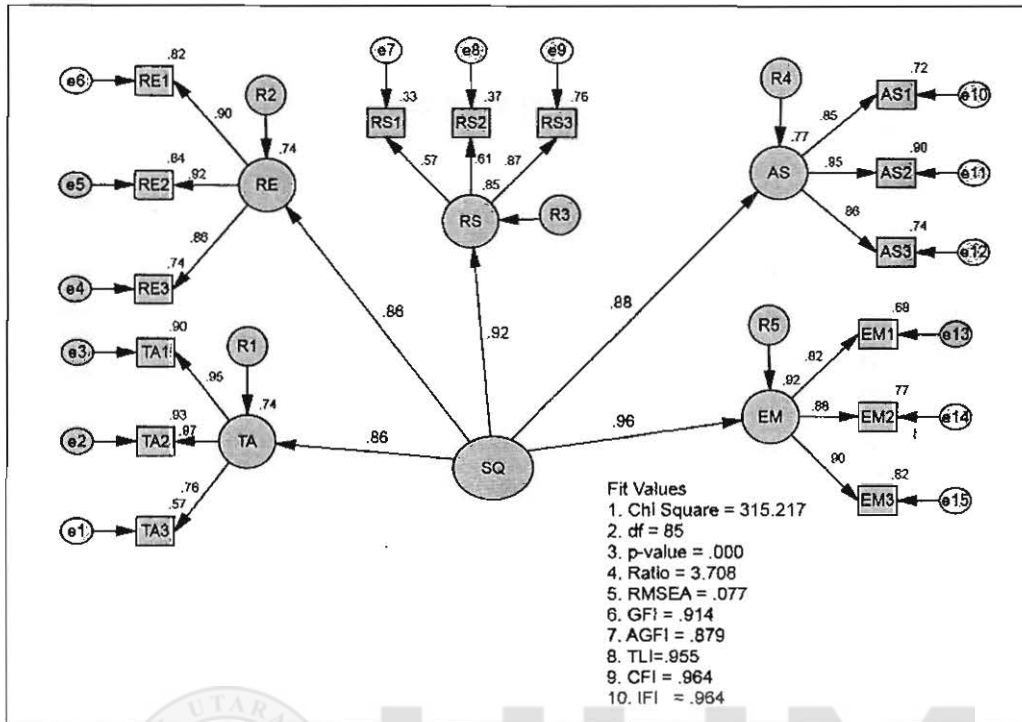


Figure 4.4
The Initial CFA Output for SQ Construct

In order to improve the unidimensionality, a common practice is to delete the problematic items with factor loading < 0.5 (Hair *et al.*, 2010). If the GOF indices do not attain the level of acceptance, then the highest values of MI must be deleted (one item at a time) or constrained as free parameter until the GOF indices are achieved (Awang, 2015). However, based on the CFA output, the factor loadings for all items were above 0.5, but the GOF indices were still below the acceptable level and, therefore, this study decided to delete the highest values of MI. After deleting 4 redundant items in the model, RE2, RS1, AS1, and EM3, a satisfactory measurement model was produced with a relatively good fit as shown in Figure 4.5.

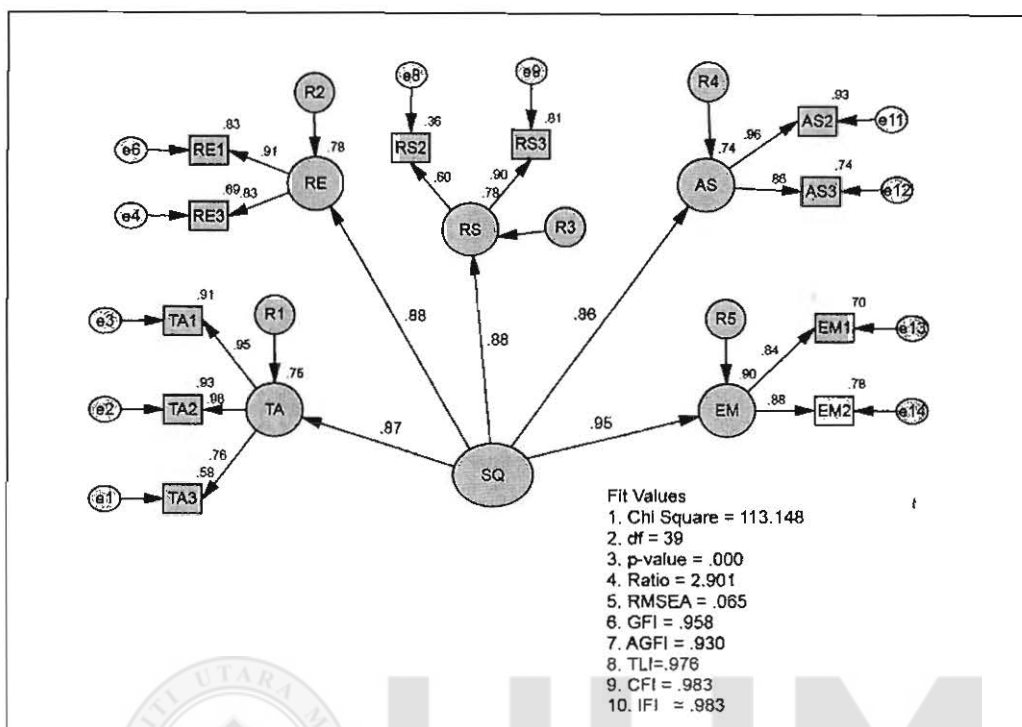


Figure 4.5

The New CFA Output for SQ Construct after e10, e5, e15, and e7 were deleted

Table 4.16 shows that all SQ sub-constructs (5) and their respective measures (11) were valid, exceeding the cut off value of 0.5. For example, the factor loading of measurement items through SRW ranged between 0.60 and 0.96, which further supports the convergent validity and construct validity (Hair *et al.*, 2010). The SMC/ R^2 values for all measurement items were strong > 0.26 , which were within the range of 0.363 to 0.928, and their C.R values were greater than 1.96, falling within the range of 12.762 to 44.291 (reference points were excluded), indicating a highly significant value at $p < 0.001$.

Similar to the measurement items, the results indicated that SQ loads very well on its five components. The SRW of SQ on TA, RE, RS, AS, and EM were 0.87, 0.88, 0.88, 0.86, and 0.95 respectively, supporting convergent validity and construct validity (Hair *et al.*, 2010). In addition, the SMC/R² for all components was strong > 0.26, in the range of 0.737 to 0.902, which indicates a high contribution of SQ on its five components. Besides, the C.R values were between 11.732 and 20.886 (reference point was excluded) and were greater than the 1.96 associated with a highly significant value at $p < 0.001$.

Validity testing regarding the convergence of the entire sub-constructs for TA, RE, RS, AS, and EM showed AVE values of 0.801, 0.759, 0.585, 0.831, and 0.740, respectively. This shows acceptable convergent validity with values above 0.5, fulfilling the threshold value suggested by Awang (2015), Fornell and Larcker (1981), and Hair *et al.* (2010), in addition, this further supports both of discriminant validity (Fornell & Larcker, 1981) and reliability (Awang, 2015).

As for reliability examination, CR and alpha (α) were calculated. The results showed excellent reliability with CR and an (α) value > 0.70, exceeding the minimum cut-off value indicated by Hair *et al.* (2010). For instance, the internal consistency for each component showed acceptable CR values of 0.923 (TA), 0.862 (RE), 0.731 (RS), 0.907 (AS), and 0.851 (EM). All of the above explanations can also be seen in Table 4.16.

Table 4.16
Validity Tests for SQ Construct

Construct	Item	Factor Loading (SRW)	SMC (R2)	C.R	P	Status	AVE > 0.5	CR > 0.7	(α) > 0.7
SQ	TA	0.87	0.751	Reference point			0.790	0.949	0.913
	RE	0.88	0.779	20.067	***	Sig.			
	RS	0.88	0.783	11.732	***	Sig.			
	AS	0.86	0.737	20.886	***	Sig.			
	EM	0.95	0.902	19.583	***	Sig.			
TA	TA1	0.95	0.909	Reference point			0.801	0.923	0.919
	TA2	0.96	0.926	44.291	***	Sig.			
	TA3	0.76	0.577	22.692					
RE	RE1	0.91	0.832	Reference point			0.759	0.862	0.862
	RE2	Deleted							
	RE3	0.83	0.689	22.195	***	Sig.			
RS	RS1	Deleted					0.585	0.731	0.704
	RS2	0.60	0.363	Reference point					
	RS3	0.90	0.813	12.762	***	Sig.			
AS	AS1	Deleted					0.831	0.907	0.906
	AS2	0.96	0.928	Reference point					
	AS3	0.86	0.740	26.566	***	Sig.			
EM	EM1	0.84	0.702	Reference point			0.740	0.851	0.849
	EM2	0.88	0.775	22.670	***	Sig.			
	EM3	Deleted							

In order to further confirm the construct validity, following the rule recommended by Awang (2014, 2015); construct validity is achieved when the GOF indices for a construct have achieved the minimum level of acceptance. An examination of GOF indices as shown in Figure 4.5 (p. 253) and also supported in Table 4.17, verified that the measurement model of SQ achieved the requirement for construct validity (Awang, 2014, 2015). For example, in the Absolute Fit category, the ratio (2.901) was lower than the threshold of 3, RMSEA (0.065) was less than the threshold of 0.08, GFI (0.958) was greater than 0.9. In the same line, the Parsimonious Fit category, namely AGFI (0.930) showed a value greater than the threshold of 0.9. In terms of the

Incremental Fit category, TLI (0.976), CFI (0.983), and IFI (0.983) had values greater than the threshold of 0.90.

Table 4.17
Summary of GOF for SQ

Name of Category	Name of Index	Level of Acceptance	Index Value	Comments
Chi-square Index	χ^2	Any model should include χ^2 value	113.148	The required index value is reported.
	df	Any model should include df value	39	The required index value is reported.
	p-value	$p > 0.05$. However, it is not applicable for sample size greater than 200	$0 < 0.05$	The required index value is reported.
Absolute Fit	Ratio	< 3	2.901	The required level of acceptance is achieved.
	RMSEA	< 0.08	0.065	The required level of acceptance is achieved.
	GFI	> 0.9	0.958	The required level of acceptance is achieved.
Parsimonious Fit	AGFI	> 0.9	0.930	The required level of acceptance is achieved.
Incremental Fit	TLI	> 0.9	0.976	The required level of acceptance is achieved.
	CFI	> 0.9	0.983	The required level of acceptance is achieved.
	IFI	> 0.9	0.983	The required level of acceptance is achieved.

In summary, it can be concluded that the measurement model of SQ achieved the requirement for unidimensionality, validity, and reliability. Out of 15 items used to measure SQ construct, only four items were deleted. Thus, 11 items remained.

4.10.3 CFA for Validating Innovation Construct

As has been mentioned earlier, the innovation is a second order construct with five sub-constructs measured using 18 items, namely: (1) product (PD) was

measured using 4 items (PD1, PD2, PD3, and PD4); (2) process (PS) was measured using 3 measurement items (PS1, PS2, and PS3); (3) service (SV) of innovation was measured through 3 items (SV1, SV2, and SV3); (4) marketing (MK) was measured using 4 items (MK1, MK2, MK3, and MK4); and administrative (AD) of innovation was measured using 4 items (AD1, AD2, AD3, and AD4). In relationship to this, it is worth mentioning that each sub-construct was measured using at least three measurement items as Hair *et al.* (2010) and Holtzman and Vezzu (2011) suggestion. In Figure 4.6, the GOF indices, the factor loading for every sub-construct as well as the factor loading for every item are presented.

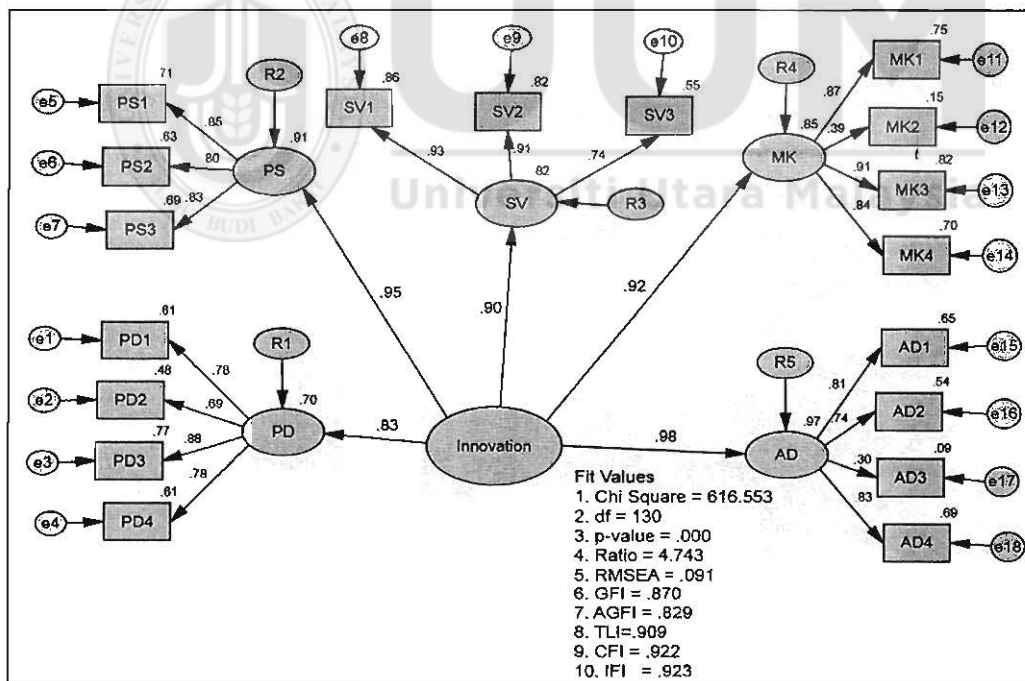


Figure 4.6
The Initial CFA Output for Innovation Construct

To improve the unidimensionality, a widespread practice is to delete the problematic items with factor loading < 0.5 (Hair *et al.*, 2010). If the GOF indices do not attain the level of acceptance, then the highest values of MI must be deleted (one item at a time) or constrained as free parameter until the GOF indices are achieved (Awang, 2015). However, based on the CFA output, the factor loadings for all items were more than 0.5, except MK2 (0.39) and AD3 (0.30). Therefore, two items were deleted at the first run and followed by deleting 3 redundant items (PS2, SV3, and PD1), and thus, a satisfactory measurement model was produced with a relatively good fit as shown in Figure 4.7.

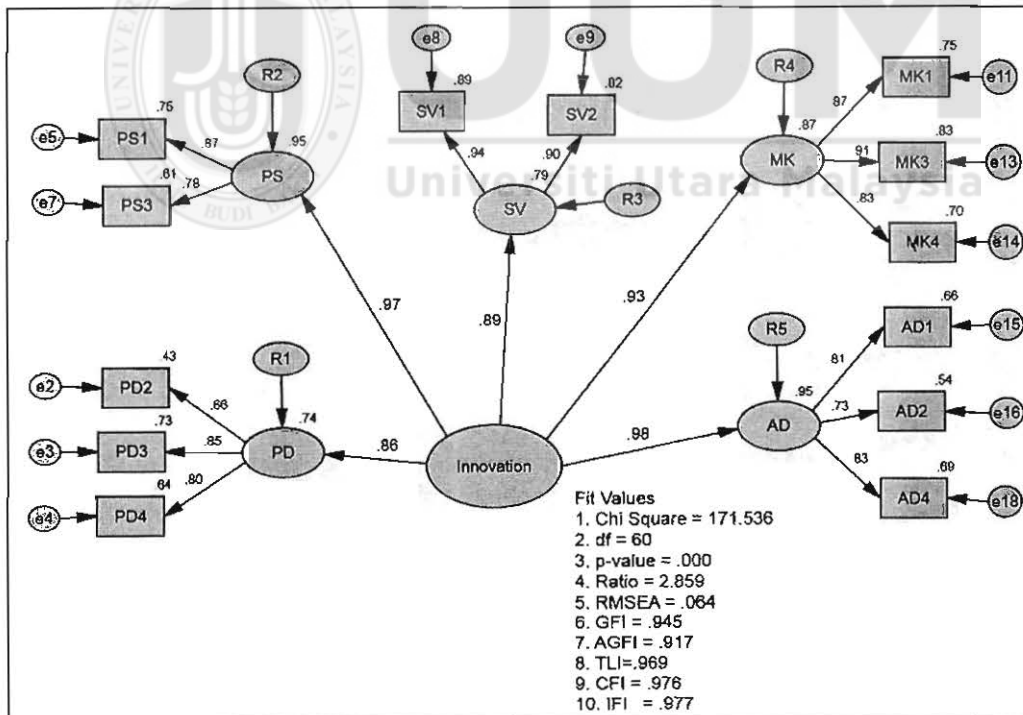


Figure 4.7

The New CFA Output for Innovation Construct after MK2, AD3, e6, e10, and e1 were deleted

Table 4.18 summarizes the results extracted from CFA estimation output. The output shows that all the sub-constructs (5) of innovation and their respective measures (13) were valid, exceeding the cut off value of 0.5. For example, the factor loading of measurement items through SRW ranged between 0.66 and 0.94, which further supports the convergent validity and construct validity (Hair *et al.*, 2010). The SMC/R² values for all measurement items were strong > 0.26, ranged between 0.431 and 0.889, and their C.R values were greater than 1.96 ranging between 14.231 and 30.806 (reference points were excluded), indicating a highly significant value at $p < 0.001$.

Similar to the measurement items, the results indicated that innovation loads very well on its five components. The SRW of innovation on PD, PS, SV, MK, and AD were 0.86, 0.97, 0.89, 0.93, and 0.98 respectively, supporting convergent validity and construct validity (Hair *et al.*, 2010). In addition, the SMC/R² for all components was strong > 0.26, in the range of 0.739 to 0.954, which reflects a high contribution of innovation on its respective components. Besides, the C.R values were between 13.099 and 13.590 (reference point was excluded), were greater than the 1.96 associated with a highly significant value at $p < 0.001$.

Validity testing regarding the convergence of the entire construct for each component showed AVE values of 0.599 (PD), 0.683 (PS), 0.847 (SV), 0.758 (MK), and 0.626 (AD). This shows acceptable convergent validity with values of more than 0.5, fulfilling the threshold value suggested by Awang (2015), Fornell and Larcker (1981), and Hair *et al.* (2010), in addition, this further

confirms discriminant validity (Fornell & Larcker, 1981) and construct reliability (Awang, 2015).

As for the examination of reliability, CR and alpha (α) were calculated. The results showed excellent reliability with CR and an (α) value > 0.70 , exceeding the minimum cut-off value indicated by Hair *et al.* (2010). For instance, the internal consistency for PD, PS, SV, MK, and AD showed CR values of 0.816, 0.811, 0.917, 0.904, and 0.833, respectively.

Table 4.18
Validity Tests for Innovation Construct

Construct	Item	Factor Loading (SRW)	SMC (R2)	C.R	P	Status	AVE > 0.5	CR > 0.7	(α) > 0.7
Innovation	PD	0.86	0.739	Reference point			0.860	0.968	0.931
	PS	0.97	0.945	13.590	***	Sig.			
	SV	0.89	0.785	13.527	***	Sig.			
	MK	0.93	0.865	13.276	***	Sig.			
	AD	0.98	0.954	13.099	***	Sig.			
PD	PD1	Deleted					0.599	0.816	0.807
	PD2	0.66	0.431	Reference point					
	PD3	0.85	0.730	14.830	***	Sig.			
	PD4	0.80	0.642	14.231	***	Sig.			
PS	PS1	0.87	0.752	Reference point			0.683	0.811	0.807
	PS2	Deleted							
	PS3	0.78	0.611	20.226	***	Sig.			
SV	SV1	0.94	0.889	Reference point			0.847	0.917	0.917
	SV2	0.90	0.818	30.806	***	Sig.			
	SV3	Deleted							
MK	MK1	0.87	0.751	Reference point			0.758	0.904	0.904
	MK2	Deleted							
	MK3	0.91	0.832	27.118	***	Sig.			
	MK4	0.83	0.697	23.073	***	Sig.			
AD	AD1	0.81	0.662	Reference point			0.626	0.833	0.838
	AD2	0.73	0.540	17.348	***	Sig.			
	AD3	Deleted							
	AD4	0.83	0.690	20.527	***	Sig.			

To further confirm the construct validity, Awang's (2014, 2015) rule was followed in what construct validity is achieved when the GOF indices for a construct have achieved the minimum level of acceptance. An examination of GOF indices as shown in Figure 4.7 (p. 258) and supported in Table 4.19, verified that innovation achieved the requirement for construct validity (Awang, 2014, 2015). For example, in the Absolute Fit category, the ratio (2.859) was lower than the threshold of 3, RMSEA (0.064) was less than the threshold of 0.08, GFI (0.945) was greater than 0.90. In the same line, the Parsimonious Fit category, namely AGFI (0.917) showed an acceptable value, exceeding the threshold of 0.9. In terms of the Incremental Fit category, TLI (0.969), CFI (0.976), and IFI (0.977) had values greater than the threshold of 0.90.

Table 4.19
Summary of GOF for Innovation

Name of Category	Name of Index	Level of Acceptance	Index Value	Comments
Chi-square Index	χ^2	Any model should include χ^2 value	171.536	The required index value is reported.
	df	Any model should include df value	60	The required index value is reported.
	p-value	$p > 0.05$. However, it is not applicable for sample size greater than 200	$0 < 0.05$	The required index value is reported.
Absolute Fit	Ratio	< 3	2.859	The required level of acceptance is achieved.
	RMSEA	< 0.08	0.064	The required level of acceptance is achieved.
	GFI	> 0.9	0.945	The required level of acceptance is achieved.
Parsimonious Fit	AGFI	> 0.9	0.917	The required level of acceptance is achieved.
Incremental Fit	TLI	> 0.9	0.969	The required level of acceptance is achieved.
	CFI	> 0.9	0.976	The required level of acceptance is achieved.
	IFI	> 0.9	0.977	The required level of acceptance is achieved.

Overall, the conclusion can be made that the measurement model of innovation achieved the requirement for unidimensionality, validity, and reliability. Of the 18 items used to measure innovation construct, five items were deleted and thus, 13 items remained.

4.11 POOLED MEASUREMENT MODEL

As has been mentioned earlier, the discriminant validity among all latent constructs in the model must be evaluated. For this purpose, the study must pool all constructs together and run the CFA at once using the method popularly known as Pooled-CFA (Awang, 2014, 2015). Because the constructs are second-order, it would be too complicated to integrate all of them together; the study must simplify all second-order constructs to become first order. Thus, the study needs to calculate the composite mean for every component of the measurement model (Awang, 2015). The simplified measurement model for each construct in a pooled measurement model is shown in Figure 4.8.

An examination of the Pooled-CFA measurement model is considered important because the output derived is essential in identifying the reliability and validity of the construct, specifically in the calculation of AVE and CR. The confirmed items and retained items derived are also the only ones used in the structural model.

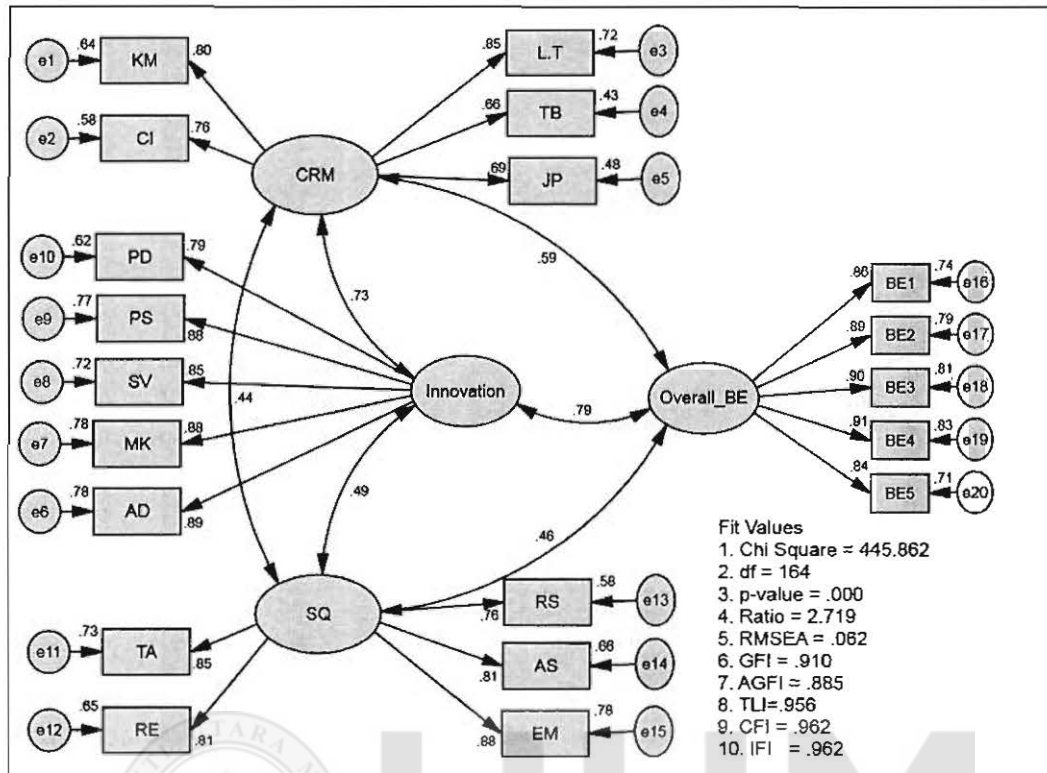


Figure 4.8
Pooled Measurement Model through Pooled-CFA

In order to further assess the unidimensionality, the factor loading value should be at least 0.5 or above (Hair *et al.*, 2010). Based on the CFA results, as shown in Figure 4.8 as well supported in Table 4.20, the factor loadings for all dimensions were more than 0.5, ranging between 0.66 and 0.91, which further support the convergent validity and construct validity (Hair *et al.*, 2010). Besides, the SMC/R² values for all sub-constructs were greater than 0.26, ranging between 0.431 and 0.827, which reflect a high contribution of each construct on its respective components. In addition, the C.R values were between 14.407 and 27.524 (reference points were excluded) and were greater than the 1.96, indicating a highly significant value at $p < 0.001$.

In terms of convergent validity, the AVE values for all pooled-CFA constructs were between 0.570 and 0.775 and were greater than the threshold value of 0.5 (Awang, 2015; Fornell & Larcker, 1981; Hair *et al.*, 2010), indicating a fulfillment of convergent validity. This further supports both of discriminant validity (Fornell & Larcker, 1981) and internal consistency (Awang, 2015).

Reliability testing regarding the consistency of the entire constructs for CRM, SQ, innovation, and overall BE showed CR and alphas (α) values of (CR = 0.868, (α) = 0.867), (CR = 0.913, (α) = 0.913), (CR = 0.933, (α) = 0.931), and (CR = 0.945, (α) = 0.945), respectively. This demonstrates excellent reliability with CR and an (α) value more than 0.7, exceeding the cut-off value highlighted by Hair *et al.* (2010). The results for AVE, CR, and (α) are tabulated in Table 4.20.

Table 4.20
Validity Tests for the Pooled-CFA Constructs

Construct	Item	Factor Loading (SRW)	SMC (R ²)	C.R	P	Status	AVE > 0.5	CR > 0.7	(α) > 0.7
CRM	KM	0.80	0.639	Reference point			0.570	0.868	0.867
	CI	0.76	0.584	17.326	***	Sig.			
	L.T	0.85	0.724	19.701	***	Sig.			
	TB	0.66	0.431	14.407	***	Sig.			
	JP	0.69	0.482	15.407	***	Sig.			
SQ	TA	0.85	0.731	Reference point			0.677	0.913	0.913
	RE	0.81	0.651	20.978	***	Sig.			
	RS	0.76	0.580	19.202	***	Sig.			
	AS	0.81	0.656	21.109	***	Sig.			
	EM	0.88	0.781	24.324	***	Sig.			
Innovation	PD	0.79	0.624	Reference point			0.738	0.933	0.931
	PS	0.88	0.771	21.583	***	Sig.			
	SV	0.85	0.721	20.621	***	Sig.			
	MK	0.88	0.778	21.729	***	Sig.			
	AD	0.89	0.783	21.829	***	Sig.			

Table 4.20 (Continued)

Construct	Item	Factor Loading (SRW)	SMC (R ²)	C.R	P	Status	AVE > 0.5	CR > 0.7	(α) > 0.7
Overall BE	BE1	0.86	0.744	Reference point			0.775	0.945	0.945
	BE2	0.89	0.785	26.122	***	Sig.			
	BE3	0.90	0.814	27.084	***	Sig.			
	BE4	0.91	0.827	27.524	***	Sig.			
	BE5	0.84	0.708	23.652	***	Sig.			

To further ascertain the pooled constructs validity, Awang's (2014, 2015) rule was followed in what construct validity is achieved when the GOF indices for a construct have achieved the minimum level of acceptance. An assessment of GOF indices as clearly shown in Figure 4.8 (p. 263) and indicated in Table 4.21, verified that the measurement model of pooled constructs achieved the requirement for construct validity (Awang, 2014, 2015). For example, in the Absolute Fit category, the ratio (2.719) was lower than the threshold of 3, RMSEA (0.062) was less than the threshold of 0.08, GFI (0.910) was greater than 0.90. In the same line, the Parsimonious Fit category, namely AGFI (0.885) showed an acceptable value, which was very close to threshold of 0.9 and in line with Awang's (2015) and Sahrma's (1996) recommendation and Hair *et al.*'s (2010) suggestion. In terms of the Incremental Fit category, TLI (0.956), CFI (0.962), and IFI (0.962) had values greater than the threshold of 0.90.

Table 4.21
Summary of GOF for the Pooled-CFA Constructs

Name of Category	Name of Index	Level of Acceptance	Index Value	Comments
Chi-square Index	χ^2	Any model should include χ^2 value	445.862	The required index value is reported.
	df	Any model should include df value	164	The required index value is reported.
	p-value	$p > 0.05$. However, it is not applicable for sample size greater than 200	$0 < 0.05$	The required index value is reported.
Absolute Fit	Ratio	< 3	2.719	The required level of acceptance is achieved.
	RMSEA	< 0.08	0.062	The required level of acceptance is achieved.
	GFI	> 0.9	0.910	The required level of acceptance is achieved.
Parsimonious Fit	AGFI	> 0.9	0.885	The required level of acceptance is achieved (e.g. Sharma, 1996).
Incremental Fit	TLI	> 0.9	0.956	The required level of acceptance is achieved.
	CFI	> 0.9	0.962	The required level of acceptance is achieved.
	IFI	> 0.9	0.962	The required level of acceptance is achieved.

In regards to discriminant validity test, a method of Awang (2014, 2015) is used. The discriminant validity is fulfilled when the square root of AVE of the respective construct surpassed its correlation with any construct, taking into consideration, the correlation between exogenous latent constructs should not exceed 0.85. Therefore, the discriminant validity summary index was developed to confirm that each measure's were more related to their own respective constructs than to other constructs. For that, Table 4.22 shows that the square root of AVE value at the diagonal bold is greater than other values in its row and column and thus, discriminant validity is supported in this model.

Table 4.22

The Discriminant Validity Summary Index for all Constructs

Construct	CRM	SQ	Innovation	Overall BE
CRM	0.75			
SQ	0.44	0.82		
Innovation	0.73	0.49	0.86	
Overall BE	0.59	0.46	0.79	0.88

The method of Byrne (2013) also confirms the discriminant validity. The AVE values of CRM (0.570), SQ (0.677), innovation (0.738), and overall BE (0.775) were greater than 0.5 (Fornell & Larcker, 1981) and therefore, provide a further evidence for discriminant validity.

Furthermore, since SEM employs a statistical approach of modeling, Awang (2015) emphasized examining the normality distribution of all the measurement items measuring the latent construct before modeling the structural equation model and running SEM. According to this, by following the rule recommended by Awang (2015), “for a sample size greater than 200, the researcher could proceed further analysis with the absolute skewness up to 1.5” (p. 79). Table 4.23 shows that the values of skewness for all items are within the range of -1.5 and 1.5, concluding that the data does not depart from normality.

Table 4.23

Normality Assessment for all Variables in the Model

Variable	Skewness	C.R	Kurtosis	C.R
AD	-0.694	-6.034	-0.071	-0.309
MK	-0.706	-6.14	-0.267	-1.162
SV	-0.598	-5.203	-0.127	-0.55
PS	-0.696	-6.058	-0.093	-0.403
PD	-0.663	-5.765	0.284	1.234
RE	-0.194	-1.691	-1.396	-6.071
TA	-0.094	-0.821	-1.21	-5.261
EM	-0.009	-0.08	-1.361	-5.918
AS	0.026	0.222	-1.291	-5.615
RS	0.036	0.31	-1.144	-4.974
CI	0.403	3.509	-0.287	-1.246
KM	0.396	3.443	-0.223	-0.971
JP	-0.165	-1.437	-0.32	-1.393
TB	0.032	0.282	-0.57	-2.48
L.T	-0.062	-0.54	-0.537	-2.335
BE5	-1.013	-8.808	0.062	0.271
BE4	-0.966	-8.4	-0.171	-0.744
BE3	-0.871	-7.574	-0.206	-0.896
BE2	-0.988	-8.593	0.274	1.193
BE1	-0.875	-7.615	-0.039	-0.171
Multivariate			50.29	18.061

To conclude, the Pooled-CFA validity was established in this study by confirming unidimensionality, validity, reliability, and normality. So far, of the 56 items used in this study to validate the proposed constructs, 11 items (19.6%) were deleted and therefore, 40 items remained. This shows minor modification to the measurement model validity assessment as stated clearly by Hair *et al.* (2010) who said that “if more than 20% of the measured variables are deleted, then the modifications cannot be considered minor” (p. 682).

4.12 STRUCTURAL MODEL AND STRUCTURAL EQUATION MODELING

A structural model was developed in order to execute SEM analysis for the purpose of testing the research hypotheses. For this reason, the exogenous constructs (CRM and SQ) are linked to the mediator construct (innovation) and to the endogenous construct (overall BE), using single headed arrow to reflect the causal effect. In the same time, the mediator construct (innovation) is also linked to the endogenous construct (overall BE) using a single headed arrow to reflect the direct effect of innovation on overall BE. Meanwhile, the exogenous variables (CRM and SQ) are correlated using double headed arrow to reflect the correlation effect and to evaluate the multicollinearity assumption. Again, the full structural model comprising of the direct and hypothesized paths is assessed to produce the final results.

Observing from Figure 4.9, the factor loading values exceeded the recommended value of 0.5 (Hair *et al.*, 2010), ranging from 0.66 to 0.91. In addition, the SMC/R² readings ranged between 0.43 and 0.83, indicating a strong contribution of each construct on its respective measures. A further evaluation of correlation between exogenous variables failed to identify multicollinearity effects due to the fact that, the correlation value between CRM and SQ (0.44) was less than threshold of 0.85, which further proves the discriminant validity (Awang, 2015).

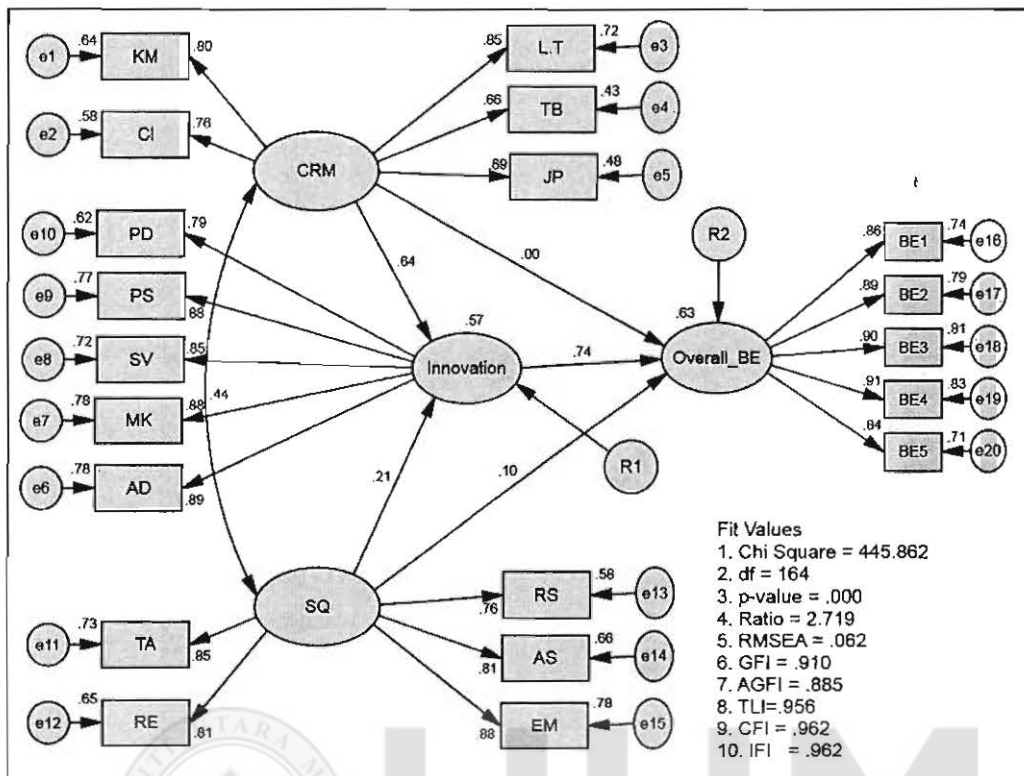


Figure 4.9
Structural Hypothesized Model

Furthermore, the structural hypothesized model above shows a good model fit indices without any modifications. For instance, the Absolute Fit category represented by the ratio, RMSEA, and GFI were 2.719, 0.062, and 0.910, respectively; thus achieving all the thresholds. Similarly, the Parsimonious Fit category, AGFI is achieved at 0.885 (Awang, 2015; Hair *et al.*, 2010; Sharma, 1996). The Incremental Fit category, TLI (0.956), CFI (0.962), and IFI (0.962) had values greater than the benchmark of 0.90. All the aforesaid GOF can be also followed in Table 4.24.

Table 4.24
Summary of GOF for the Structural Hypothesized Model

Name of Category	Name of Index	Level of Acceptance	Index Value	Comments
Chi-square Index	χ^2	Any model should include χ^2 value	445.862	The required index value is reported.
	df	Any model should include df value	164	The required index value is reported.
	p-value	P > 0.05. However, it is not applicable for sample size greater than 200	0 < 0.05	The required index value is reported.
Absolute Fit	Ratio	< 3	2.719	The required level of acceptance is achieved.
	RMSEA	< 0.08	0.062	The required level of acceptance is achieved.
	GFI	> 0.9	0.910	The required level of acceptance is achieved.
Parsimonious Fit	AGFI	> 0.9	0.885	The required level of acceptance is achieved (e.g. Sharma, 1996).
Incremental Fit	TLI	> 0.9	0.956	The required level of acceptance is achieved.
	CFI	> 0.9	0.962	The required level of acceptance is achieved.
	IFI	> 0.9	0.962	The required level of acceptance is achieved.

In view of SRW for every path in the model (Figure 4.9), CRM showed SRW values of 0.64 (innovation) and 0.00 (overall BE) while, SQ signified SRW values of 0.21 (innovation) and 0.10 (overall BE). For innovation, the SRW on overall BE was 0.74.

Moreover, the coefficient determination or SMC/R² for the model (which explains the total variance caused by the exogenous constructs on the endogenous and demonstrates in percentage) was 63%. This value indicates that CRM and SQ together with innovation manage to estimate 63% of the overall BE. Similarly, 57% variance in innovation was explicated by two

exogenous constructs namely, CRM and SQ. Both values (63% and 57%) were above expected value of ≥ 0.10 (Falk & Miller, 1992).

In a nutshell, it can be concluded that the model did a good overall fit, and it was further assumed that the subsequent hypotheses results would be valid and reliable which lead to generalization of these results (Hair *et al.*, 2010).

4.13 HYPOTHESES TESTING

SEM was employed to test 5 direct hypotheses, and 2 indirect hypotheses between CRM and SQ as exogenous constructs; innovation as a mediator, and overall BE as an endogenous variable. The tests of direct hypotheses and indirect hypotheses are presented in the following subsections based on the regression path coefficients table.

4.13.1 Direct Hypotheses Testing

Direct effects in SEM are tested via hypotheses that directly connect a latent construct to another latent construct. In testing the hypotheses, regression path coefficient indicators were used, namely Estimate Coefficient Beta (β), Standard Error of Regression Weight (S.E), C.R, and the level of significance for regression weight/probability value (p). Considering this, Figure 4.10 shows the regression path coefficients for the structural hypothesized model, and Table 4.25 presents the results of direct hypotheses and the decision made.

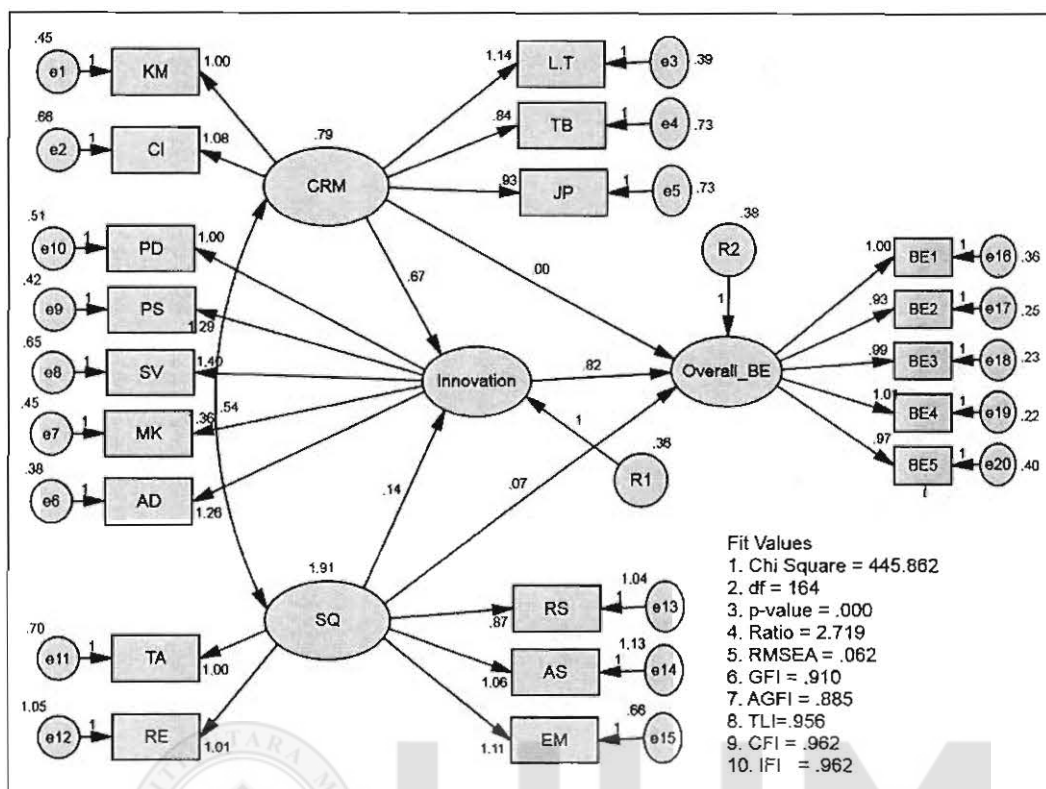


Figure 4.10

The Regression Path Coefficients for the Structural Hypothesized Model

Noting the output in Table 4.25, there were five direct hypotheses (from H1 to H5); of these four hypotheses were supported while one hypothesis was not supported.

Table 4.25

Direct Hypotheses Results

Hypothesized Coefficients Path	Estimate (β)	S.E.	C.R.	P	Result	Decision
H1 CRM → Overall BE	0.000	0.063	-0.004	0.997	Insignificant	Not supported
H2 CRM → Innovation	0.666	0.055	12.083	***	Significant	Supported
H3 Innovation → Overall BE	0.817	0.071	11.468	***	Significant	Supported
H4 SQ → Overall BE	0.075	0.029	2.568	0.01**	Significant	Supported
H5 SQ → Innovation	0.138	0.028	4.859	***	Significant	Supported

*** Significant at 0.001

** Significant at 0.01

In terms of CRM effects, the finding showed that CRM and overall BE had no significant relationship in the Jordanian context. The output of this relationship is statistically shown as ($\beta = 0.000$, C.R= -0.004, $p > 0.05$), and therefore, hypothesis H1 was not supported. Meanwhile, CRM was found to have a significant positive effect on innovation ($\beta = 0.666$, C.R= 12.083, $p < 0.001$). This finding substantively supports hypothesis H2.

Innovation was found to have a significant effect on overall BE ($\beta = 0.817$, C.R= 11.468, $p < 0.001$), and thus, H3 is well supported. Considering SQ effects, the findings show that there were significant and positive effects between SQ and overall BE ($\beta = 0.075$, C.R= 2.568, $p < 0.01$). SQ was also found to have a significant and positive effect on innovation ($\beta = 0.138$, C.R= 4.859, $p < 0.001$). These findings substantively support hypotheses H4 and H5.

4.13.2 Indirect Hypotheses Testing

In the present study, innovation mediates the relationship between exogenous constructs (CRM and SQ) and endogenous variable (overall BE). Therefore, SEM approach was used through AMOS v23 to test the mediation effect because it is considered a preferable application for mediation analysis which has multiple variables or latent constructs (Awang, 2015).

Awang (2014, 2015) proposed a method for complex models known as triangle method; first, testing the mediation effect is based on a standardized estimate of beta also known SRW and their probability value (p) for each path.

The mediation effect only occurs if the indirect effect is greater than direct effect. At the same time, if the direct effect is still significant, the mediation is known “partial mediation”, but if the direct effect is reduced but no longer significant, then the mediation is known “complete mediation”. Taking into consideration the results obtained from triangle method need to be re-asserted using the Preacher and Hays (2008) bootstrapping method.

Bootstrapping is considered a powerful re-sampling technique that estimates parameters and their standard errors firmly from a sample (Awang, 2015; Preacher & Hayes, 2008). Bootstrapping is also a preferred strategy for computing more accurate confidence intervals for indirect effects in comparison with other methods, such as the causal steps strategy and the Sobel test (Baron & Kenny, 1986). This is because bootstrapping does not assume normality (Hayes, 2009; Preacher & Hayes, 2008; Preacher & Selig, 2012). According to Preacher and Hayes (2008, p. 886), "bootstrapping provides the most powerful and reasonable method of obtaining confidence limits for specific indirect effects under most conditions, so our primary recommendation is to use bootstrapping—in particular, BC bootstrapping—whenever possible” and Hayes (2009) added that “ bootstrapping is one of the more valid and powerful methods for testing intervening variable effects (MacKinnon *et al.*, 2004; Williams & MacKinnon, 2008) and, for this reason alone, it should be the method of choice” (p. 412).

For bootstrap using AMOS, the number of sampling distribution (1000 times), and bias-corrected confidence intervals (95%) were used in this study in line

with (Awang, 2015; Preacher & Hayes, 2008) recommendations. In the same context, Awang (2015) clearly indicated that “the significance of indirect effect indicates the mediation exists, and the significance or insignificance of direct effects indicates the type of mediation” (p. 123). Therefore, both values of standardized direct effect and standardized indirect effect in addition to their two tailed-significance level are required for mediation testing using bootstrap method.

Overall, this study investigates two mediating effects. The details of the mediation results are hereby presented accordingly.

4.13.2.1 Mediating Effects of Innovation between CRM and Overall Brand Equity

The first mediating test has to deal with innovation as a mediator between CRM and overall BE. Table 4.26 presents the SRW for every path in the model and their p values as extracted from Figure 4.9 (p. 270).

Table 4.26
Standardized Regression Weights (SRW) and its Probability Value (p)

Construct	Path	Construct	Std. Estimate	P	Result
CRM	→	Overall BE	0.000	0.997	Insignificant
CRM	→	Innovation	0.642	***	Significant
Innovation	→	Overall BE	0.742	***	Significant
SQ	→	Overall BE	0.101	0.01	Significant
SQ	→	Innovation	0.207	***	Significant

Figure 4.11 presents the triangle method procedures as proposed by Awang (2014, 2015). The result implied that the indirect path from CRM to overall BE through innovation ($\beta = 0.474$) was greater than the direct path from CRM to overall BE ($\beta = 0.00$). Therefore, the mediation was assured. The type of mediation is full mediation because the direct path from CRM to overall BE remained insignificant after innovation (mediator) joining the model at $p > 0.05$.

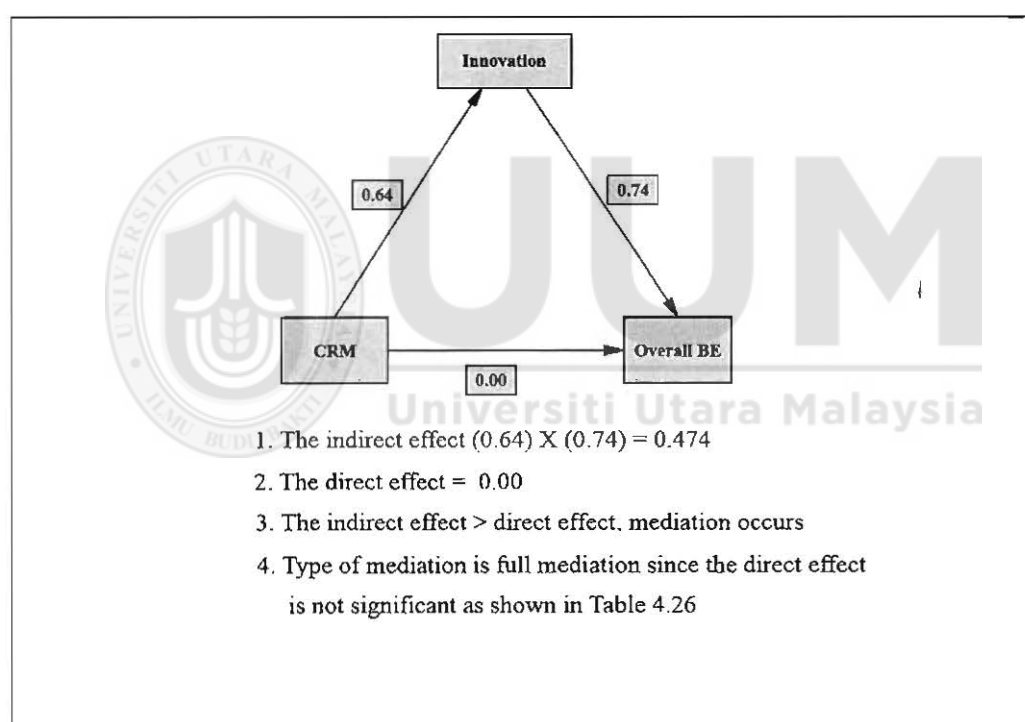


Figure 4.11

Triangle Method-Mediating Role of Innovation between CRM and Overall BE

The results further confirmed using bootstrapping method. Table 4.27 reveals that innovation fully mediated the relationship between CRM and overall BE since the direct path was insignificant. Therefore, the result is compatible with triangle method resulted in Figure 4.11. To conclude, H6 was supported.

Table 4.27

Summary-Mediating Effect of Innovation between CRM and Overall Brand Equity

	Indirect Effect	Direct Effect
Bootstrapping Results	0.476	0.000
Bootstrapping P-value	0.002	0.986
Result	Significant	Insignificant
Type of Mediation	Full mediation since direct effect is not significant	

4.13.2.2 Mediating Effects of Innovation between SQ and Overall Brand Equity

The second mediating test has to deal with innovation as a mediator between SQ and overall BE. Figure 4.12 shows that innovation mediated the relationship between SQ and overall BE. The result indicated that the indirect effect (SQ to overall BE) through innovation ($\beta = 0.155$) was higher than the direct effect ($\beta = 0.10$). Thus, the mediation was determined. The type of mediation is partial mediation since the direct effect was still significant at $p < 0.01$ (Table 4.26, p. 276).

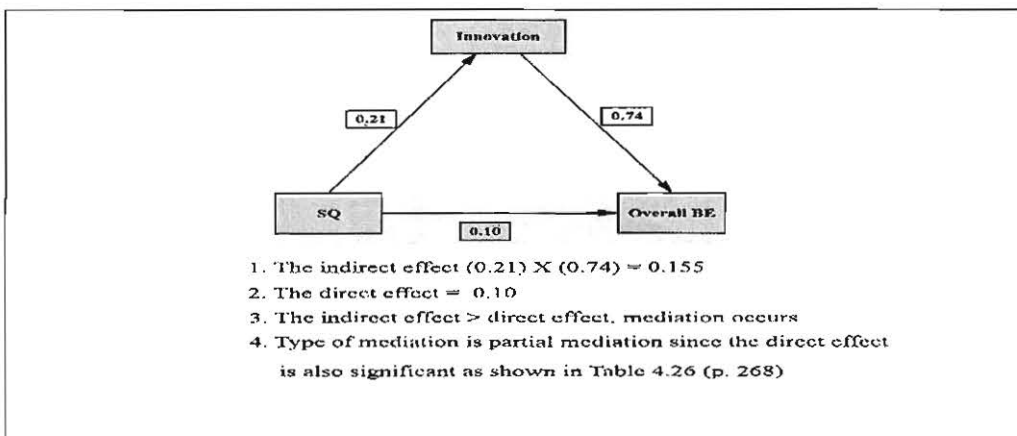


Figure 4.12

Triangle Method-Mediating Role of Innovation between SQ and Overall BE

Similarly, the result further supported using bootstrapping method. It can be seen from Table 4.28 that innovation acts as a partial mediator between SQ and overall BE. Both bootstrapping values of standardized direct effect ($\beta = 0.101$) and standardized indirect effect ($\beta = 0.154$) were significant at 0.003 and $0.001 < 0.01$, respectively. Thus, this result is consistent with triangle method and further proved H7.

Table 4.28

Summary-Mediating Effect of Innovation between SQ and Overall Brand Equity

	Indirect Effect	Direct Effect
Bootstrapping Results	0.154	0.101
Bootstrapping P-value	0.001	0.003
Result	Significant	Significant
Type of Mediation	Partial mediation since direct effect remains significant	

4.14 CHAPTER SUMMARY

This chapter has demonstrated the statistical data analysis and results of the present study. SPSS v23 and AMOS v23 software were used in agreement. Out of the 650 questionnaires, 500 cases were randomly obtained. Only 491 usable questionnaires were implemented in the analysis and extra 37 questionnaires were omitted due to outliers, thus 454 questionnaires remained. In general terms, this number is considered valid to run SEM analysis.

There was no statistical difference between morning and afternoon respondents in terms of demographic characteristics or proposed variables, thus, confirming the generalization of the results of this research. In the same vein, descriptive statistics among respondents in relation to demographics and

variables were significant for attaining study objectives. Underlying assumptions of normality, linearity, homoscedasticity, and multicollinearity were detected and the findings confirmed that the assumptions in general were fulfilled.

Confirmatory Factor Analysis (CFA) conducted on latent constructs in order to test the goodness of measures in terms of construct validity, convergent validity, and discriminant validity, validating the measurement models for further analysis. Composite reliability, Average Variance Extract (AVE), and the Cronbach alpha technique were also used to identify internal consistency between measurements, thus assuring reliability.

The final structural model was presented based on the maximum likelihood estimation approach. Besides, the chapter presents the direct and indirect hypothesized statistical results. The outputs reveal that SQ and innovation significantly enhanced overall equity of the brand; similarly, SQ and CRM enhanced innovation while CRM did not yield significant effect. In addition, the results in this chapter provide empirical evidences on the mediating role of innovation as a mediator between CRM and overall brand equity as well as SQ and overall brand equity. A thorough discussion of the results is presented in the following chapter.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 INTRODUCTION

This chapter begins with a recapitulation of the findings. This is followed by a comprehensive discussion of the main findings, and then the study contributions, research limitations, and future research recommendations are highlighted. The conclusion of the study is also presented at the end of this chapter.

5.2 RECAPITULATION OF THE MAIN STUDY FINDINGS

The study presents fruitful insights into branding context, as well as CRM, SQ, and innovation perspectives. Based on CBBE theory, this study investigated the mediator impact of innovation on the CRM and SQ towards BE in the context of medical tourism. Seven research objectives were specified, as follows:

1. To examine whether CRM has a significant effect on BE;
2. To examine whether CRM has a significant effect on innovation;
3. To examine whether innovation has a significant effect on BE;
4. To examine whether SQ has a significant effect on BE;
5. To examine whether SQ has a significant effect on innovation;
6. To examine the mediating effects of innovation between CRM and BE;
and
7. To examine the mediating effects of innovation between SQ and BE.

After adopting and/ or adapting valid scale items, a medical tourist survey was developed and employed using an interval scale (7-point) validated through statistical techniques in the pilot study. Proceeding further, the field study (650 questionnaires) was conducted among medical tourists being treated in five private hospitals in Amman using systematic random sampling, leading to 589 returned questionnaires. From the created sampling frame, 500 respondents were selected randomly for the data analysis. After a data cleaning procedure, 454 usable questionnaires employed for subsequent analysis. Descriptive statistics were reported and underlying assumptions associated with regression analysis were fulfilled. CFA was undertaken to examine the factorial validity, construct validity, convergent validity, discriminant validity, and construct reliability for every construct using AMOS v23 SEM software. Upon satisfactory assessment of these constructs, GOF was estimated for the measurement model (as proposed in the model of the study) which further resulted in developing structural model, which was then employed for hypotheses testing.

In this study, the GOF indices that were subjected to CFA of both measurement and structural models showed a relatively good model fit as confirmed by ratio < 3 , RMSEA < 0.08 , GFI > 0.9 , AGFI > 0.9 , TLI > 0.9 , CFI > 0.9 , and IFI > 0.9 . A summary of the GOF model is shown in Table 5.1.

Table 5.1
Summary of GOF of Measurement and Structural Models

CFA	Original Items	Remained Items	Ratio < 3	RMSEA < 0.08	GFI > 0.9	AGFI > 0.9	TLI > 0.9	CFI > 0.9	IFI > 0.9
CRM	18	16	2.927	0.065	0.929	0.899	0.948	0.958	0.959
SQ	15	11	2.901	0.065	0.958	0.930	0.976	0.983	0.983
Innovation	18	13	2.859	0.064	0.945	0.917	0.969	0.976	0.977
Overall BE	5	5	-	-	-	-	-	-	-
Pooled-CFA Model	56	45	2.719	0.062	0.910	0.885	0.956	0.962	0.962
Structural Model	56	45	2.719	0.062	0.910	0.885	0.956	0.962	0.962

Furthermore, this study demonstrated a variance of 63% for overall BE and 57% for innovation. Regarding the hypothesized effects under this study, which includes direct and mediating path, the key findings are presented in Table 5.2.

Table 5.2
Summary of the Study Hypotheses

No.	The Hypotheses	Results
H1	CRM has a significant effect on overall BE	Insignificant
H2	CRM has a significant effect on innovation	Significant
H3	Innovation has a significant effect on overall BE	Significant
H4	SQ has a significant effect on overall BE	Significant
H5	SQ has a significant effect on innovation	Significant
H6	Innovation mediates the relationship between CRM and overall BE	Significant
H7	Innovation mediates the relationship between SQ and overall BE	Significant

Responding to the objectives of this research, the results showed that the medical tourists' CRM insignificantly influenced the overall BE (objective 1) while, CRM was found to be an important predictor for innovation (objective 2). Interestingly, innovation was found to be the strongest source predicting the overall BE (objective 3). With regard to the fourth and fifth objectives of this research, the findings show that SQ was a significant determinant for overall BE and

innovation, respectively. Of 5 direct hypotheses, only 4 hypotheses were found to be significant. Lastly, for the mediator role of innovation (objectives 6 and 7), the findings indicated that innovation mediates the relationship between CRM and overall BE. Similarly, innovation was also found to be a partial mediator of the relationship between SQ and overall BE.

5.3 DISCUSSION

This section discusses in detail the examination of the context of medical tourism regarding the effect of CRM and SQ in innovation and overall BE; the effect of innovation in influencing overall BE; and the effect of innovation in mediating the relationship between CRM and SQ towards overall BE.

5.3.1 The Effects of Customer Relationship Management on Overall Brand Equity

The existing literature has showed that CRM is a main determinant of BE development (Abbasi *et al.*, 2014; Ghazian *et al.*, 2016; Gholami, 2017; Kim *et al.*, 2008); however, there is very little empirical research in this area (Chahal, 2010; Keller & Lehmann 2006; King, 2017; Sehhat, 2013). Further empirical research is needed to examine the relationship between CRM and BE building (Agariya & Singh, 2013; Chahal, 2010; Kumar *et al.*, 2011; Rahimi *et al.*, 2017). The first objective of this research was particularly concerned with the contribution of CRM to BE formation. This study was conducted to examine the effect of CRM on overall BE in Jordanian medical tourism.

The findings of the SEM using AMOS implied that the study examined the effect of CRM on overall BE under the acceptable model fit: χ^2 (445.5862), df (164), ratio (2.719), RMSEA (0.062), GFI (0.910), AGFI (0.885), TLI (0.956), CFI (0.962), and IFI (0.962). The outcomes demonstrated that CRM insignificantly predicted overall BE (H1) with a (β) value of 0.000 and $p > 0.05$. Thus, H1 was not supported.

This clarifies that a valid concentration on CRM activities by a healthcare provider in terms of KM, customer involvement, long-term association, joint problem solving, and technology-based CRM will not improve the building of overall BE in terms of the integration of loyalty, associations/awareness, and quality. In simple words, healthcare-medical tourism providers with CRM implementation strategy does not have a corresponding effect on overall BE amongst medical tourists.

This result is contrary to the agreement tailored by Akroush *et al.* (2011) and Sin *et al.* (2005), that CRM organizations work with activities relating to understanding customer needs, and developing personalized products/services corresponding to their needs, and presenting a good customer contact environment are more likely to maintain long-lasting relationship with customers, which in turn lead to higher long-term BE performance.

This result is also inconsistent with the argument put forward by Battor and Battor (2010) that is, maintaining stronger relationships with customers is a competitive source of advantage within a firm, and the ability to translate that relationship into

added value BE strategy is considered to result in competitive performance enhancement.

This result further conflicts with those of Hu *et al.* (2015) who believed that building strong relationships with customers through customer knowledge-experience with the support of more advanced technology associated with customer involvement in value creation and joint problem solving, as well as mutual levels of long-term association, and the potential effect of healthcare providers to gain insight into customer tastes and preferences could increase, which as a result could qualify them to be more effective in responding to those preferences that lead to positive medical tourist perception towards service brands and thus successful brands.

This insignificant effect of CRM confirms similar results suggested by Deepa and Chitramani (2016) in their CRM-branding interrelationship investigation. Although the empirical study of Smith and Chang (2010) was in a different research stream, their results further demonstrated that CRM is insignificant in affecting firm subjective performance. A simple interpretation of the insignificant finding is that it could be due to the negative medical tourist experience of a healthcare brand or negative brand contact during the service. Put simply, the insignificant results of CRM could be associated with a negative perception of the CRM-brand experience (Keller, 2013).

Another explanation for this result is that CRM implementation demands more resources (e.g. human resources), more changes in behaviors and values, and more flexible structure particularly in the healthcare context. These demands are centralized at the top level of management authority, which in turn made CRM more difficult to success (Ata & Toker, 2012). In addition, most of the medical tourism providers in this study market their medical tourism industry, relying on traditional methods, which in turn damage medical tourism BE (Alabdallat, 2015; Yoo *et al.*, 2000). Besides, the blurring connection between marketing promises could also harm the credibility of medical brands (Jalkala & Salminen, 2008; Keller, 2013).

Furthermore, marketing activities (e.g., CRM) do not have to be seen as equal to competitors. CRM capabilities that are unique remain a source of competitive advantage only if direct competitors have not copied or imitated them. In such way, “they may then be willing to base their evaluations and decisions on other factors potentially more favorable to the brand” (Keller, 2013, p.84).

Cross-culture and perceptual differences between medical tourists may also provide a reasonable explanation for the effectiveness of marketing programs (Yoo & Donthu, 2002). Besides, CRM implementation may differ from context to context therefore, the results may also be dissimilar (Ata & Toker, 2012; ElKordy, 2014). However, the non-significant power of CRM on BE when examined in a multivariate context does not denote it is not important which in line with Hair *et al.* (2010) observation that “relationships among the independent variables may

mask or confound relationships that are not needed for predictive purposes but represent substantive findings nonetheless” (p. 167).

In short, this study demonstrates that CRM is not a direct predictor in the relationship with BE building, from the perspective of medical tourists and thus, presents remarkable evidence of the insignificant effect, particularly for the Jordanian medical tourism providers. Therefore, it is vital for healthcare providers to have a better understanding of the limitation of its CRM strategy in that it's narrowly influences their BE.

5.3.2 The Effects of Customer Relationship Management on Innovation

According to Battor and Battor (2010), superior innovation performance is strongly dependent on CRM, however, to some extent, there are still very few empirical studies that have examined the relationship between CRM and innovation capabilities (Ghafari *et al.*, 2011; Rahimi *et al.*, 2017; Tehrani *et al.*, 2015), particularly in healthcare-medical tourism (Hu *et al.*, 2015; Kumar *et al.*, 2011). Further empirical research is still needed to examine the relationship between CRM and innovation (Lin *et al.*, 2010; Toma *et al.*, 2014). The second objective of this research was particularly concerned with the contribution of CRM to innovation. This study attempted to examine the effect of CRM on innovation in Jordanian medical tourism.

The findings of SEM using AMOS showed that the study practically examined the effect of CRM on innovation measured by product, process, service, marketing, and administrative innovation under the acceptable model fit: χ^2 (445.5862), df

(164), ratio (2.719), RMSEA (0.062), GFI (0.910), AGFI (0.885), TLI (0.956), CFI (0.962), and IFI (0.962). CRM was found to have a positively significant effect on innovation (H2) with a (β) value of 0.666 and $p < 0.001$. H2 was thus supported.

The results support those of Ghafari *et al.* (2011) and Toma *et al.* (2014), who argued that healthcare providers concerned with CRM activities will directly enhance their innovation abilities in terms of product, process, service, marketing, and administrative innovation. This study has demonstrated that innovation is the consequences of CRM (Battor & Battor, 2010; Chen *et al.*, 2011; Mugdadi, 2015). The results further strengthen the important role of CRM as a key driver of innovation development (Chen *et al.*, 2011; Fazlzadeh *et al.*, 2011; Ghafari *et al.*, 2011, Jalali & Sardari, 2015, Shofiah, 2017) and the need for managing CRM as a strategic asset (Akroush *et al.*, 2011; Jalkala & Salminen, 2008; Sin *et al.*, 2005).

The findings of this study also support the views of Al-Hawary and Aldaihani (2016) and Chen *et al.* (2011), who postulated that CRM provides an opportunity for healthcare providers to gather valuable customer-related information and to translate this information into innovative products and services that meet or exceed customer expectations and thereby satisfy customer needs. The study results also clearly strengthen the argument by D'Costa and Colaco (2014), who highlighted that healthcare providers that use CRM for building and maintaining strong relationships with customers are in a much better position to design new products and innovative services, to decrease the time spent on various medical procedures and patient inquiries, to target various patients with the right marketing

programs, and to check the effectiveness of care given to patients. CRM is thus seen as an effective strategy for enhancing innovation.

Interestingly, the inclusion of CRM provided an interesting result as well as can highly enhance innovation. More specifically, CRM has a greater direct effect on medical tourists' innovation. Compared with the effect of SQ ($\beta = 0.138$), its influence is stronger with a (β) value of 0.666. This result in line with Battor and Battor (2010), who further indicated that CRM strongly enhanced innovation in their CRM-innovation integration study. This implies that healthcare providers with a thorough understanding of the needs and wants of medical tourists are more likely to innovate.

On the whole, this study re-asserts the suggestions that CRM significantly enhances the development of innovation (product, process, service, marketing, and administrative), especially in the context of healthcare-medical tourism.

5.3.3 The Effects of Innovation on Overall Brand Equity

Several scholars have suggested that innovation is important for BE success (Atashfaraz & Abadi, 2016; Hanaysha & Hilman, 2015b, 2015c; Shiau, 2014). More broadly, further empirical study is required to investigate the effect of innovation on business overall BE (Henard & Dacin, 2010; Keller & Lehmann 2006; Pappu & Quester, 2016) and that it is not limited to developed countries (Ernst *et al.*, 2015; O'Cass & Sok, 2013). The third research question was particularly concerned with the effects of innovation on BE building. This study examined the effect of innovation measured by product, process, service,

marketing, and administrative innovation on overall BE in Jordanian medical tourism.

The outcomes of SEM using AMOS implied that the study investigated the effect of innovation on overall BE under the acceptable model fit: χ^2 (445.5862), df (164), ratio (2.719), RMSEA (0.062), GFI (0.910), AGFI (0.885), TLI (0.956), CFI (0.962), and IFI (0.962). The findings demonstrated that innovation positively and significantly enhanced overall BE (H3) with a (β) value of 0.817 and $p < 0.001$, and thus, H3 was supported.

The presentation of innovation as a critical strategic driver for BE success supports the argument of existing literature (e.g. Chien, 2013; Hanaysha & Hilman, 2015b, 2015c; Hanaysha *et al.*, 2014; Opuni *et al.*, 2014; Shiau, 2014). For example, Kiumarsi, Jayaraman, and Isa (2015) suggested that the introduction of innovative healthcare capabilities is a powerful source of developing a global brand with strong equity (Hanaysha & Hilman, 2015c), especially in high-tech service industries (Kim & Huarng, 2011). Evidently, this study supported the idea that innovation is essential for BE building in developing markets.

The results further support the argument by Keller and Lehmann (2006), who demonstrated that the inclusion of innovation is a common added value creation strategy for brand differentiation and competitive superiority. In relation to this, innovation appears to be a strategic factor for BE formation. Isa *et al.* (2017) claimed that the introduction of innovative products/services associated with advanced technology features and high quality standards may significantly

enhance the perceptions of patients and improve their overall impression about the medical tourism brands, and this would definitely influence their brand choice and brand evaluation. Therefore, the consideration that innovation is a significant determinant of BE building (Keller, 2013; Kiumarsi, Isa, & Jayaraman, 2015; Sriram *et al.*, 2007) was highlighted in this study.

The innovation construct provided an interesting result as well as it can strongly predict overall BE. More specifically, innovation was found to have a significant effect on medical tourists' overall BE. Compared with the effect of SQ ($\beta = 0.075$), its contribution is stronger with (β) value of 0.817. This result is consistent with the results of Opuni *et al.* (2014) in their predictive study of performance by innovation-branding interrelationship. Thus, this finding clearly indicates that a greater degree of innovative healthcare services will result in a greater degree of BE which further leads to a higher frequency of medical tourists flow.

To conclude, the outcomes agree with acknowledgement that the assessment of innovation in a healthcare context is a direct predictor of overall BE, specifically from the perspective of medical tourists. Therefore, it is vital for a healthcare provider to consider implementing the innovation strategy, particularly in the setting of medical tourism.

5.3.4 The Effects of Service Quality on Overall Brand Equity

Many scholars have demonstrated that SQ is an important antecedent of BE (Aaker, 1991, 1996, 2010; Grönroos 1984; Keller, 1993, 2013). Many empirical studies have strongly recommended investigating the effect of SQ on BE

formation, using different contexts and different cultural settings (Akdeniz & Calantone, 2017; Ha, 2009; Hanaysha & Hilman, 2015c; Ming *et al.*, 2012). The fourth objective of this research was particularly concerned with the contribution of SQ to BE development. This study was conducted to examine the effect of CRM on overall BE in the medical tourism industry in Jordan.

In investigating the direct path between SQ and overall BE, the findings of the SEM using AMOS implied that the study examined the effect of CRM on overall BE under the acceptable model fit: χ^2 (445.5862), df (164), ratio (2.719), RMSEA (0.062), GFI (0.910), AGFI (0.885), TLI (0.956), CFI (0.962), and IFI (0.962). The outcomes demonstrated that SQ had a positive and significant effect on overall BE (H4) with a (β) value of 0.075 and $p < 0.05$. Thus, H4 was supported.

This indicates that a good quality of care dominated in terms of tangibility, reliability, responsiveness, empathy, and assurance, and will further effect overall BE building. Put simply, excellence in SQ produces decisive results in terms of strong brands in the context of medical tourism.

This result is consistent with the argument of Hanaysha and Hilman (2015c) that SQ is a vital strategy in the development of strong brands because it significantly enhances the perceived superiority of service brands and helps to differentiate service brands from competitor brands in highly competitive markets (Ming *et al.*, 2012). This result evidently supports the observation of Aaker (1991, 2010) and Keller (2013), who stressed that successful SQ becomes the source of a firm's competitive advantage due to the inability of rivals to imitate or copy this strategy.

From a branding perspective, this result is also in line with the observation put forward by Ghani (2010) and Keller and Lehmann (2006) that effective marketing efforts that potentially promote the development of a strong brand can be considered a source of BE. In this regard, the consideration that SQ is a key source of BE development was confirmed in this study.

This result sheds light on the general belief that to provide high quality medical tourism services, it is important that healthcare workers clearly demonstrate patient experience at each touch point and during the whole hospitalization process by improving the hospital's tangibility, showing high reliability, building trust, and always showing care and willingness to help, therefore enhancing patients' overall evaluation of service brands and attaining the desired performance, such as building strong BE (Chahal & Bala, 2012; Esmaeilpour *et al.*, 2016; Moghaddam, 2014; Veerasoontorn *et al.*, 2011).

In short, this study reasserts the general agreement that SQ plays an important role in the development of strong BE building (e.g. Aspizain, 2016; Hanaysha, 2016b; Kiumarsi, Jayaraman, & Isa, 2015; Vatjanasaregagul, 2007), from the perspective of medical tourists, and also supports the theory that SQ has a significant effect on organizational performance (Parasuraman *et al.*, 1985; 1988; Zeithaml *et al.*, 1996). Thus, it is crucial for healthcare providers to consider ensuring the quality approach, particularly in the context of healthcare-medical tourism.

5.3.5 The Effects of Service Quality on Innovation

The findings of most previous empirical studies suggested that SQ could enhance innovation success (Parasuraman, 2010; Prajogo & Sohal, 2003), however, empirical research in this area is still limited (Chen *et al.*, 2016; Cho & Pucik, 2005) and more empirical research is still needed (Bon & Mustafa, 2013; Kiumarsi, Jayaraman, & Isa, 2015). The fifth research question was particularly concerned with the direct effects of SQ on innovation, and this study thus attempted to examine the effect of SQ on innovation in the health sector in Jordan, from a medical tourist perspective.

The findings of the SEM using AMOS implied that the study practically investigated the effect of SQ on innovation under the acceptable model fit: χ^2 (445.5862), df (164), ratio (2.719), RMSEA (0.062), GFI (0.910), AGFI (0.885), TLI (0.956), CFI (0.962), and IFI (0.962). The outcomes showed that SQ had a positively significant effect on innovation with a significance value of 0.001. Particularly, SQ was found to have a positively significant effect on innovation with a (β) value of 0.138 and therefore, H5 was supported in this study.

Generally, the results of this study support the observations by Cho and Pucik (2005) and Sund (2008), who suggested the strong links and the positive effects of SQ on innovation performance in terms of the introduction of continuous improvement in the products and services associated with the development of service processes and improvements in marketing and administrative activities. Along with this observation, this study reconfirmed that SQ is a key concept for successful innovation. The outcomes also further strengthen and support the

evidence by Bon and Mustafa (2013) and Bon *et al.* (2012) that an increasingly high quality of service is aligned with the development of innovative ideas that either meet or exceed patient requirements, thus attaining a competitive advantage. In relation to this, the outcomes further stress Prajogo and Sohal's (2003) suggestion in their quality-innovation connection investigation that to remain competitive, quality is necessary but is insufficient without innovation.

The significant results listed earlier regarding the effectiveness of SQ on building innovation have been confirmed by a number of studies (e.g., Chen *et al.*, 2016; Dao & Yang, 2014; Nanda *et al.*, 2013; Santos-Vijande & Álvarez-González, 2007). For example, Zhang, Feng, and Xiang (2016) showed that SQ plays a vital role in enhancing innovation. SQ evidently appears to be a critical marketing strategy that can enhance innovation development. The results also support Chen *et al.* (2016), who found that SQ significantly effects innovation enhancement in the service sector. It is thus interesting to consider whether the delivery of high quality service is really important for innovation development.

The outcomes emphasize that SQ is a significant direct predictor in its relationship with innovation. This result is also in line with Dao and Yang (2014) and Kiumarsi, Jayaraman, and Isa (2015), who further highlighted that SQ positively enhances innovation in their quality-innovation integration study. Thus, the significant effect of SQ on innovation was demonstrated in this current study.

Overall, this study's outcomes indicate that SQ positively and significantly relates to innovation capabilities, therefore supporting the significant role of SQ as a key

strategy for innovation success, specifically from the medical tourist perspective. According to the outcomes, SQ strongly enhances the development of innovation (product, process, service, marketing, and administrative innovation), thus providing remarkable evidence of the significant impact; particularly for the Jordanian medical tourism sector.

5.3.6 The Mediation Effects of Innovation between Customer Relationship Management and Overall Brand Equity

An intensive analysis of the CRM literature showed that there is still a serious gap in the role of innovation as a mediator (Battor & Battor, 2010; Byukusenge *et al.*, 2016; Mohammed & Rashid, 2012). The sixth objective of this research, which is the main contribution of this study, thus particularly concerns the investigation of the interactions between CRM, innovation, and performance (overall BE). This study attempted to explore the link between CRM (measured by KM, customer involvement, long-term association, technology-based CRM, and joint problem solving) and BE building through innovation capability (measured by product, process, service, marketing, and administrative innovation) within a single framework in Jordanian medical tourism.

As shown in Table 4.27 (p. 278), the bootstrapping findings demonstrated that the influence of CRM on overall BE without the inclusion of mediator (innovation) was insignificant at $p > 0.05$ with a (β) value = 0.000. However, with the inclusion of innovation, the influence of CRM on overall BE was increased by a (β) value = 0.476 and became significant at $p < 0.01$. This indicates that innovation fully mediated the relationship between CRM and overall BE. Thus, H6 was supported.

Based on the study outcomes, the results show that innovation fully mediates the relationship between CRM and overall BE. This indicates that, in the setting of medical tourism providers, the critical role of CRM in enhancing the overall BE is only a function of innovation. Put simply, the full mediator (innovation) helps to explain the strength of how or why CRM affects the formation of overall BE.

In particular, the study results clearly found that innovation fully mediated the relationship between CRM and overall BE. This indicates that CRM can enhance overall BE indirectly through innovation. This implies that the advantages of maintaining good relationships with customers would indirectly promote better success in BE formation, which is absolutely improved through innovation. Medical tourism providers in Jordan are thus strongly recommended to introducing innovative healthcare services as the primary driver for enhancing their overall BE while building CRM. This finding is in line with the observation of Akgün *et al.* (2009) and the simulation findings advanced by Byukusenge *et al.* (2016), Fadzline *et al.* (2014), and Marin, Martín, and Rubio (2017) in their predictors-innovation-performance investigation.

Furthermore, the inclusion of innovation presented by product, process, service, marketing, and administrative innovation enhances the role of innovation as an important mediator in the relationship between CRM and overall BE therefore supports the significance of innovation as the dominant mediator, which further enhances the observations that Agarwal, Erramilli, and Dev (2003) reached. In the same context, this noteworthy evidence also enhances empirical generalization in medical tourism innovation within the CRM and branding setting, which has been

paid little attention (Battor & Battor, 2010; Mohammed & Rashid, 2012). Without a doubt, this remarkable result also further proves the explanation by Dev, Agarwal, and Erramilli (2008), which highlights the importance of innovation in achieving superior subjective performance, especially for service brands. Thus, medical tourism providers in Jordan are suggested to devote their efforts to continuous developments in the innovation as a platform for CRM-overall BE performance.

On the whole, the present study demonstrates that the CRM impact on overall BE building is fully mediated by innovation capability, especially in the medical tourism context of Jordan.

5.3.7 The Mediation Effects of Innovation between Service Quality and Overall Brand Equity

A body of literature showed that the role of innovation as a mediator is still rare and very limited (Camisón & Villar-López, 2010; Jahanzeb *et al.*, 2013; Shan *et al.*, 2016; Wong, 2014). The seventh objective of this research, which is also the main contribution of this study, particularly concerns the investigation of the interactions among SQ, innovation, and performance (overall BE). This study attempted to explore the links between SQ (including tangibility, reliability, responsiveness, assurance, and empathy) and overall BE through innovation (including product, process, service, marketing, and administrative innovation) within a single study in Jordanian medical tourism.

As clearly shown in Table 4.28 (p. 279), the bootstrapping findings demonstrated that the influence of SQ on overall BE without the inclusion of innovation (the mediator variable) was significant ($\beta = 0.101$, $p < 0.01$). However, with the inclusion of innovation, the effect of SQ on overall BE remained significant and increased at ($\beta = 0.154$, $p < 0.01$). This indicates that innovation partially mediated the relationship between SQ and overall BE. Thus, H7 was supported.

Based on the study outcomes, the results indicate that innovation partially mediates the relationship between SQ and overall BE. This indicates that, in the setting of medical tourism providers, the vital role of SQ in developing the overall BE is a joint function, to a certain extent, of innovation, and not limited to the direct relationship between SQ and overall BE. Put simply, medical tourism innovation partially enhances (both directly and indirectly) medical tourism overall BE.

In details, the study results clearly found that innovation partially mediated the relationship between SQ and overall BE because the indirect path and direct path of SQ on overall BE were significant. This suggests that, to a certain extent, medical tourism providers in Jordan who constantly monitor SQ evolution are more committed to promoting innovative capabilities that turn into better benefits of BE. SQ improvements will definitely affect their ability to deliver innovative products and services consistent with customer needs and accordingly achieve their BE development. This finding further supports the view of Naghavi, Mohamad, and Sambasivan (2012) that success in building strong brands stems from innovative services and can also be attributed to a customer's overall

perceptions of SQ. Demonstrating that innovation is a partial mediator highlights similar findings from Hami, Muhamad, and Ebrahim (2015) and Wang (2014) in their antecedents-mediators-consequences investigation.

This study further supports the results reported by previous empirical studies concerning the mediating role of innovation as a partial contributor to performance (Setyanti, Troena, Nimran, & Rahayu, 2013; Zehir, Köle, & Yıldız, 2015). Thus, the presence of partial mediation effect of the innovation capabilities (product, process, service, marketing, and administrative) on the relationship between SQ and overall BE provides remarkable evidence in the Jordanian context of medical tourism.

All in all, the present study suggests that the SQ effect on overall BE building is partially mediated by innovation. The findings further present evidence to support the observations of Vincent *et al.* (2004), who suggested that innovation capabilities may only be a partial mediator between strategic factors and performance. Such a belief has been strongly supported by Baron and Kenny (2008) in Mackinnon, Lockwood, Hoffman, West, and Sheets (2002), who indicated that partial mediation is more acceptable and realistic in most social science research therefore, the important role of innovation as a mediator can not be denied, which further highlights its crucial contribution to the relationship between SQ and overall BE; particularly for the Jordanian medical tourism sector.

5.4 IMPLICATION OF THE RESEARCH

The present study investigated the effect of CRM, SQ, and innovation in BE building. It integrated these four important strategies into one framework in the medical tourism industry in Jordan. In this framework, the innovation construct is presented as mediating the relationship between CRM and SQ with BE. The result of this research has generated several theoretical aspects, as well as managerial contributions. These contributions and their implications, as well as the study limitations and future works are discussed further in the following subsections. However, Appendix K shows the research contribution compared with initial overall BE model and earlier research.

5.4.1 Theoretical Implications

The key contribution of this study is particularly related to BE theory. As mentioned previously, this study further extends Yoo *et al.*'s (2000) original model, which stemmed originally from Aaker's (1991) model. In Aaker's (1991) BE model, four assets were proposed that were referred to as brand loyalty, perceived quality, brand awareness, and brand associations. These four BE dimensions were investigated in Yoo *et al.*'s (2000) model, and it was stressed that BE is a combination of only three assets; (1) brand loyalty, (2) perceived quality, and (3) brand association and brand awareness that were combined due to brand association, producing a high awareness of the brand.

In particular, Yoo *et al.*'s (2000) investigation focused on antecedents-BE assets-BE linkage in an attempt to explore the effect of BE assets on BE formation (represented by overall BE) and to understand which marketing efforts enhance

BE building. However, their antecedent-BE investigation was exclusively occupied with the 4Ps of the marketing mix (Appendix K), and therefore they recommended further exploration of more marketing efforts that have the potential to enhance the BE phenomenon (Davicik *et al.*, 2015; Ghani, 2012) and the interaction among them (Davicik *et al.*, 2015; Keller & Lehmann, 2006; Rios, 2007) from different perspectives than those of consumers or students (Yang *et al.*, 2015), from different settings than product category (Chahal & Bala, 2012; Mukherjee & Shivani, 2016), and from cultures different than developed countries (Chahal & Bala, 2012; Van Doorn & Leeflang, 2014) due to the fact that the value gained by BE is not restricted to producers and consumers (Yoo & Donthu, 2001, 2002; Yoo *et al.*, 2000). As such, based on the above, this study partially employed Yoo *et al.*'s (2000) model and further expanded the framework in different ways.

First, CRM, SQ, and innovation were introduced as other marketing activities that were different from the 4Ps and were proposed to have a significant impact on the BE. The acknowledgement that CRM, along with SQ and innovation, was another key marketing program in predicting medical tourist's BE, especially in the context of Jordanian medical tourism, is a significant contribution to the BE theory. In fact, the introduction of CRM and innovation as new predictors of overall BE makes a significant contribution to CBBE. Basically, the initial model of overall BE proposed by Yoo *et al.* (2000) was limited to the effect of marketing mix activities in enhancing overall BE. Thus, these two strategic factors act as additional predictors of overall BE (Appendix A and Appendix K). However, despite the non-significant effect of CRM in predicting overall BE, this study has given rise

to an inconsistency in this regard, which is a contribution to CBBE and offers opportunities for further investigation. In addition, the identification of SQ as another key determinant in the brand-building activity is also a significant contribution to the development and initial validation of the overall BE model, particularly from medical tourist perspective. Thus, this study has made a significant contribution to the current body of literature by clarifying the importance of SQ as a significant predictor to overall BE in a developing country, namely Jordan.

In addition, and in the same context, this study offers a broader picture of the dimensionality of CRM (KM, customer involvement, long-term association, technology-based CRM, and joint problem solving), SQ (tangibility, reliability, responsiveness, assurance, and empathy), and innovation (product, process, service, marketing, and administrative) in the medical tourism setting of Jordan. Thus, this study has contributed to the existing knowledge by empirically extending and confirming the dimensionality of these variables. Besides, this study presents innovation as much more crucial factor in enhancing overall BE in the medical tourism context rather than SQ. This implies that medical brands with innovative services are more capable of creating differential response that makes up overall BE.

Second, the identification of innovation capabilities as a key mediator between CRM and SQ toward overall BE is also a significant contribution to BE theory. The mediator construct was not presented in Yoo *et al.*'s (2000) original model. This mediator construct of innovation was positioned between the marketing

activities (CRM and SQ) and overall BE. In fact, the introduction of innovation as a key mediating variable was stressed by Davcik *et al.* (2015) and Keller (2003); however, the previous empirical research investigated the mediating role of innovation on performance was from a limited perspective assigned to a specific type and was limited to other performance dimensions. This study expands innovation construct and applied five types of innovation (product, process, service, marketing, and administrative) in the context of Jordanian medical tourism. The additions of five types of innovation in one construct as a mediator in the relationship between CRM and SQ toward BE also contributes significantly not only to BE theory but also extends innovation variables.

By considering innovation as a mediator, a significant contribution is generated to the understanding of how CRM and SQ, which influenced overall BE, is a function of innovation capabilities. This finding provides significant insight into BE theory. The significant contribution made by innovation as a mediating variable further demonstrates the generalization of this construct and strengthens innovation as a key mediating variable, particularly in both the CRM and SQ literature. Put simply, this study empirically offers significant sources for research into the variables that mediate the employment of both CRM and SQ, which had been rarely investigated in this combination.

With this knowledge, the results generated from this study evidently provide significant evidence on what factors contribute directly and indirectly to BE formation through the use of an overall BE model and further strengthen the

applicability in identifying Jordanian medical tourists' decision making with regards to the BE experience.

5.4.2 Practical Implications

In addition to the theoretical contributions of this research, several practical implications were established from the study outcomes. First, this research offers a framework for the development of BE from the healthcare perspective, focusing on medical tourists. This research framework is committed to aiding medical tourism providers in understanding BE and offering guidelines for developing service brands such as healthcare-medical tourism brands. In the context of medical tourism brand management, it is vital for medical tourism to understand the causes and the consequences of BE. Medical tourists are the core business customers, and the power of the brand carried by them will directly[†] affect the performance of medical tourism in the long run. Thus, it is essential for medical tourism brand management to understand the behavioral consequences of medical tourists that cause BE. These behavioral responses are considered the most essential elements for healthcare providers in determining the power of the brand and can not be neglected.

Second, the investigation of marketing activities, which vary from the 4Ps in enhancing medical tourism BE, offer important managerial insights. However, the results indicate that only innovation and SQ are significant strategies in predicting the overall BE of medical tourists in Jordan while, CRM was not found to have a significant influence on overall BE. Subsequently, by using this information, policy makers can create relevant strategies to enhance their BE. For example, the

results show that CRM is unable to form BE. From the marketing perspective, building strong and long-term relationships with customers is the main agenda for marketers. Therefore, such a result may serve as a motivator for decision makers to adopt strategies that could change medical tourists' perceptions and further leads to a better BE.

Third, the identification of SQ also presents significant managerial insights. This study found a significant relationship between medical tourist perceptions of SQ and overall BE. This suggests that medical tourism providers should continually deliver a high-quality service that satisfies patient needs and wants fully and strives to establish a unique patient experience with a health brand to increase their BE performance. A strong focus on patient experience activities in medical tourism in terms of tangibility, reliability, responsiveness, assurance, and empathy will affect the quality of service and in turn, improve the development of the overall BE.

Fourth, in this study, innovation was observed as the strongest determinant of overall BE. Thus, the introduction of innovation capabilities contributes to the knowledge of managers in realizing the crucial role of innovation in medical tourism brands. Therefore, medical tourism providers may invest in innovation development and introduce innovative products and services continuously to enhance their BE.

Fifth, the strong contribution of this present research lies in the significant role of innovation. This study shows that the presence of innovation as a key mediator

reflects the need for solid support from hospitals in order for CRM and SQ to be successfully employed in achieving superior overall BE. In simple words, CRM and SQ has to trigger innovation in order for the BE to be achieved. This implies that the effectiveness of CRM in fostering overall BE only exists through the appearance of a great hospital's innovations. Without successful implementation of innovative capabilities (product, process, service, marketing, and administrative innovation), the strength of the brand from the perspectives of medical tourists cannot be achieved. CRM was found not to directly influence overall BE but was, however, mediated by innovation. Further, a greater SQ approach in private hospitals will enhance their innovation, and thus lead to strong BE. This finding enhances the knowledge of the activities that are crucial to developing innovative capabilities for the purpose of building superior brand value in the medical tourism context.

The current medical tourism industry is facing tough competition, lower margins, higher costs, and fluctuation demand, so the development of overall BE based on a well-developed CRM, a high level of SQ and a strong innovation capability are the most valuable elements of knowledge for the medical tourism industry in Jordan. In addition, medical providers are in need to plan and manage CRM, SQ, and innovation in an integrated manner. This knowledge can be seen as a platform for building fruitful brand strategies in medical tourism. Importantly, the adoption of this knowledge is probably significant in achieving the country's economic agenda by 2020. Jordan may benefit from the findings to enhance favorable medical tourism associations in the minds of medical tourists. Such marketing

activities could boost the image of Jordan in the long term and create positive impressions among medical tourists considering Jordan for medical tourism.

On the whole, the findings offer guidelines for the management of the brand, especially in the medical tourism sector with the aim of attaining superior customer value. In fact, the important roles of CRM, SQ, and innovation in forming BE cannot be denied. Properly managing CRM activities and monitoring customer experience effectively are necessary, as they will enhance the knowledge of the needs and wants of medical tourists through continuous interaction and communication at each touch point and thus, influence their innovation capabilities, which are crucial in winning better medical tourist responses.

5.5 LIMITATIONS AND SUGGESTION FOR FUTURE RESEARCH

Like any other research, this study has several limitations to some extent associated with the conceptual framework and which may lead to several future research directions. This study tested the conceptual framework for overall BE in the medical tourism industry from the perspective of medical tourists. To increase the generalizability, future work should investigate this conceptual framework in different industries (e.g. manufacturing), from different perspectives (e.g. consumers), and in different countries (e.g. developed countries). This examination will also further enhance and support of all the dimensions involved.

This framework also includes the antecedent factors of overall BE, which concentrate on CRM, SQ, and innovation. Future research is recommended to

explore these factors in more depth, including different dimensions, different measurement scales, and different operational perspectives. Alongside the exploration of the BE antecedents, the exploration of the antecedent factors of CRM, SQ, and innovations that enhance BE development will also be valuable. All these recommendations will further clarify the crucial role of CRM, SQ, and innovation for fostering the equity of the brand.

Most significantly, the conceptual framework is only committed to the mediation role of innovation, which is limited to five types. Future research is suggested to extend the types of innovation, and further enhance its position in the branding context, including radical and incremental innovation (Araújo & Jugend, 2016). This study also ignored the variables that moderate the effect of predictor variables on BE such as national culture (Šerić, 2017), which may affect antecedent-branding linkages (Yoo *et al.*, 2000).

In addition to the perspectives of medical tourists, the perspectives of shareholder and employees are also recommended for study. Future work is also suggested to explore the development of BE, considering dyadic data collection, rather than single informants. A comparative study of different perspectives (e.g. medical tourist perception and local patient perception), different industries (e.g. producers and retails), and different countries (e.g. Western and Eastern) in the setting of independent-mediator/moderator-BE connections would also increase our knowledge of BE building in the context of healthcare.

More emphasis should be given to investigating BE in developing countries, in, for instance, North Africa and the Far East because most BE empirical studies have been in Western developed countries. Scholars still need to answer questions relating to the formation of BE in these developing countries, which have much cultural and ethical diversity in comparison with developed countries.

Finally, the sample used in this study surveyed both first time and repeated foreign outpatient tourists. Therefore, future work is also recommended to compare the development of BE among first time and repeat outpatient tourists.

5.6 CONCLUSION

The present research has investigated variables other than 4Ps that enhance BE in particular, the role of innovation as a mediator between CRM and SQ and overall BE in the Jordanian medical tourism. Certainly, the results augment our knowledge of the adoption of CRM activities (KM, customer involvement, long-term association, joint problem solving, and technology-based CRM) and SQ (tangibility, reliability, responsiveness, assurance, and empathy) in enhancing overall BE through improving innovation (product, process, service, marketing, and administrative innovation). Based on the CBBE theory perspective, the outcomes of this study presented empirical evidence that CRM positively and significantly enhance innovation capabilities; however, CRM is found to have an insignificant effect on overall BE. The outcomes also revealed that SQ has a significant and positive impact on both innovation and overall BE. The findings also demonstrate that CRM has a statistically significant effect on overall BE only through the full mediating role of innovation. Similarly, the findings also

demonstrate that the SQ has a statistically significant effect on overall BE through the partial mediating role of innovation.

The outcomes have contributed to the brand-building marketing efforts. The results of this study have made several significant theoretical as well as practical contributions. This research has managed to fulfill gaps in the branding literature; however, this study had some methodological limitations and generalizability limitations. Future studies are required to support the findings and embrace the other factors that may empower the brands.



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APPENDIX A

SUMMARY OF OVERALL BRAND EQUITY SOURCES

Predictors of Overall Brand Equity	Author and Year
Perceived quality	Ahmad and Sherwani (2015), Asare and Lei (2017), Atilgan <i>et al.</i> (2005), Azadi <i>et al.</i> (2015), Buil <i>et al.</i> (2013), Chahal and Bala (2012), Dib and Alhaddad (2014), Ebeid (2014), Gill and Dawra (2010), Lei and Chu (2015), Mostafa (2015), Mukherjee and Shivani (2016), Shekhar Kumar <i>et al.</i> (2013), Singh and Islam (2017), Subramaniam, Al Mamun, Permarupan, and Zainol (2014), Vinh (2017), and Yoo and Donthu (2001).
Brand image	Akbar and Azhar (2011), Ansary and Hashim (2017), Asare and Lei (2017), Aspizain (2016), Chahal and Bala (2012), Chen (2010), Emari, Jafari, and Moghaddam (2014), Fatema, Azad, and Masum (2015), Hossien (2011), Mostafa (2015), Mukherjee and Shivani (2016), Ng, Butt, Khong, and Ong (2014), Rajh (2006), Shabbir, Khan, and Khan (2017), Subramaniam <i>et al.</i> (2014), and Šerić, Gil-Saura, and Mikulić (2017).
Brand awareness	Ahmad and Sherwani (2015), Ansary and Hashim (2017), Atilgan <i>et al.</i> (2005), Dib and Alhaddad (2014), Ebeid (2014), Gill and Dawra (2010), Mostafa (2015), Panda and Misra (2014), Rajh (2006), Shabbir <i>et al.</i> (2017), Shekhar Kumar <i>et al.</i> (2013), Singh and Islam (2017), and Vinh (2017).
Brand association	Ahmad and Sherwani (2015), Atilgan <i>et al.</i> (2005), Buil <i>et al.</i> (2013), Ebeid (2014), Emari <i>et al.</i> (2012), Gill and Dawra (2010), Hossien (2011), Shekhar Kumar <i>et al.</i> (2013), Singh and Islam (2017), and Vinh (2017).
Brand awareness/associations	Azadi <i>et al.</i> (2015) and Yoo and Donthu (2001).
Brand loyalty	Ahmad and Sherwani (2015), Altaf, Iqbal, Mohd. Mokhtar, and Sial (2017), Asare and Lei (2017), Atilgan <i>et al.</i> (2005), Azadi <i>et al.</i> (2015), Buil <i>et al.</i> (2013), Chahal and Bala (2012), Dib and Alhaddad (2014), Ebeid (2014), Emari <i>et al.</i> (2012), Fatema <i>et al.</i> (2015), Gill and Dawra (2010), Girard, Trapp, Pinar, Gulsoy, and Boyt (2017), Hossien (2011), Mostafa (2015), Panda and Misra (2014), Shabbir <i>et al.</i> (2017), Shekhar Kumar <i>et al.</i> (2013), Singh and Islam (2017), Subramaniam <i>et al.</i> (2014), Šerić <i>et al.</i> (2017), Vinh (2017), and Yoo and Donthu (2001).

Marketing communication activities	Bakshi, Bakshi, Mishra, and Mishra (2017), Sadat and Mehrara (2015), Šerić (2017), and Valette-Florence <i>et al.</i> (2011).
Customer experience	Hepola, Karjaluoto, and Hintikka (2017) and Zarantonello and Schmitt (2013).
Service quality	Aspizain (2016), Ha (2009), Jahanzeb <i>et al.</i> (2013), Vatjanasaregagul (2007), and Vatjanasaregagul and Wang (2011).
Trust	Akbar and Azhar (2011), Chen (2010), Dib and Alhaddad (2014), and Shekhar Kumar <i>et al.</i> (2013).
Brand attitude	Ansary and Hashim (2017), Emari <i>et al.</i> (2012), Hossien (2011), and Zarantonello and Schmitt (2013).
Others	Akbar and Azhar (2011), Ansary and Hashim (2017), Azadi <i>et al.</i> (2015), Chen (2010), Emari <i>et al.</i> (2012), Hepola <i>et al.</i> (2017), Hossien (2011), Jahanzeb <i>et al.</i> (2013), Lei and Chu (2015), Liao, Wu, Amaya Rivas, and Lin Ju (2017), Mostafa (2015), Ng <i>et al.</i> (2014), Panda and Misra (2014), Romero and Yagüe (2016), Tuan (2017), Valette-Florence <i>et al.</i> (2011), and Zarantonello and Schmitt (2013).



UUM
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**APPENDIX B
PART 1**

PILOT STUDY QUESTIONNAIRE



**COLLEGE OF BUSINESS
UNIVERSITI UTARA MALAYSIA**

Dear Sir/ Madam,

I am a doctoral student at University Utara Malaysia (UUM) under the supervision of Dr. Noor Hasmini. I am currently conducting an academic questionnaire survey to investigate the relationships among customer relationship management, service quality, innovation, and brand equity in the private hospitals in the Hashemite Kingdom of Jordan. This study is to fulfill requirements for the degree of doctoral of philosophy in marketing at the university. The questionnaire is divided into five sections, namely, section A (patient relationship management), section B (service quality), section C (innovation), section D (brand equity), and section E (respondent profile). It is hoped that the results of this survey will provide important information on the development of the Jordanian healthcare in the context of my study. I sincerely hope that you would spare me a little of your time (not more than 25 minutes) to answer this questionnaire.

Your answers are very valuable to the accuracy of present study. Please be rest assured that all your responses will be kept strictly confidential and for academic purposes only.

If you wish to know more about this study, please do not hesitate to contact me at:

Fayez.shriedeh@yahoo.com, or alternatively, you can speak to me directly at this number: **00601121008879 (Malaysia), or 00962797188993 (Jordan).**

Thank you again for your support and assistance.

Yours truly,
Fayez Shriedeh

Scan Question: Have you come to Jordan for medical treatment purposes?

☐ Yes ☐ No

If yes, please continue answering the questionnaire only if your answer for this question was "YES".

Section A: Patient Relationship Management: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	The employees of this hospital are motivated to help patients in a responsive manner.	1	2	3	4	5	6	7
2	This hospital provides channels to enable interactive two-way communication between patients and hospital.	1	2	3	4	5	6	7
3	The employees of this hospital fully try to understand the patient's needs via generating a lot of information about me.	1	2	3	4	5	6	7
4	The employees of this hospital are willing to provide prompt service to the patients.	1	2	3	4	5	6	7
5	This hospital is very interested in development of new products and services in collaboration with the patients.	1	2	3	4	5	6	7
6	This hospital is responsive to modifying the products and services according to my suggestions.	1	2	3	4	5	6	7
7	This hospital involves me regarding health market evaluations.	1	2	3	4	5	6	7
8	This hospital involves me in technology-based health services.	1	2	3	4	5	6	7
9	This hospital involves me directly in the development of my healthcare status.	1	2	3	4	5	6	7
10	This hospital involves me in the development of my healthcare indirectly- through a person representing me.	1	2	3	4	5	6	7
11	This hospital is committed to making adjustments to suit patients' needs.	1	2	3	4	5	6	7
12	This hospital provides suggestions for products and services for patients.	1	2	3	4	5	6	7
13	This hospital has patient loyalty or retention programs.	1	2	3	4	5	6	7
14	This hospital really takes care of developing successful long-term relationship with patients.	1	2	3	4	5	6	7
15	This hospital has the right software to serve patients.	1	2	3	4	5	6	7
16	This hospital has the right hardware to serve patients.	1	2	3	4	5	6	7
17	This hospital has adequate information about patients available in every touch point.	1	2	3	4	5	6	7
18	This hospital has perfect web-based patient interaction.	1	2	3	4	5	6	7
19	This hospital maintains a comprehensive database of patients.	1	2	3	4	5	6	7
20	The employees of this hospital are able to build relationship with patients through utilization of computer technology.	1	2	3	4	5	6	7

21	This hospital works with us to overcome difficulties.	1	2	3	4	5	6	7
22	This hospital works with patients to help solve each other's conflicts.	1	2	3	4	5	6	7
23	The parties are jointly responsible for getting things done.	1	2	3	4	5	6	7

Section B: Service Quality: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	This hospital has visually appealing materials associated with the service.	1	2	3	4	5	6	7
2	The physical facilities of this hospital are visually appealing.	1	2	3	4	5	6	7
3	The employees of this hospital are well dressed and appear neat.	1	2	3	4	5	6	7
4	Availability of modern equipment in this hospital.	1	2	3	4	5	6	7
5	The employees of this hospital show a sincere interest in solving patients' problems.	1	2	3	4	5	6	7
6	This hospital maintains error-free records.	1	2	3	4	5	6	7
7	This hospital provides services at promised times.	1	2	3	4	5	6	7
8	This hospital performs the service right from the first time.	1	2	3	4	5	6	7
9	I could make an appointment easily at this hospital.	1	2	3	4	5	6	7
10	The staff of this hospital tells patients exactly when services will be provided.	1	2	3	4	5	6	7
11	The employees of this hospital are always willing to help patients'.	1	2	3	4	5	6	7
12	The employees of this hospital are never too busy to respond to patients requests'.	1	2	3	4	5	6	7
13	I feel secure in dealing with this hospital.	1	2	3	4	5	6	7
14	I could trust the employees of this hospital.	1	2	3	4	5	6	7
15	The employees of this hospital are consistently courteous.	1	2	3	4	5	6	7
16	The employees of this hospital are knowledgeable.	1	2	3	4	5	6	7
17	The staff of this hospital gives me personal attention.	1	2	3	4	5	6	7
18	The staff of this hospital treats me with warm and caring attitude.	1	2	3	4	5	6	7
19	The staff of this hospital understands patients' feeling of discomfort.	1	2	3	4	5	6	7
20	This hospital does have operating hours convenient to all patients.	1	2	3	4	5	6	7
21	The staff of this hospital has best interests of patients in their heart.	1	2	3	4	5	6	7

Section C: Innovation: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	This hospital frequently supplements unique new products for the patients.	1	2	3	4	5	6	7
2	This hospital is highly innovative compared to other hospitals in the market.	1	2	3	4	5	6	7
3	This hospital often launches innovative products not available in the market.	1	2	3	4	5	6	7
4	This hospital launches personalized products according to the patient needs.	1	2	3	4	5	6	7
5	This hospital medical equipment's have functions and features other hospitals lack.	1	2	3	4	5	6	7
6	This hospital regularly updates and well maintains its medical equipment.	1	2	3	4	5	6	7
7	This hospital provides innovation in diagnostic procedures.	1	2	3	4	5	6	7
8	This hospital provides innovation in treatment processes.	1	2	3	4	5	6	7
9	This hospital provides skills and experience medical staff.	1	2	3	4	5	6	7
10	This hospital's healthcare services are particularly comprehensive.	1	2	3	4	5	6	7
11	This hospital's services put my mind at ease.	1	2	3	4	5	6	7
12	This hospital is particularly fast when handling patient complaints.	1	2	3	4	5	6	7
13	This hospital provides innovative services before treatment such as free consulting services.	1	2	3	4	5	6	7
14	This hospital provides innovative services after treatment such as entertainment and booking services.	1	2	3	4	5	6	7
15	This hospital instantly updates the internet services.	1	2	3	4	5	6	7
16	This hospital often leads over other hospitals in launching innovative prices.	1	2	3	4	5	6	7
17	This hospital provides innovative distributing methods to the market such as electronic health and mobile health.	1	2	3	4	5	6	7
18	This hospital leads over other hospitals in promoting the hospital such as gifts and special discounts.	1	2	3	4	5	6	7
19	This hospital continually enlarges potential demand markets.	1	2	3	4	5	6	7
20	This hospital is innovative in building patient relationship.	1	2	3	4	5	6	7
21	This hospital is innovative in registration process when using different care units.	1	2	3	4	5	6	7
22	This hospital is innovative in admission/discharges process.	1	2	3	4	5	6	7
23	This hospital is innovative in patient care process.	1	2	3	4	5	6	7
24	This hospital is innovative in computer based payment process.	1	2	3	4	5	6	7

Section D: Overall Brand Equity: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	I would prefer the name of this hospital to other names, even if another hospital is identical to the quality of this hospital.	1	2	3	4	5	6	7
2	It makes sense to frequently choose this hospital, even if another hospital has the same services.	1	2	3	4	5	6	7
3	The name of this hospital is more attractive to me than any other hospital name.	1	2	3	4	5	6	7
4	It seems smarter to choose the services of this hospital rather than the services of any other hospital.	1	2	3	4	5	6	7
5	Low risk strategy would be to purchase the services of this hospital instead of the services of any other hospital.	1	2	3	4	5	6	7
6	The name of this hospital implies something superior to other hospitals.	1	2	3	4	5	6	7
7	It is smarter to choose this hospital, even if another hospital has the same prices as this hospital.	1	2	3	4	5	6	7
8	It is smarter to choose this hospital, even if another hospital has the same quality as this hospital.	1	2	3	4	5	6	7
9	I would choose this hospital even when I'm not very sure that this hospital has better features than other hospital names.	1	2	3	4	5	6	7
10	The name of this hospital may be the primary reason to use the services of this hospital.	1	2	3	4	5	6	7
11	I would choose this hospital, even if I have been given a choice between this hospital and another hospital that seems identical with the quality of this hospital.	1	2	3	4	5	6	7

Section E: Respondent Profile

Particular	Please tick (✓) on the appropriate circle
Gender	Male ☐ Female ☐ ☐
Age	18-25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ Over 56 years ☐
Education	High School ☐ Diploma ☐ Bachelor's ☐ Master ☐ PhD ☐ Others (please specify).....
Marital status	Single ☐ Married ☐ Divorced ☐ Widowed ☐ Separated ☐
Gross monthly salary in USD (\$)	Below 1000 ☐ 1001-2000 ☐ 2001-3000 ☐ 3001 and above ☐
Payment type	Insurance company ☐ Government ☐ By own ☐ Others (please specify).....
Country of origin	Gulf Region ☐ Yemen ☐ Syria ☐ Palestine ☐ Libya ☐ Sudan ☐ Iraq ☐ Algeria ☐ Others (please specify).....
Visit frequency	One Time ☐ Two times and more ☐



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**APPENDIX B
PART 2**

FIELD STUDY QUESTIONNAIRE



**COLLEGE OF BUSINESS
UNIVERSITI UTARA MALAYSIA**

Dear Sir/ Madam,

I am a doctoral student at University Utara Malaysia (UUM) under the supervision of Dr. Noor Hasmini. I am currently conducting an academic questionnaire survey to investigate the relationships among customer relationship management, service quality, innovation, and brand equity in the private hospitals in the Hashemite Kingdom of Jordan. This study is to fulfill requirements for the degree of doctoral of philosophy in marketing at the university. The questionnaire is divided into five sections, namely, section A (patient relationship management), section B (service quality), section C (innovation), section D (brand equity), and section E (respondent profile). It is hoped that the results of this survey will provide important information on the development of the Jordanian healthcare in the context of my study. I sincerely hope that you would spare me a little of your time (not more than 25 minutes) to answer this questionnaire.

Your answers are very valuable to the accuracy of present study. Please be rest assured that all your responses will be kept strictly confidential and for academic purposes only.

If you wish to know more about this study, please do not hesitate to contact me at:

Fayez.shriedeh@yahoo.com, or alternatively, you can speak to me directly at this number: **00601121008879 (Malaysia)**, or **00962797188993 (Jordan)**.

Thank you again for your support and assistance.

Yours truly,
Fayez Shriedeh

Scan Question: Have you come to Jordan for medical treatment purposes?

☐ Yes ☐ No

If yes, please continue answering the questionnaire only if your answer for this question was "YES".

Section A: Patient Relationship Management: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	The employees of this hospital are motivated to help patients in a responsive manner, e.g. through interaction and touch points.	1	2	3	4	5	6	7
2	This hospital provides communication channels to enable interaction between patients and hospital.	1	2	3	4	5	6	7
3	The employees of this hospital fully try to understand the patient's needs via generating a lot of information about me.	1	2	3	4	5	6	7
4	The employees of this hospital are willing to provide prompt service to the patients.	1	2	3	4	5	6	7
5	This hospital is responsive to modifying the products and services according to my suggestions.	1	2	3	4	5	6	7
6	This hospital involves me in technology-based health services such as mobile-based health services, web e-services.	1	2	3	4	5	6	7
7	This hospital involves me directly in the development of my healthcare status.	1	2	3	4	5	6	7
8	This hospital is committed to making adjustments to suit patients' needs.	1	2	3	4	5	6	7
9	This hospital provides suggestions for products and services for patients.	1	2	3	4	5	6	7
10	This hospital has patient loyalty or retention programs.	1	2	3	4	5	6	7
11	This hospital has the right software to serve patients.	1	2	3	4	5	6	7
12	This hospital has the right hardware to serve patients.	1	2	3	4	5	6	7
13	This hospital has adequate information about patients available in every touch point.	1	2	3	4	5	6	7
14	This hospital maintains a comprehensive database of patients.	1	2	3	4	5	6	7
15	The employees of this hospital are able to build relationship with patients through utilization of computer technology.	1	2	3	4	5	6	7
16	No matter who is the source of problem, responsibility is taken by this hospital and patients to overcome the difficulties.	1	2	3	4	5	6	7
17	This hospital works with patients to help solve each other's conflicts.	1	2	3	4	5	6	7
18	The parties are jointly responsible for getting things done.	1	2	3	4	5	6	7

Section B: Service Quality: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	This hospital has visually appealing materials associated with the service.	1	2	3	4	5	6	7
2	The employees of this hospital are well dressed and appear neat.	1	2	3	4	5	6	7
3	Availability of modern equipment in this hospital.	1	2	3	4	5	6	7
4	This hospital maintains error-free records.	1	2	3	4	5	6	7
5	This hospital provides services at promised times.	1	2	3	4	5	6	7
6	This hospital performs the service right from the first time.	1	2	3	4	5	6	7
7	The staff of this hospital tells patients exactly when services will be provided.	1	2	3	4	5	6	7
8	The employees of this hospital are always willing to help patients'.	1	2	3	4	5	6	7
9	The employees of this hospital are never too busy to respond to patients requests'.	1	2	3	4	5	6	7
10	I feel secure in dealing with this hospital.	1	2	3	4	5	6	7
11	I could trust the employees of this hospital.	1	2	3	4	5	6	7
12	The employees of this hospital are knowledgeable.	1	2	3	4	5	6	7
13	The staff of this hospital treats me with warm and caring attitude.	1	2	3	4	5	6	7
14	This hospital does have operating hours convenient to all patients.	1	2	3	4	5	6	7
15	The staff of this hospital has best interests of patients in their heart.	1	2	3	4	5	6	7

Section C: Innovation: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	This hospital is highly innovative compared to other hospitals in the market.	1	2	3	4	5	6	7
2	This hospital often launches diagnostic and treatment equipments not available in the market.	1	2	3	4	5	6	7
3	This hospital launches personalized diagnostic and treatment equipments according to the patient needs.	1	2	3	4	5	6	7
4	This hospital diagnostic and treatment equipments have functions and features other hospitals lack.	1	2	3	4	5	6	7
5	This hospital provides innovation in diagnostic procedures.	1	2	3	4	5	6	7
6	This hospital provides innovation in treatment processes.	1	2	3	4	5	6	7

7	This hospital provides skills and experience medical staff.	1	2	3	4	5	6	7
8	This hospital's services put my mind at ease.	1	2	3	4	5	6	7
9	This hospital is particularly fast when handling patient complaints.	1	2	3	4	5	6	7
10	This hospital provides innovative services before treatment such as free consulting services.	1	2	3	4	5	6	7
11	This hospital often leads over other hospitals in launching innovative prices.	1	2	3	4	5	6	7
12	This hospital provides innovative distributing methods to the market such as electronic health and mobile health.	1	2	3	4	5	6	7
13	This hospital leads over other hospitals in promoting the hospital such as gifts and special discounts.	1	2	3	4	5	6	7
14	This hospital continually attracts different patient groups.	1	2	3	4	5	6	7
15	This hospital is innovative in building patient relationship.	1	2	3	4	5	6	7
16	This hospital is innovative in registration process when using different care units.	1	2	3	4	5	6	7
17	This hospital is innovative in admission/discharges process.	1	2	3	4	5	6	7
18	This hospital is innovative in patient care process.	1	2	3	4	5	6	7

Section D: Overall Brand Equity: Please indicate how strongly you agree or disagree with the following statements. You can circle your chosen answer anywhere between 1 and 7. Please remember, there are no correct or wrong answers.

No.	Statement	Strongly Disagree						Strongly Agree
1	It makes sense to frequently choose this hospital, even if another hospital has the same services.	1	2	3	4	5	6	7
2	The name of this hospital is more attractive to me than any other hospital name.	1	2	3	4	5	6	7
3	It seems smarter to choose the services of this hospital rather than the services of any other hospital.	1	2	3	4	5	6	7
4	The name of this hospital implies something superior to other hospitals.	1	2	3	4	5	6	7
5	It is smarter to choose this hospital, even if another hospital has the same quality as this hospital.	1	2	3	4	5	6	7

Section E: Respondent Profile

Particular	Please tick (✓) on the appropriate circle
Gender	Male ☐ Female ☐ ☐
Age	18- 25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ Over 56 years ☐
Education	High School ☐ Diploma ☐ Bachelor's ☐ Master ☐ PhD ☐ Others (please specify).....
Marital status	Single ☐ Married ☐ Divorced ☐ Widowed ☐ Separated ☐
Gross monthly salary in USD (\$)	Below 1000 ☐ 1001-2000 ☐ 2001-3000 ☐ 3001 and above ☐
Payment type	Insurance company ☐ Government ☐ By own ☐ Others (please specify).....
Country of origin	Gulf Region ☐ Yemen ☐ Syria ☐ Palestine ☐ Libya ☐ Sudan ☐ Iraq ☐ Algeria ☐ Others (please specify).....
Visit frequency	One Time ☐ Two times and more ☐



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APPENDIX B
PART 3

PILOT STUDY ARABIC QUESTIONNAIRE



كلية الأعمال
جامعة اوتارا - ماليزيا

تحية طيبة وبعد:

أنا طالب في جامعة اوتارا الماليزية (UUM) أعمل للحصول على درجة الدكتوراه تحت إشراف الدكتور نور هاسميني. أقوم حاليا بإجراء مسح استبيان أكاديمي لدراسة العلاقات بين إدارة العلاقة مع العملاء، جودة الخدمة، الابتكار والعلامة التجارية في المستشفيات الخاصة في المملكة الأردنية الهاشمية. تسعى هذه الدراسة لتلبية متطلبات الحصول على درجة الدكتوراه في فلسفة التسويق.

تنقسم الاستبانة إلى خمسة أقسام وهي كالآتي: القسم أ (إدارة العلاقة مع المرضى)، القسم ب (جودة الخدمة)، القسم ج (الابتكار)، القسم د (العلامة التجارية)، القسم هـ (ملف المجيب). أمل أن تقدم نتائج هذا المسح معلومات هامة حول تطور الرعاية الصحية الأردنية في سياق دراستي. كما أمل أن تعبرني القليل من وقتك (ما لا يزيد عن 25 دقيقة) للإجابة على هذا الاستبيان. إن إجاباتك على هذه الأسئلة مفيدة جدا لدقة الدراسة. ويمكنني أن أطمئنك أن جميع ردودك سيتم الاحتفاظ بها ومعاملتها بسرية تامة ولن تستخدم سوى لأغراض أكاديمية.

إذا كنت ترغب في معرفة المزيد عن هذه الدراسة، فلا تتردد في التواصل معي على العنوان التالي:

Fayez.shriedeh@yahoo.com

أو يمكنك التحدث معي مباشرة على الرقم: 00601121008879 (ماليزيا)، أو 00962797188993 (الأردن).

أشكرك مرة أخرى على دعمك ومساعدتك

المخلص،

فايز الشريدة

سؤال : هل قدمت الى الاردن بهدف العلاج؟ ☐ نعم ☐ لا

ملاحظة : إذا كانت اجابتك على هذا السؤال "نعم"، من فضلك أكمل الإجابة على الاستبيان أدناه.

القسم أ: إدارة العلاقات مع المرضى: يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	1	2	3	4	5	6	7
1 طاقم المستشفى متحفز لمساعدة المرضى والاستجابة لهم (من خلال التفاعل ونقاط الاتصال المباشر مع المرضى).	1	2	3	4	5	6	7
2 يوفر هذا المستشفى قنوات تواصل تمكن المرضى و المستشفى من التواصل معا.	1	2	3	4	5	6	7
3 يسعى طاقم المستشفى الى فهم متكامل لإحتياجات المرضى من خلال أخذ معلومات وافية عن المريض.	1	2	3	4	5	6	7
4 طاقم المستشفى على أتم الاستعداد لتقديم الخدمة الفورية للمرضى.	1	2	3	4	5	6	7
5 يحرص المستشفى على تطوير منتجات و خدمات صحية و علاجية جديدة بالتعاون مع المرضى.	1	2	3	4	5	6	7
6 يتجاوب المستشفى مع اقتراحاتي بشأن تعديل وتطوير الخدمات والمنتجات الصحية والعلاجية .	1	2	3	4	5	6	7
7 يشركني المستشفى في تقييم السوق الصحي.	1	2	3	4	5	6	7
8 يشركني المستشفى في الخدمات الصحية القائمة على التكنولوجيا، مثل تقديم الخدمات الصحية عن طريق الهاتف الخليوي أو شبكة الانترنت.	1	2	3	4	5	6	7
9 يشركني المستشفى بصفة شخصية فيما يتعلق بتطور حالتي الصحية.	1	2	3	4	5	6	7
10 يشركني المستشفى في تطور حالتي الصحية بطريقة غير مباشرة - من خلال من ينوب عني .	1	2	3	4	5	6	7
11 يلتزم المستشفى بإجراء التعديلات اللازمة لتناسب مع إحتياجات المرضى.	1	2	3	4	5	6	7
12 يقدم المستشفى اقتراحات للمرضى حول المنتجات والخدمات الصحية والعلاجية.	1	2	3	4	5	6	7
13 يمتلك المستشفى برامج للمحافظة على ولاء المرضى ورضاهم عن الخدمات.	1	2	3	4	5	6	7
14 يهتم المستشفى حقا بخلق علاقات ناجحة وطويلة الأمد مع المرضى.	1	2	3	4	5	6	7
15 يمتلك المستشفى برمجيات الحاسوب المناسبة لخدمة المرضى.	1	2	3	4	5	6	7
16 يمتلك المستشفى معدات الحاسوب والأجهزة المناسبة لخدمة المرضى.	1	2	3	4	5	6	7
17 يمتلك المستشفى معلومات كافية عن المرضى متوفرة في جميع نقاط الإتصال.	1	2	3	4	5	6	7
18 يتفاعل المستشفى مع المرضى من خلال شبكة الإنترنت.	1	2	3	4	5	6	7
19 يمتلك المستشفى قاعدة بيانات شاملة حول المرضى.	1	2	3	4	5	6	7
20 يستغل طاقم المستشفى تكنولوجيا الحاسوب لبناء علاقات ايجابية مع المرضى.	1	2	3	4	5	6	7
21 عند حدوث مشكله و بغض النظر عن مصدرها، يتحمل المستشفى والمرضى معا المسؤولية في التغلب عليها.	1	2	3	4	5	6	7
22 يعمل المستشفى و المرضى معا في حل مشاكل بعضهما البعض.	1	2	3	4	5	6	7
23 يتحمل المستشفى والمرضى معا مسؤولية انجاز الأمور.	1	2	3	4	5	6	7

القسم ب: جودة الخدمة: يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	لا أوافق بشدة	1	2	3	4	5	6	7	أوافق بشدة
1 يمتلك هذا المستشفى مواد دعائية بصرية جذابة تتناسب مع طبيعة الخدمات الصحية والعلاجية التي يقدمها.	1	2	3	4	5	6	7		
2 تظهر مرافق المستشفى بشكل جذاب.	1	2	3	4	5	6	7		
3 يتميز طاقم المستشفى بحسن الهندام والمظهر.	1	2	3	4	5	6	7		
4 يمتلك المستشفى معدات وأجهزة حديثة.	1	2	3	4	5	6	7		
5 يظهر طاقم المستشفى اهتماماً حقيقياً بحل مشكلات المرضى.	1	2	3	4	5	6	7		
6 يحتفظ المستشفى بسجلات دقيقة وموثقة.	1	2	3	4	5	6	7		
7 يلتزم المستشفى بتقديم الخدمة للمرضى بالموعد المتفق عليه.	1	2	3	4	5	6	7		
8 يحرص المستشفى على تقديم الخدمات الصحية بطريقة صحيحة من أول مرة.	1	2	3	4	5	6	7		
9 يسهل أخذ موعد بسهولة في هذا المستشفى.	1	2	3	4	5	6	7		
10 يحرص طاقم المستشفى على إخبار المرضى بالضبط عن أوقات تقديم الخدمات الصحية والعلاجية لهم.	1	2	3	4	5	6	7		
11 طاقم المستشفى دائماً على أتم الاستعداد لمساعدة وخدمة المرضى.	1	2	3	4	5	6	7		
12 يعمل طاقم المستشفى على خدمة المرضى وتلبية احتياجاتهم بأي وقت رغم انشغالهم.	1	2	3	4	5	6	7		
13 أنا أشعر بالأمان عند التعامل مع هذا المستشفى.	1	2	3	4	5	6	7		
14 أنا أثق بطاقم المستشفى.	1	2	3	4	5	6	7		
15 يتسم طاقم المستشفى بالأدب وحسن المعاملة مع المرضى.	1	2	3	4	5	6	7		
16 يتميز طاقم المستشفى بحسن الإطلاع والمعرفة والخبرة.	1	2	3	4	5	6	7		
17 يوليئي طاقم المستشفى اهتماماً وانتباهاً شخصياً.	1	2	3	4	5	6	7		
18 يتعامل طاقم المستشفى معي بعناية ودفء.	1	2	3	4	5	6	7		
19 يتفهم طاقم المستشفى شعور المرضى بعدم الراحة والاحراج.	1	2	3	4	5	6	7		
20 تتناسب ساعات عمل المستشفى جميع المرضى.	1	2	3	4	5	6	7		
21 يضع المستشفى مصلحة المرضى في مقدمة اهتمامات الادارة والعاملين.	1	2	3	4	5	6	7		

القسم ج: الابتكار: يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	لا أوافق بشدة	1	2	3	4	5	6	7	أوافق بشدة
1 يوفر المستشفى غالباً معدات تشخيصية وعلاجية جديدة ومميزة للمرضى.	1	2	3	4	5	6	7		
2 يعتبر المستشفى مبتكراً ومبدعاً مقارنة بالمستشفيات الأخرى في السوق.	1	2	3	4	5	6	7		
3 يقدم المستشفى عادة معدات تشخيصية وعلاجية غير متوفرة في المستشفيات الأخرى.	1	2	3	4	5	6	7		
4 يقدم المستشفى معدات تشخيصية وعلاجية مخصصة لتتناسب مع احتياجات المرضى.	1	2	3	4	5	6	7		
5 تتميز المعدات التشخيصية والعلاجية التي يقدمها المستشفى بوظائف وتقنيات خاصة تفوق لها في المستشفيات الأخرى.	1	2	3	4	5	6	7		
6 يقوم المستشفى بتحديث وصيانة المعدات الطبية بطريقة دورية.	1	2	3	4	5	6	7		
7 يعتبر المستشفى مبتكراً ومبدعاً في اجراء الفحوصات التشخيصية.	1	2	3	4	5	6	7		
8 يعتبر المستشفى مبتكراً ومبدعاً في الاجراءات العلاجية.	1	2	3	4	5	6	7		

9	يعتبر المستشفى مبتكراً ومبدعاً في تقديم أطباء وممرضين من ذوي الخبرات والكفاءات.	1	2	3	4	5	6	7
10	يتميز المستشفى بتقديم خدمات طبية وصحية شاملة.	1	2	3	4	5	6	7
11	الخدمات التي يقدمها المستشفى تجعلني مرتاح البال.	1	2	3	4	5	6	7
12	يتميز المستشفى بسرعة التعامل مع شكاوى المرضى.	1	2	3	4	5	6	7
13	يقدم المستشفى خدمات متميزة قبل بدء العلاج مثل خدمة الاستشارات الطبية المجانية.	1	2	3	4	5	6	7
14	يقدم المستشفى خدمات متميزة بعد انتهاء العلاج مثل خدمات الترفيه والحجوزات.	1	2	3	4	5	6	7
15	يقوم المستشفى بتحديث خدمات الإنترنت بشكل فوري ومستمر.	1	2	3	4	5	6	7
16	يتميز المستشفى بتوفير أسعار مناسبة مقارنة بالمستشفيات الأخرى.	1	2	3	4	5	6	7
17	يتميز المستشفى باستخدام وسائل توزيع ابداعية مع المرضى مثل خدمات الرعاية الصحية الإلكترونية والمحمولة.	1	2	3	4	5	6	7
18	يتميز المستشفى عن غيره من المستشفيات بتسويق المستشفى وخدماته من خلال تقديم الهدايا والحسومات.	1	2	3	4	5	6	7
19	يجذب المستشفى مجموعات وجنسيات مختلفة من المرضى على الدوام.	1	2	3	4	5	6	7
20	يتميز المستشفى ببناء علاقات ايجابية مع المرضى.	1	2	3	4	5	6	7
21	يتميز المستشفى بإجراءات تسجيل المرضى عند استخدام وحدات الرعاية المختلفة.	1	2	3	4	5	6	7
22	يتميز المستشفى بإجراءات دخول/خروج المرضى.	1	2	3	4	5	6	7
23	يتميز المستشفى بعنائه بالمرضى وعلاجهم.	1	2	3	4	5	6	7
24	يتميز المستشفى باستخدام وسائل الدفع الإلكترونية.	1	2	3	4	5	6	7

القسم د: العلامة التجارية : يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	أوافق بشدة	أوافق	متوسط	لا أوافق	لا أوافق بشدة			
1	أفضل اسم هذا المستشفى على غيره حتى إن كانت المستشفيات الأخرى تقدم خدمات ذات جودة مماثلة لهذا المستشفى.	1	2	3	4	5	6	7
2	أجد أنه من المنطقي التعامل مع هذا المستشفى مراراً وتكراراً حتى إن كانت المستشفيات الأخرى تقدم خدمات ذات جودة مماثلة لهذا المستشفى.	1	2	3	4	5	6	7
3	أجد اسم هذا المستشفى أكثر جاذبية من أسماء المستشفيات الأخرى.	1	2	3	4	5	6	7
4	أعتقد أن قرار إختيار خدمات هذا المستشفى على غيره من المستشفيات هو قرار ذكي.	1	2	3	4	5	6	7
5	تقتضي استراتيجية المخاطرة المنخفضة شراء خدمات هذا المستشفى على خدمات المستشفيات الأخرى.	1	2	3	4	5	6	7
6	يوحي اسم هذا المستشفى على تفوقه عن غيره من المستشفيات الأخرى.	1	2	3	4	5	6	7
7	أعتقد أنه من الذكاء التعامل مع هذا المستشفى حتى إن كانت المستشفيات الأخرى تقدم خدمات ذات جودة مماثلة لهذا المستشفى.	1	2	3	4	5	6	7
8	أعتقد أنه من الذكاء التعامل مع هذا المستشفى حتى إن كانت المستشفيات الأخرى تقدم خدمات ذات أسعار مماثلة لهذا المستشفى.	1	2	3	4	5	6	7
9	سوف أختار هذا المستشفى حتى لو لم أكن متأكداً تماماً من تفوقه على غيره من المستشفيات .	1	2	3	4	5	6	7
10	قد يكون اسم هذا المستشفى هو السبب الرئيسي الذي دفعني للتعامل معه.	1	2	3	4	5	6	7
11	سوف أختار هذا المستشفى حتى لو أتيت لي فرصة التعامل مع مستشفى آخر يقدم خدمات مماثلة لهذا المستشفى.	1	2	3	4	5	6	7

القسم هـ: ملف المجيب :

المادة	يرجى وضع علامة (√) عند الخيار المناسب
الجنس	- ذكر
	- أنثى
العمر	- 25 – 18
	- 35 – 26
	- 45 – 36
	- 55 – 46
	- أكثر من 56 عاما
مستوى التعليم	- ثانوية عامة
	- دبلوم
	- بكالوريوس
	- ماجستير
	- دكتوراة
	- أخرى (يرجى التحديد).....
الحالة الإجتماعية	- أعزب/عزباء
	- متزوج/ة
	- مطلق/ة
	- أرمل/ة
	- منفصل/ة
الراتب الشهري بالدولار	- أقل من 1000
	- 2000 – 1001
	- 3000 – 2001
	- أكثر من 3001
طريقة الدفع	- شركة التأمين
	- الحكومة
	- على النفقة الخاصة
	- أخرى (يرجى التحديد).....
بلد المنشأ (الجنسية)	- دول الخليج
	- اليمن
	- سوريا
	- فلسطين
	- ليبيا
	- السودان
	- العراق
	- الجزائر
	- أخرى (يرجى التحديد).....
مرات القدوم للعلاج	- مرة واحدة
	- مرتين وأكثر

APPENDIX B
PART 4

FIELD STUDY ARABIC QUESTIONNAIRE

سؤال : هل قدمت الى الاردن بهدف العلاج؟ ☐ لا ☐ نعم

ملاحظة : إذا كانت اجابتك على هذا السؤال "نعم" من فضلك أكمل الإجابة على الاستبيان ادناه.

القسم أ: إدارة العلاقات مع المرضى: يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	7	6	5	4	3	2	1
1 طاقم المستشفى متحفز لمساعدة المرضى والاستجابة لهم (من خلال التفاعل ونقاط الاتصال المباشر مع المرضى).	7	6	5	4	3	2	1
2 يوفر هذا المستشفى قنوات تواصل تمكن المرضى و المستشفى من التواصل معا.	7	6	5	4	3	2	1
3 يسعى طاقم المستشفى الى فهم متكامل لإحتياجات المرضى من خلال أخذ معلومات وافية عن المريض.	7	6	5	4	3	2	1
4 طاقم المستشفى على أتم الاستعداد لتقديم الخدمة الفورية للمرضى.	7	6	5	4	3	2	1
5 يتجاوب المستشفى مع اقتراحاتي بشأن تعديل وتطوير الخدمات والمنتجات الصحية والعلاجية.	7	6	5	4	3	2	1
6 يشركني المستشفى في الخدمات الصحية القائمة على التكنولوجيا، مثل تقديم الخدمات الصحية عن طريق الهاتف الخليوي أو شبكة الانترنت.	7	6	5	4	3	2	1
7 يشركني المستشفى بصفة شخصية فيما يتعلق بتطور حالتي الصحية.	7	6	5	4	3	2	1
8 يلتزم المستشفى بإجراء التعديلات اللازمة لتناسب مع إحتياجات المرضى.	7	6	5	4	3	2	1
9 يقدم المستشفى اقتراحات للمرضى حول المنتجات والخدمات الصحية والعلاجية.	7	6	5	4	3	2	1
10 يمتلك المستشفى برامج للمحافظة على ولاء المرضى ورضاهم عن الخدمات.	7	6	5	4	3	2	1
11 يمتلك المستشفى برمجيات الحاسوب المناسبة لخدمة المرضى.	7	6	5	4	3	2	1
12 يمتلك المستشفى معدات الحاسوب والأجهزة المناسبة لخدمة المرضى.	7	6	5	4	3	2	1
13 يمتلك المستشفى معلومات كافية عن المرضى متوفرة في جميع نقاط الإتصال.	7	6	5	4	3	2	1
14 يمتلك المستشفى قاعدة بيانات شاملة حول المرضى.	7	6	5	4	3	2	1
15 يستغل طاقم المستشفى تكنولوجيا الحاسوب لبناء علاقات ايجابية مع المرضى.	7	6	5	4	3	2	1
16 عند حدوث مشكله و بغض النظر عن مصدرها، يتحمل المستشفى والمرضى معا المسؤولية في التغلب عليها.	7	6	5	4	3	2	1
17 يعمل المستشفى و المرضى معا في حل مشاكل بعضهما البعض.	7	6	5	4	3	2	1
18 يتحمل المستشفى والمرضى معا مسؤولية انجاز الأمور.	7	6	5	4	3	2	1

القسم ب: جودة الخدمة: يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	7	6	5	4	3	2	1	أوافق بشدة
1 يمتلك هذا المستشفى مواد دعائية بصرية جذابة تتناسب مع طبيعة الخدمات الصحية والعلاجية التي يقدمها.	7	6	5	4	3	2	1	
2 يتميز طاقم المستشفى بحسن الهندام والمظهر.	7	6	5	4	3	2	1	
3 يمتلك المستشفى معدات وأجهزة حديثة.	7	6	5	4	3	2	1	
4 يحتفظ المستشفى بمجلات دقيقة وموثقة.	7	6	5	4	3	2	1	
5 يلتزم المستشفى بتقديم الخدمة للمرضى بالموعد المتفق عليه.	7	6	5	4	3	2	1	
6 يحرص المستشفى على تقديم الخدمات الصحية بطريقة صحيحة من أول مرة.	7	6	5	4	3	2	1	
7 يحرص طاقم المستشفى على إخبار المرضى بالضبط عن أوقات تقديم الخدمات الصحية والعلاجية لهم.	7	6	5	4	3	2	1	
8 طاقم المستشفى دائماً على أتم الإستعداد لمساعدة وخدمة المرضى.	7	6	5	4	3	2	1	
9 يعمل طاقم المستشفى على خدمة المرضى وتلبية احتياجاتهم بأي وقت رغم انشغالهم.	7	6	5	4	3	2	1	
10 أنا أشعر بالأمان عند التعامل مع هذا المستشفى.	7	6	5	4	3	2	1	
11 أنا أتق بطاقم المستشفى.	7	6	5	4	3	2	1	
12 يتميز طاقم المستشفى بحسن الإطلاع والمعرفة والخبرة.	7	6	5	4	3	2	1	
13 يتعامل طاقم المستشفى معي بعناية و دفاء.	7	6	5	4	3	2	1	
14 تناسب ساعات عمل المستشفى جميع المرضى.	7	6	5	4	3	2	1	
15 يضع المستشفى مصلحة المرضى في مقدمة اهتمامات الادارة والعاملين.	7	6	5	4	3	2	1	

القسم ج: الابتكار: يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	7	6	5	4	3	2	1	أوافق بشدة
1 يعتبر المستشفى مبتكراً ومبدعاً مقارنة بالمستشفيات الأخرى في السوق.	7	6	5	4	3	2	1	
2 يقدم المستشفى عادة معدات تشخيصية وعلاجية غير متوفرة في المستشفيات الأخرى.	7	6	5	4	3	2	1	
3 يقدم المستشفى معدات تشخيصية وعلاجية مخصصة لتناسب مع احتياجات المرضى.	7	6	5	4	3	2	1	
4 تتميز المعدات التشخيصية والعلاجية التي يقدمها المستشفى بوظائف وتقنيات خاصة تفقر لها في المستشفيات الأخرى.	7	6	5	4	3	2	1	
5 يعتبر المستشفى مبتكراً ومبدعاً في اجراء الفحوصات التشخيصية.	7	6	5	4	3	2	1	
6 يعتبر المستشفى مبتكراً ومبدعاً في الاجراءات العلاجية.	7	6	5	4	3	2	1	
7 يعتبر المستشفى مبتكراً ومبدعاً في تقديم أطباء وممرضين من ذوي الخبرات والكفاءات.	7	6	5	4	3	2	1	
8 الخدمات التي يقدمها المستشفى تجعلني مرتاح البال.	7	6	5	4	3	2	1	
9 يتميز المستشفى بسرعة التعامل مع شكاوى المرضى.	7	6	5	4	3	2	1	
10 يقدم المستشفى خدمات متميزة قبل بدء العلاج مثل خدمة الاستشارات الطبية المجانية.	7	6	5	4	3	2	1	
11 يتميز المستشفى بتوفير أسعار مناسبة مقارنة بالمستشفيات الأخرى.	7	6	5	4	3	2	1	

12	يتميز المستشفى باستخدام وسائل توزيع ابداعية مع المرضى مثل خدمات الرعاية الصحية الإلكترونية والمحمولة.	1	2	3	4	5	6	7
13	يتميز المستشفى عن غيره من المستشفيات بتسويق المستشفى وخدماته من خلال تقديم الهدايا والحسومات.	1	2	3	4	5	6	7
14	يجذب المستشفى مجموعات وجنسيات مختلفة من المرضى على الدوام.	1	2	3	4	5	6	7
15	يتميز المستشفى ببناء علاقات ايجابية مع المرضى.	1	2	3	4	5	6	7
16	يتميز المستشفى بإجراءات تسجيل المرضى عند استخدام وحدات الرعاية المختلفة.	1	2	3	4	5	6	7
17	يتميز المستشفى بإجراءات دخول/خروج المرضى.	1	2	3	4	5	6	7
18	يتميز المستشفى بعنايته بالمرضى وعلاجهم.	1	2	3	4	5	6	7

القسم د: العلامة التجارية : يرجى الإشارة الى درجة اتفاقك مع العبارات المذكورة أدناه. ضع دائرة حول الإجابة التي تجدها مناسبة بين 1 و 7. يرجى العلم بأنه لا يوجد أجابة صحيحة أو خاطئة.

العبارة	لا أوافق أبداً	1	2	3	4	5	6	7	أوافق بشدة
1 أجد أنه من المنطقي التعامل مع هذا المستشفى مراراً وتكراراً حتى إن كانت المستشفيات الأخرى تقدم خدمات ذات جودة مماثلة لهذا المستشفى.	1	2	3	4	5	6	7		
2 أجد اسم هذا المستشفى أكثر جاذبية من أسماء المستشفيات الأخرى.	1	2	3	4	5	6	7		
3 أعتقد ان قرار إختيار خدمات هذا المستشفى على غيره من المستشفيات هو قرار ذكي.	1	2	3	4	5	6	7		
4 يوحى اسم هذا المستشفى على تفوقه عن غيره من المستشفيات الأخرى.	1	2	3	4	5	6	7		
5 أعتقد أنه من الذكاء التعامل مع هذا المستشفى حتى إن كانت المستشفيات الأخرى تقدم خدمات ذات أسعار مماثلة لهذا المستشفى.	1	2	3	4	5	6	7		

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القسم هـ: ملف المجيب :

المادة	يرجى وضع علامة (√) عند الخيار المناسب
الجنس	- ذكر
	- أنثى
العمر	- 25 – 18
	- 35 – 26
	- 45 – 36
	- 55 – 46
	- أكثر من 56 عاما
مستوى التعليم	- ثانوية عامة
	- دبلوم
	- بكالوريوس
	- ماجستير
	- دكتوراة
	- أخرى (يرجى التحديد).....
الحالة الإجتماعية	- أعزب/عزباء
	- متزوج/ة
	- مطلق/ة
	- أرمل/ة
	- منفصل/ة
الراتب الشهري بالدولار	- أقل من 1000
	- 2000 – 1001
	- 3000 – 2001
	- أكثر من 3001
طريقة الدفع	- شركة التأمين
	- الحكومة
	- على النفقة الخاصة
	- أخرى (يرجى التحديد).....
بلد المنشأ (الجنسية)	- دول الخليج
	- اليمن
	- سوريا
	- فلسطين
	- ليبيا
	- السودان
	- العراق
	- الجزائر
	- أخرى (يرجى التحديد).....
مرات القدوم للعلاج	- مرة واحدة
	- مرتين وأكثر

**APPENDIX C
PART 1**

REQUEST TO PARTICIPATE



Dear Director of Jordan Hospital,

I write to seek your support for a research study looking to investigate brand equity drivers in term of patient relationship management, service quality, and innovation in the private hospitals in the Hashemite Kingdom of Jordan from medical tourists' perspective. This study will provide invaluable insights into what constitutes successful brand equity building. The research is being carried by a PhD student at University Utara Malaysia (UUM), Faye Shriedeh, a research student within the Department of Marketing. The success of this research depends very much on your cooperation in this project. The project will cover medical tourists obtaining medical services in this hospital. The questionnaire will typically take from 20 to 25 minutes to complete the questionnaire and within three weeks upon your permission. The survey is comprehensive and will be completed at your business's workplace by a variety of one hundred and eighty two participants of medical tourists. I will summarize the survey results and if you are interested. I will give you a copy of the results by hand to your address. All of the information collected will be kept strictly confidential. The results might also be used for publication purposes. However, every step will be taken to ensure any quotes used will not be identified as coming from you, unless you explicitly give permission for me to do so.

If you have any concerns to know more about this study, please do not hesitate to contact me on

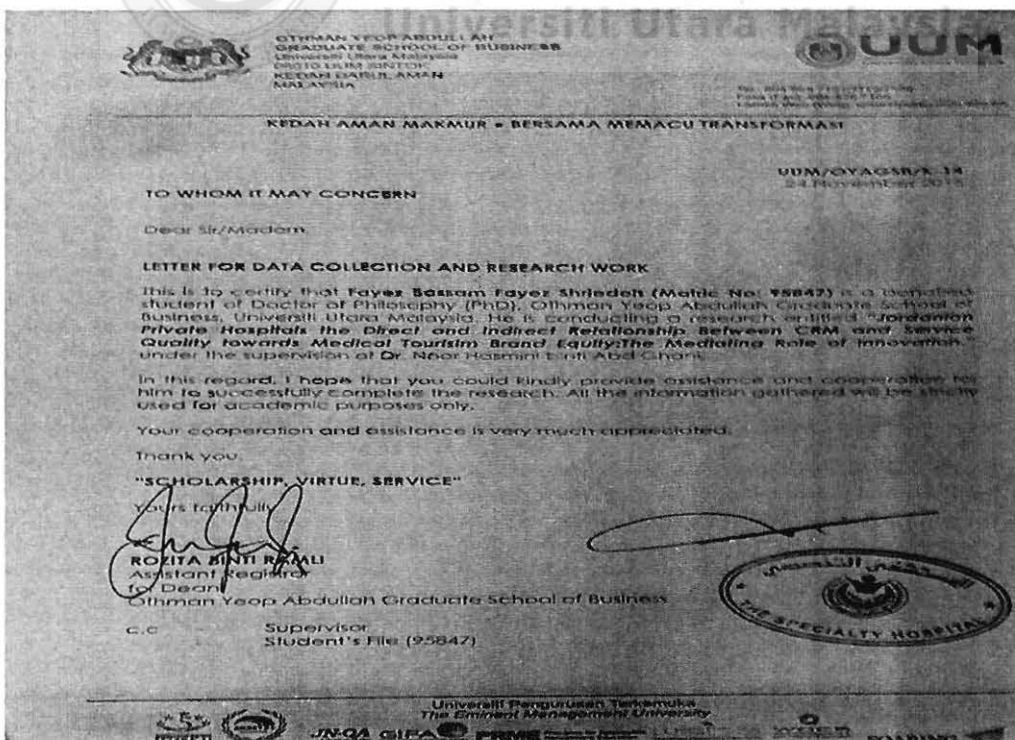
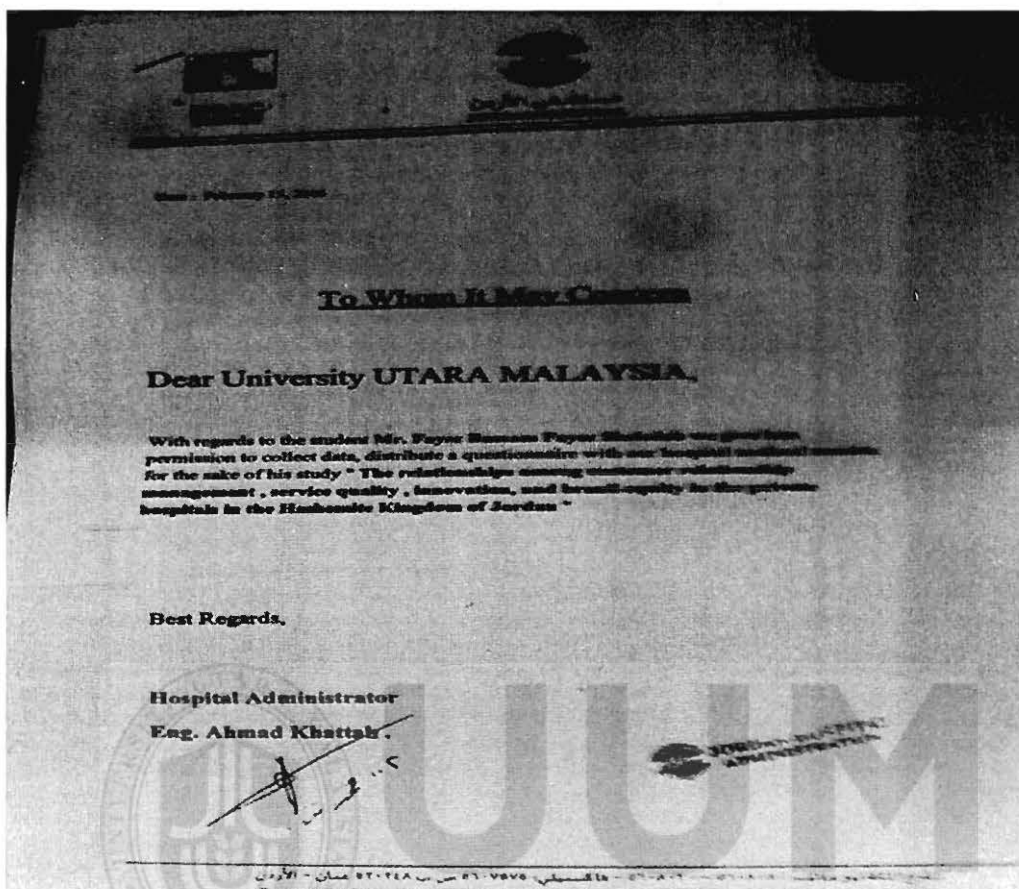
Faye.shriedeh@yahoo.com, or directly at this number: +962797188993.

Thank you for your support and assistance.

Faye Bassam Faye Shriedeh

UNIVERSITI UTARA MALAYSIA

06010 SINTOK, KEDAH



APPENDIX D

EXPLORATORY FACTOR ANALYSIS

1. EXPLORATORY FACTOR ANALYSIS ON CRM

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
KM1	4.3793	1.30510	87
KM2	4.7816	1.12504	87
KM3	4.8046	1.23739	87
KM4	4.4828	1.14995	87
CI2	2.3793	1.11273	87
CI4	2.4598	1.14936	87
CI5	2.8161	1.04022	87
LT1	4.4368	1.11753	87
LT2	4.4598	1.14936	87
LT3	4.7126	1.10924	87
TB1	4.138	1.4641	87
TB2	4.1609	1.37142	87
TB3	3.9540	1.31987	87
TB5	4.2529	1.18340	87
TB6	4.2874	1.38016	87
JP1	4.2414	1.32037	87
JP2	3.8391	1.23772	87
JP3	4.0460	1.34604	87

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.824
Bartlett's Test of Sphericity	Approx. Chi-Square
	949.087
	df
	153
	Sig.
	.000

Communalities

	Initial	Extraction
KM1	1.000	.757
KM2	1.000	.850
KM3	1.000	.737
KM4	1.000	.751
CI2	1.000	.813
CI4	1.000	.902
CI5	1.000	.789
LT1	1.000	.782
LT2	1.000	.759
LT3	1.000	.656
TB1	1.000	.755
TB2	1.000	.802
TB3	1.000	.783
TB5	1.000	.746
TB6	1.000	.724
JP1	1.000	.824
JP2	1.000	.747
JP3	1.000	.597

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.373	35.407	35.407	6.373	35.407	35.407	3.793	21.071	21.071
2	2.433	13.517	48.923	2.433	13.517	48.923	3.115	17.305	38.376
3	2.191	12.174	61.097	2.191	12.174	61.097	2.512	13.957	52.333
4	1.547	8.597	69.694	1.547	8.597	69.694	2.207	12.261	64.594
5	1.229	6.826	76.521	1.229	6.826	76.521	2.147	11.927	76.521
6	.656	3.643	80.164						
7	.555	3.086	83.250						
8	.463	2.571	85.821						
9	.413	2.294	88.115						
10	.373	2.070	90.185						
11	.354	1.966	92.151						
12	.288	1.602	93.753						
13	.255	1.418	95.171						

14	.216	1.199	96.370						
15	.200	1.108	97.478						
16	.173	.962	98.440						
17	.165	.917	99.357						
18	.116	.643	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
TB3	.870				
TB2	.865				
TB1	.849				
TB5	.802				
TB6	.796				
KM2		.878			
KM4		.846			
KM1		.816			
KM3		.806			
CI4			.898		
CI5			.871		
CI2			.852		
LT1				.827	
LT2				.817	
LT3				.726	
JP1					.863
JP2					.830
JP3					.679

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

2. EXPLORATORY FACTOR ANALYSIS OF SQ

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
TA1	4.5172	1.31946	87
TA3	4.3793	1.41620	87
TA4	4.5172	1.22818	87
RE2	4.6897	1.28778	87
RE3	4.2874	1.38856	87
RE4	4.5402	1.31011	87
RS2	4.7816	1.30674	87
RS3	4.8391	1.18982	87
RS4	4.7701	1.45235	87
AS1	4.9195	1.22207	87
AS2	4.9195	1.31378	87
AS4	4.2759	1.39509	87
EM2	5.0000	1.27589	87
EM4	5.1609	1.11932	87
EM5	4.9080	1.37783	87

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.815
Bartlett's Test of Sphericity	Approx. Chi-Square
	1000.684
	df
	105
	Sig.
	.000

Communalities

	Initial	Extraction
TA1	1.000	.903
TA3	1.000	.884
TA4	1.000	.839
RE2	1.000	.837
RE3	1.000	.859
RE4	1.000	.873
RS2	1.000	.872
RS3	1.000	.885
RS4	1.000	.702

AS1	1.000	.731
AS2	1.000	.782
AS4	1.000	.755
EM2	1.000	.881
EM4	1.000	.919
EM5	1.000	.846

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.464	43.093	43.093	6.464	43.093	43.093	2.707	18.044	18.044
2	2.175	14.498	57.591	2.175	14.498	57.591	2.616	17.438	35.481
3	1.422	9.478	67.069	1.422	9.478	67.069	2.564	17.094	52.575
4	1.363	9.089	76.158	1.363	9.089	76.158	2.447	16.315	68.890
5	1.145	7.632	83.789	1.145	7.632	83.789	2.235	14.899	83.789
6	.538	3.586	87.375						
7	.456	3.040	90.415						
8	.324	2.162	92.577						
9	.264	1.759	94.336						
10	.210	1.401	95.737						
11	.180	1.201	96.938						
12	.150	1.000	97.938						
13	.130	.865	98.803						
14	.104	.693	99.495						
15	.076	.505	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
TA1	.914				
TA3	.893				
TA4	.879				
RE4		.856			
RE3		.846			
RE2		.817			
EM2			.903		
EM4			.878		
EM5			.770		
RS3				.881	
RS2				.865	
RS4				.762	
AS4					.851
AS2					.800
AS1					.757

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

3. EXPLORATORY FACTOR ANALYSIS OF INNOVATION[†]

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
PD2	4.7701	1.30919	87
PD3	4.8161	1.45896	87
PD4	4.9885	1.24353	87
PD5	5.2069	1.25881	87
PS1	4.6437	1.62092	87
PS2	4.3908	1.67995	87
PS3	4.4253	1.59674	87
SV2	5.0345	1.37628	87
SV3	5.1494	1.27159	87
SV4	5.0115	1.35109	87
MK1	4.9770	1.32925	87
MK2	5.1264	1.17932	87
MK3	5.0000	1.38933	87
MK4	5.1494	1.30766	87

AD1	5.2184	1.27976	87
AD2	5.2069	1.27715	87
AD3	4.9080	1.46773	87
AD4	5.5632	1.13815	87

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.816
Bartlett's Test of Sphericity Approx. Chi-Square	806.065
df	153
Sig.	.000

Communalities

	Initial	Extraction
PD2	1.000	.740
PD3	1.000	.812
PD4	1.000	.777
PD5	1.000	.689
PS1	1.000	.678
PS2	1.000	.661
PS3	1.000	.791
SV2	1.000	.790
SV3	1.000	.791
SV4	1.000	.698
MK1	1.000	.613
MK2	1.000	.756
MK3	1.000	.740
MK4	1.000	.612
AD1	1.000	.722
AD2	1.000	.663
AD3	1.000	.640
AD4	1.000	.598

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.682	37.123	37.123	6.682	37.123	37.123	3.070	17.055	17.055
2	2.291	12.730	49.853	2.291	12.730	49.853	2.776	15.421	32.477
3	1.474	8.187	58.040	1.474	8.187	58.040	2.580	14.335	46.812
4	1.220	6.780	64.820	1.220	6.780	64.820	2.203	12.237	59.049
5	1.104	6.131	70.952	1.104	6.131	70.952	2.142	11.902	70.952
6	.803	4.462	75.414						
7	.751	4.174	79.588						
8	.596	3.309	82.897						
9	.500	2.780	85.678						
10	.465	2.582	88.260						
11	.407	2.260	90.520						
12	.363	2.014	92.534						
13	.305	1.694	94.228						
14	.282	1.568	95.796						
15	.245	1.362	97.158						
16	.208	1.158	98.315						
17	.155	.864	99.179						
18	.148	.821	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix^a

	Component				
	1	2	3	4	5
PD4	.854				
PD3	.816				
PD2	.812				
PD5	.763				
MK3		.843			
MK2		.790			
MK4		.710			
MK1		.630			
AD3			.777		
AD1			.761		
AD4			.701		
AD2			.611		

SV2				.816	
SV3				.799	
SV4				.749	
PS3					.802
PS2					.713
PS1					.709

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.^a

a. Rotation converged in 6 iterations.

4. EXPLORATORY FACTOR ANALYSIS OF OVERALL BRAND EQUITY

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
BE2	4.3793	1.36604	87
BE3	4.0805	1.53425	87
BE4	4.5517	1.39566	87
BE6	4.1149	1.48970	87
BE8	4.2759	1.56777	87

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.819
Bartlett's Test of Sphericity	Approx. Chi-Square	359.302
	df	10
	Sig.	.000

Communalities

	Initial	Extraction
BE2	1.000	.718
BE3	1.000	.761
BE4	1.000	.833
BE6	1.000	.779
BE8	1.000	.769

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.860	77.200	77.200	3.860	77.200	77.200
2	.511	10.221	87.421			
3	.347	6.936	94.357			
4	.152	3.049	97.406			
5	.130	2.594	100.000			

Extraction Method: Principal Component Analysis.



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APPENDIX E

DATA CODING AND ENTRY

Constructs	Dimension	Item	Item Code	Value	Measure
Customer Relationship Management (CRM)	Knowledge Management (KM)	The employees of this hospital are motivated to help patients in a responsive manner, e.g. through interaction and touch points.	KM1	1-7	Scale
		This hospital provides communication channels to enable interaction between patients and hospital.	KM2	1-7	Scale
		The employees of this hospital fully try to understand the patient's needs via generating a lot of information about me.	KM3	1-7	Scale
		The employees of this hospital are willing to provide prompt service to the patients.	KM4	1-7	Scale
	Customer Involvement (CI)	This hospital is responsive to modifying the products and services according to my suggestions.	CI1	1-7	Scale
		This hospital involves me in technology-based health services such as mobile-based health services, web e-services.	CI2	1-7	Scale
		This hospital involves me directly in the development of my healthcare status.	CI3	1-7	Scale
	Long -term Association (L.T)	This hospital is committed to making adjustments to suit patients' needs.	LT1	1-7	Scale
		This hospital provides suggestions for products and services for patients.	LT2	1-7	Scale
		This hospital has patient loyalty or retention programs.	LT3	1-7	Scale
	Technology based CRM (TB)	This hospital has the right software to serve patients.	TB1	1-7	Scale
		This hospital has the right hardware to serve patients.	TB2	1-7	Scale
		This hospital has adequate information about patients available in every touch point.	TB3	1-7	Scale
		This hospital maintains a comprehensive database of patients.	TB4	1-7	Scale
		The employees of this hospital are able to build relationship with patients through utilization of computer technology.	TB5	1-7	Scale

Constructs	Dimension	Item	Item Code	Value	Measure
	Joint Problem Solving (JP)	No matter who is the source of problem, responsibility is taken by this hospital and patients to overcome the difficulties.	JP1	1-7	Scale
		This hospital works with patients to help solve each other's conflicts.	JP2	1-7	Scale
		The parties are jointly responsible for getting things done.	JP3	1-7	Scale
Service Quality (SQ)	Tangibility (TA)	This hospital has visually appealing materials associated with the service.	TA1	1-7	Scale
		The employees of this hospital are well dressed and appear neat.	TA2	1-7	Scale
		Availability of modern equipment in this hospital.	TA3	1-7	Scale
	Reliability (RE)	This hospital maintains error-free records.	RE1	1-7	Scale
		This hospital provides services at promised times.	RE2	1-7	Scale
		This hospital performs the service right from the first time.	RE3	1-7	Scale
	Responsiveness (RS)	The staff of this hospital tells patients exactly when services will be provided.	RS1	1-7	Scale
		The employees of this hospital are always willing to help patients'.	RS2	1-7	Scale
		The employees of this hospital are never too busy to respond to patients requests'.	RS3	1-7	Scale
	Assurance (AS)	I feel secure in dealing with this hospital.	AS1	1-7	Scale
		I could trust the employees of this hospital.	AS2	1-7	Scale
		The employees of this hospital are knowledgeable.	AS3	1-7	Scale
	Empathy (EM)	The staff of this hospital treats me with warm and caring attitude.	EM1	1-7	Scale
		This hospital does have operating hours convenient to all patients.	EM2	1-7	Scale
		The staff of this hospital has best interests of patients in their heart.	EM3	1-7	Scale

Constructs	Dimension	Item	Item Code	Value	Measure
Innovation	Product Innovation (PD)	This hospital is highly innovative compared to other hospitals in the market.	PD1	1-7	Scale
		This hospital often launches diagnostic and treatment equipments not available in the market.	PD2	1-7	Scale
		This hospital launches personalized diagnostic and treatment equipments according to the patient needs.	PD3	1-7	Scale
		This hospital diagnostic and treatment equipments have functions and features other hospitals lack.	PD4	1-7	Scale
	Process Innovation (PS)	This hospital provides innovation in diagnostic procedures.	PS1	1-7	Scale
		This hospital provides innovation in treatment processes.	PS2	1-7	Scale
		This hospital provides skills and experience medical staff.	PS3	1-7	Scale
	Service Innovation (SV)	This hospital's services put my mind at ease.	SV1	1-7	Scale
		This hospital is particularly fast when handling patient complaints.	SV2	1-7	Scale
		This hospital provides innovative services before treatment such as free consulting services.	SV3	1-7	Scale
	Marketing Innovation (MK)	This hospital often leads over other hospitals in launching innovative prices.	MK1	1-7	Scale
		This hospital provides innovative distributing methods to the market such as electronic health and mobile health.	MK2	1-7	Scale
		This hospital leads over other hospitals in promoting the hospital such as gifts and special discounts.	MK3	1-7	Scale
		This hospital continually attracts different patient groups.	MK4	1-7	Scale
	Administrative Innovation (AD)	This hospital is innovative in building patient relationship.	AD1	1-7	Scale
		This hospital is innovative in registration process when using different care units.	AD2	1-7	Scale
		This hospital is innovative in admission/discharges process.	AD3	1-7	Scale
		This hospital is innovative in patient care process.	AD4	1-7	Scale

Constructs	Item	Item Code	Value	Measure
Overall Brand Equity (BE)	It makes sense to frequently choose this hospital, even if another hospital has the same services.	BE1	1-7	Scale
	The name of this hospital is more attractive to me than any other hospital name.	BE2	1-7	Scale
	It seems smarter to choose the services of this hospital rather than the services of any other hospital.	BE3	1-7	Scale
	The name of this hospital implies something superior to other hospitals.	BE4	1-7	Scale
	It is smarter to choose this hospital, even if another hospital has the same quality as this hospital.	BE5	1-7	Scale
Participants' Demographic Factors	Gender		1-2	Scale
	Age		1-5	Scale
	Education		1-6	Scale
	Marital status		1-5	Scale
	Monthly income		1-4	Scale
	Payment type		1-4	Scale
	Country of origin (COO)		1-9	Scale
	Frequency of visit		1-2	Scale

APPENDIX F

FREQUENCY STATISTICS OF RESPONDENTS

Frequency Table

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	302	61.5	61.5	61.5
Female	189	38.5	38.5	100.0
Total	491	100.0	100.0	

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18-25	63	12.8	12.8	12.8
26-35	138	28.1	28.1	40.9
36-45	151	30.8	30.8	71.7
46-55	78	15.9	15.9	87.6
Over 56	61	12.4	12.4	100.0
Total	491	100.0	100.0	

Education

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid High School	52	10.6	10.6	10.6
Diploma	108	22.0	22.0	32.6
Bachelor	233	47.5	47.5	80.0
Master	76	15.5	15.5	95.5
PhD	21	4.3	4.3	99.8
Others	1	.2	.2	100.0
Total	491	100.0	100.0	

Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Single	104	21.2	21.2	21.2
Married	322	65.6	65.6	86.8
Divorced	29	5.9	5.9	92.7
Widowed	30	6.1	6.1	98.8
Separated	6	1.2	1.2	100.0
Total	491	100.0	100.0	

Monthly Income

	Frequency	Percent	Valid Percent	Cumulative Percent
Below 1000 USD	272	55.4	55.4	55.4
1001-2000 USD	137	27.9	27.9	83.3
Valid 2001-3000 USD	55	11.2	11.2	94.5
Over 3001 USD	27	5.5	5.5	100.0
Total	491	100.0	100.0	

Payment Type

	Frequency	Percent	Valid Percent	Cumulative Percent
Insurance	131	26.7	26.7	26.7
Government	191	38.9	38.9	65.6
Valid By own	123	25.1	25.1	90.6
Others	46	9.4	9.4	100.0
Total	491	100.0	100.0	

COO

	Frequency	Percent	Valid Percent	Cumulative Percent
Yemen	148	30.1	30.1	30.1
Gulf Countries	26	5.3	5.3	35.4
Libya	126	25.7	25.7	61.1
Palestine	50	10.2	10.2	71.3
Sudan	31	6.3	6.3	77.6
Valid Algeria	44	9.0	9.0	86.6
Iraq	20	4.1	4.1	90.6
Syria	26	5.3	5.3	95.9
Others	20	4.1	4.1	100.0
Total	491	100.0	100.0	

Visit Frequency

	Frequency	Percent	Valid Percent	Cumulative Percent
One time	301	61.3	61.3	61.3
Valid 2 times and above	190	38.7	38.7	100.0
Total	491	100.0	100.0	

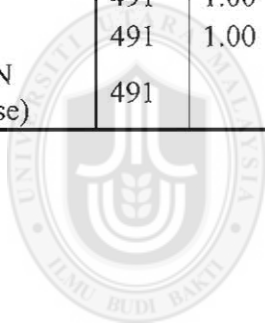
APPENDIX G

DESCRIPTIVE STATISTICS OF MEASUREMENT ITEMS

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
KM1	491	1.00	7.00	4.2851	1.39246
KM2	491	1.00	7.00	4.1752	1.27530
KM3	491	1.00	7.00	4.3503	1.37005
KM4	491	1.00	7.00	4.2749	1.45538
CI1	491	1.00	7.00	4.0916	1.43062
CI2	491	1.00	7.00	3.7149	1.34929
CI3	491	1.00	7.00	3.5723	1.34026
LT1	491	1.00	7.00	4.1670	1.43307
LT2	491	1.00	7.00	4.0998	1.37923
LT3	491	1.00	7.00	4.0754	1.36741
TB1	491	1.00	7.00	4.6171	1.50646
TB2	491	1.00	7.00	4.6069	1.58252
TB3	491	1.00	7.00	4.3177	1.44451
TB4	491	1.00	7.00	3.9084	1.37831
TB5	491	1.00	7.00	4.1914	1.38800
JP1	491	1.00	7.00	4.3442	1.43487
JP2	491	1.00	7.00	4.2281	1.36161
JP3	491	1.00	7.00	4.2464	1.27550
TA1	491	1.00	7.00	4.6497	1.82150
TA2	491	1.00	7.00	4.6802	1.86416
TA3	491	1.00	7.00	4.5234	1.70622
RE1	491	1.00	7.00	4.8248	1.90752
RE2	491	1.00	7.00	4.8024	1.91548
RE3	491	1.00	7.00	5.0102	1.91287
RS1	491	1.00	7.00	4.1976	1.86364
RS2	491	1.00	7.00	4.4623	1.84172
RS3	491	1.00	7.00	4.8187	1.89460
AS1	491	1.00	7.00	4.6904	2.01471
AS2	491	1.00	7.00	4.4705	1.97862
AS3	491	1.00	7.00	4.5825	1.90991
EM1	491	1.00	7.00	4.5458	1.94921
EM2	491	1.00	7.00	4.6130	1.89439
EM3	491	1.00	7.00	4.7576	2.05046
PD1	491	1.00	7.00	4.6619	1.49685
PD2	491	1.00	7.00	4.3055	1.46397
PD3	491	1.00	7.00	4.9328	1.43341
PD4	491	1.00	7.00	4.7739	1.34309

PS1	491	1.00	7.00	4.3992	1.49950
PS2	491	1.00	7.00	4.4460	1.60822
PS3	491	1.00	7.00	4.3809	1.55562
SV1	491	1.00	7.00	4.5132	1.60399
SV2	491	1.00	7.00	4.5947	1.61520
SV3	491	1.00	7.00	4.7821	1.47197
MK1	491	1.00	7.00	4.4033	1.50655
MK2	491	1.00	7.00	4.4338	1.83537
MK3	491	1.00	7.00	4.3870	1.66137
MK4	491	1.00	7.00	4.2729	1.62596
AD1	491	1.00	7.00	4.6151	1.50119
AD2	491	1.00	7.00	4.3747	1.53533
AD3	491	1.00	7.00	4.7271	1.93751
AD4	491	1.00	7.00	4.3075	1.63667
BE1	491	1.00	7.00	5.3707	1.29563
BE2	491	1.00	7.00	5.4562	1.17091
BE3	491	1.00	7.00	5.3890	1.20940
BE4	491	1.00	7.00	5.3666	1.15707
BE5	491	1.00	7.00	5.4155	1.27874
Valid N (listwise)	491				



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APPENDIX H PART 1

NON RESPONSE BIAS FOR STUDY CONSTRUCTS BETWEEN MORNING AND AFTERNOON PERIOD

Group Statistics

Construct	Survey Time	N	Mean	Std. Deviation	Std. Error Mean
CRM	Morning	297	4.2039	0.92040	.05341
	Afternoon	157	4.1637	0.96683	.07716
KM	Morning	297	4.3451	1.09726	.06367
	Afternoon	157	4.2707	1.15191	.09193
CI	Morning	297	3.8171	1.19237	.06919
	Afternoon	157	3.7983	1.21468	.09694
L.T	Morning	297	4.1425	1.16710	.06772
	Afternoon	157	4.0786	1.23525	.09858
TB	Morning	297	4.3657	1.10992	.06440
	Afternoon	157	4.3758	1.14093	.09106
JP	Morning	297	4.3490	1.15264	.06688
	Afternoon	157	4.2951	1.20005	.09577
SQ	Morning	297	4.7522	1.45270	.08429
	Afternoon	157	4.6968	1.47454	.11768
TA	Morning	297	4.7598	1.60492	.09313
	Afternoon	157	4.6476	1.65304	.13193
RE	Morning	297	4.9944	1.70551	.09896
	Afternoon	157	4.9023	1.74934	.13961
RS	Morning	297	4.5903	1.45921	.08467
	Afternoon	157	4.5796	1.47009	.11733
AS	Morning	297	4.6599	1.77316	.10289
	Afternoon	157	4.6369	1.75224	.13984
EM	Morning	297	4.7565	1.74161	.10106
	Afternoon	157	4.7176	1.74237	.13906
Innovation	Morning	297	4.6068	1.08721	.06309
	Afternoon	157	4.4897	1.20099	.09585
PD	Morning	297	4.7786	1.13529	.06588
	Afternoon	157	4.5573	1.22372	.09766
PS	Morning	297	4.4837	1.29904	.07538
	Afternoon	157	4.3907	1.39248	.11113
SV	Morning	297	4.6936	1.35761	.07878
	Afternoon	157	4.6263	1.45167	.11586
MK	Morning	297	4.4537	1.27267	.07385
	Afternoon	157	4.3997	1.34922	.10768
AD	Afternoon	297	4.6246	1.13975	.06614
	Morning	157	4.4745	1.29012	.10296
BE	Morning	297	5.4862	0.99328	.05764
	Afternoon	157	5.4268	1.07706	.08596

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CRM	1	0.919	.338	.435	452	.664	.04019	.09243	-.14145	.22183
	2			.428	304.446	.669	.04019	.09384	-.14447	.22485
KM	1	0.593	.441	.676	452	.500	.07442	.11016	-.14207	.29091
	2			.665	304.607	.506	.07442	.11183	-.14563	.29447
CI	1	0.342	.559	.158	452	.874	.01876	.11842	-.21396	.25148
	2			.157	312.651	.875	.01876	.11910	-.21558	.25310
L.T	1	0.960	.328	.544	452	.586	.06398	.11753	-.16698	.29495
	2			.535	302.473	.593	.06398	.11960	-.17138	.29934
TB	1	0.432	.511	-.092	452	.927	-.01014	.11059	-.22746	.20719
	2			-.091	310.212	.928	-.01014	.11153	-.22959	.20931
JP	1	0.679	.411	.467	452	.640	.05393	.11537	-.17280	.28066
	2			.462	306.801	.645	.05393	.11682	-.17593	.28379
SQ	1	0.096	.757	.384	452	.701	.05537	.14409	-.22780	.33854
	2			.383	313.633	.702	.05537	.14476 ^a	-.22944	.34019
TA	1	0.132	.717	.702	452	.483	.11226	.16002	-.20221	.42673
	2			.695	309.676	.487	.11226	.16148	-.20548	.43001
RE	1	0.772	.380	.542	452	.588	.09205	.16979	-.24163	.42574
	2			.538	310.798	.591	.09205	.17113	-.24467	.42877
RS	1	0.073	.786	.074	452	.941	.01073	.14436	-.27296	.29442
	2			.074	315.682	.941	.01073	.14469	-.27395	.29541
AS	1	0.009	.923	.132	452	.895	.02299	.17425	-.31946	.36544
	2			.132	321.027	.895	.02299	.17362	-.31858	.36456
EM	1	0.034	.854	.226	452	.821	.03883	.17188	-.29894	.37661
	2			.226	317.609	.821	.03883	.17190	-.29937	.37704
Innovation	1	2.654	.104	1.053	452	.293	.11714	.11128	-.10155	.33584
	2			1.021	291.595	.308	.11714	.11475	-.10869	.34298
PD	1	1.179	.278	1.922	452	.055	.22129	.11511	-.00492	.44751
	2			1.878	297.760	.061	.22129	.11780	-.01054	.45313
PS	1	0.868	.352	.708	452	.479	.09307	.13144	-.16523	.35137
	2			.693	299.183	.489	.09307	.13428	-.17119	.35733
SV	1	1.263	.262	.490	452	.624	.06728	.13723	-.20242	.33697
	2			.480	299.820	.631	.06728	.14010	-.20843	.34298

MK	1	0.789	.375	.421	452	.674	.05402	.12824	-.19799	.30603
	2			.414	302.040	.679	.05402	.13057	-.20292	.31096
AD	1	4.524	.054	1.274	452	.203	.15006	.11780	-.08144	.38155
	2			1.226	285.652	.221	.15006	.12237	-.09081	.39092
BE	1	3.807	.052	.589	452	.556	.05944	.10094	-.13893	.25781
	2			.574	296.243	.566	.05944	.10349	-.14423	.26312

1 Equal Variance Assumed

2 Equal Variance not Assumed



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APPENDIX H PART 2

NON RESPONSE BIAS FOR DEMOGRAPHIC FACTORS BETWEEN MORNING AND AFTERNOON PERIOD

Group Statistics

Survey time		N	Mean	Std. Deviation	Std. Error Mean
Gender	Morning	297	1.3838	.48714	.02827
	Afternoon	157	1.4268	.49619	.03960
Age	Morning	297	2.8384	1.20282	.06979
	Afternoon	157	2.9809	1.23242	.09836
Education	Morning	297	2.8114	1.00243	.05817
	Afternoon	157	2.8599	.97045	.07745
Marital Status	Morning	297	1.9731	.75289	.04369
	Afternoon	157	2.0446	.84992	.06783
Monthly Income	Morning	297	1.7205	.90756	.05266
	Afternoon	157	1.6051	.79063	.06310
Payment Type	Morning	297	2.0909	.93097	.05402
	Afternoon	157	2.1274	.94548	.07546
COO	Morning	297	3.5926	2.35649	.13674
	Afternoon	157	3.3057	2.37957	.18991
Visit Frequency	Morning	297	1.3704	.48372	.02807
	Afternoon	157	1.3312	.47215	.03768

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference
									Lower Upper
Gender	1	2.658	.104	-0.887	452	.376	-.04291	.04838	-.13799 .05216
	2			-0.882	312.686	.378	-.04291	.04865	-.13864 .05282
Age	1	0.131	0.7179	-1.191	452.000	.234	-.14251	.11970	-.37775 .09273
	2			-1.182	311.085	.238	-.14251	.12060	-.37981 .09480
Education	1	1.809	0.1793	-.495	452.000	.621	-.04842	.09784	-.24069 .14384
	2			-.500	326.812	.617	-.04842	.09686	-.23897 .14212

Marital Status	1	2.829	0.0933	-.920	452.000	.358	-.07152	.07773	-.22427	.08123
	2			-.886	286.301	.376	-.07152	.08068	-.23033	.08728
Monthly Income	1	3.44	0.0643	1.346	452.000	.179	.11544	.08575	-.05307	.28395
	2			1.405	357.575	.161	.11544	.08219	-.04619	.27708
Payment Type	1	0.021	0.886	-.395	452.000	.693	-.03648	.09236	-.21798	.14503
	2			-.393	313.487	.695	-.03648	.09280	-.21907	.14611
COO	1	0.001	0.9774	1.230	452.000	.220	.28686	.23331	-.17165	.74537
	2			1.226	315.048	.221	.28686	.23401	-.17357	.74729
Visit Frequency	1	2.942	0.087	.827	452.000	.409	.03916	.04734	-.05387	.13219
	2			.833	324.486	.405	.03916	.04699	-.05328	.13160

1 Equal Variance Assumed

2 Equal Variance not Assumed



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APPENDIX H PART 3

NON RESPONSE BIAS FOR STUDY CONSTRUCTS BETWEEN FIRST TIME AND REPEAT TIME MEDICAL TOURISTS

Group Statistics

Construct	Survey Time	N	Mean	Std. Deviation	Std. Error Mean
CRM	One time	292	4.1605	0.93276	.05459
	2 times and above	162	4.2432	0.94193	.07401
KM	One time	292	4.3245	1.11062	.06499
	2 times and above	162	4.3102	1.12834	.08865
CI	One time	292	3.7409	1.19221	.06977
	2 times and above	162	3.9362	1.20416	.09461
L.T	One time	292	4.1073	1.20006	.07023
	2 times and above	162	4.1440	1.17536	.09235
TB	One time	292	4.3774	1.12536	.06586
	2 times and above	162	4.3543	1.11216	.08738
JP	One time	292	4.2523	1.13800	.06660
	2 times and above	162	4.4712	1.21166	.09520
SQ	One time	292	4.7372	1.42977	.08367
	2 times and above	162	4.7255	1.51447	.11899
TA	One time	292	4.7192	1.57839	.09237
	2 times and above	162	4.7243	1.69950	.13353
RE	One time	292	4.9829	1.68277	.09848
	2 times and above	162	4.9259	1.78831	.14050
RS	One time	292	4.5811	1.45385	.08508
	2 times and above	162	4.5967	1.47929	.11622
AS	One time	292	4.6553	1.77050	.10361
	2 times and above	162	4.6461	1.75783	.13811
EM	One time	292	4.7477	1.74202	.10194
	2 times and above	162	4.7346	1.74184	.13685
Innovation	One time	292	4.5075	1.11490	.06524
	2 times and above	162	4.6724	1.14683	.09010
PD	One time	292	4.6284	1.15088	.06735
	2 times and above	162	4.8349	1.19593	.09396
PS	One time	292	4.3870	1.31799	.07713
	2 times and above	162	4.5679	1.35127	.10617
SV	One time	292	4.6119	1.32962	.07781
	2 times and above	162	4.7757	1.49017	.11708
MK	One time	292	4.3930	1.28979	.07548
	2 times and above	162	4.5108	1.31444	.10327
AD	One time	292	4.5171	1.21175	.07091
	2 times and above	162	4.6728	1.16005	.09114
BE	One time	292	5.4253	1.02828	.06018
	2 times and above	162	5.5383	1.01033	.07938

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
CRM	1	0.002	.967	-.902	452	.367	-.08272	.09170	-.26293	.09749
	2			-.900	329.824	.369	-.08272	.09196	-.26362	.09818
KM	1	0.057	.812	.131	452	.896	.01430	.10943	-.20074	.22935
	2			.130	328.142	.897	.01430	.10992	-.20194	.23054
CI	1	0.039	.844	-1.667	452	.096	-.19535	.11722	-.42570	.03501
	2			-1.662	329.769	.098	-.19535	.11755	-.42659	.03590
L.T	1	0.009	.926	-.315	452	.753	-.03673	.11671	-.26609	.19263
	2			-.317	338.450	.752	-.03673	.11602	-.26493	.19148
TB	1	0.165	.685	.210	452	.834	.02308	.10979	-.19268	.23884
	2			.211	335.893	.833	.02308	.10942	-.19215	.23831
JP	1	0.999	.318	-1.918	452	.056	-.21891	.11411	-.44316	.00534
	2			-1.884	315.358	.060	-.21891	.11618	-.44749	.00967
SQ	1	2.817	.094	.082	452	.935	.01170	.14308	-.26949	.29289
	2			.080	316.737	.936	.01170	.14546	-.27449	.29789
TA	1	3.751	.053	-.032	452	.974	-.00510	.15896	-.31749	.30729
	2			-.031	312.381	.975	-.00510	.16236	-.32456	.31436
RE	1	2.412	.121	.338	452	.736	.05695	.16861	-.27441	.38831
	2			.332	315.860	.740	.05695	.17158	-.28063	.39453
RS	1	0.185	.668	-.109	452	.913	-.01566	.14332	-.29732	.26600
	2			-.109	327.718	.914	-.01566	.14404	-.29901	.26770
AS	1	0.020	.887	.053	452	.958	.00916	.17301	-.33084	.34916
	2			.053	334.588	.958	.00916	.17265	-.33046	.34878
EM	1	0.111	.739	.077	452	.939	.01315	.17065	-.32222	.34852
	2			.077	332.595	.939	.01315	.17065	-.32254	.34884
Innovation	1	0.006	.939	-1.495	452	.136	-.16495	.11035	-.38181	.05191
	2			-1.483	324.708	.139	-.16495	.11125	-.38380	.05390
PD	1	0.088	.767	-1.806	452	.072	-.20645	.11434	-.43115	.01825
	2			-1.786	321.921	.075	-.20645	.11561	-.43389	.02099
PS	1	0.060	.807	-1.389	452	.166	-.18091	.13029	-.43696	.07513
	2			-1.379	325.616	.169	-.18091	.13123	-.43907	.07724
SV	1	0.964	.327	-1.204	452	.229	-.16385	.13607	-.43126	.10356
	2			-1.166	302.033	.245	-.16385	.14058	-.44048	.11279

MK	1	0.089	.766	-.926	452	.355	-.11782	.12722	-.36784	.13220
	2			-.921	327.278	.358	-.11782	.12791	-.36946	.13382
AD	1	0.323	.570	-1.332	452	.184	-.15572	.11693	-.38552	.07408
	2			-1.348	344.979	.178	-.15572	.11548	-.38285	.07142
BE	1	0.470	.493	-1.128	452	.260	-.11293	.10011	-.30968	.08382
	2			-1.134	337.544	.258	-.11293	.09961	-.30886	.08300

1 Equal Variance Assumed

2 Equal Variance not Assumed



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APPENDIX I

NORMALITY TEST

Descriptive Statistics (SPSS)

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
KM1	454	.444	.115	-.055	.229
KM2	454	.487	.115	.425	.229
KM3	454	.403	.115	-.130	.229
KM4	454	.249	.115	-.240	.229
CI1	454	.360	.115	-.260	.229
CI2	454	.527	.115	.142	.229
CI3	454	.689	.115	.163	.229
LT1	454	.078	.115	-.259	.229
LT2	454	.164	.115	-.072	.229
LT3	454	.189	.115	-.183	.229
TB1	454	.082	.115	-.399	.229
TB2	454	.188	.115	-.831	.229
TB3	454	.283	.115	-.396	.229
TB4	454	.359	.115	-.118	.229
TB5	454	.185	.115	-.254	.229
JP1	454	.066	.115	-.310	.229
JP2	454	.058	.115	-.175	.229
JP3	454	-.007	.115	.140	.229
TA1	454	-.176	.115	-1.177	.229
TA2	454	-.174	.115	-1.305	.229
TA3	454	-.172	.115	-.970	.229
RE1	454	-.211	.115	-1.417	.229
RE2	454	-.224	.115	-1.369	.229
RE3	454	-.345	.115	-1.369	.229
RS1	454	.121	.115	-1.253	.229
RS2	454	-.036	.115	-1.097	.229
RS3	454	-.245	.115	-1.317	.229
AS1	454	-.151	.115	-1.459	.229
AS2	454	-.019	.115	-1.390	.229
AS3	454	-.074	.115	-1.219	.229
EM1	454	-.064	.115	-1.426	.229
EM2	454	-.084	.115	-1.337	.229
EM3	454	-.178	.115	-1.590	.229
PD1	454	-.631	.115	.121	.229
PD2	454	-.418	.115	-.225	.229

PD3	454	-.610	.115	.136	.229
PD4	454	-.765	.115	1.081	.229
PS1	454	-.662	.115	.418	.229
PS2	454	-.713	.115	.089	.229
PS3	454	-.590	.115	-.146	.229
SV1	454	-.569	.115	-.103	.229
SV2	454	-.673	.115	-.002	.229
SV3	454	-.862	.115	.584	.229
MK1	454	-.705	.115	.302	.229
MK2	454	-.040	.115	-1.079	.229
MK3	454	-.685	.115	-.078	.229
MK4	454	-.502	.115	-.232	.229
AD1	454	-.668	.115	.186	.229
AD2	454	-.561	.115	.003	.229
AD3	454	-.252	.115	-1.324	.229
AD4	454	-.561	.115	-.141	.229
BE1	454	-.878	.115	-.026	.229
BE2	454	-.991	.115	.291	.229
BE3	454	-.874	.115	-.195	.229
BE4	454	-.969	.115	-.160	.229
BE5	454	-1.016	.115	.076	.229
Valid N (listwise)	454				

Assessment of Normality (AMOS)

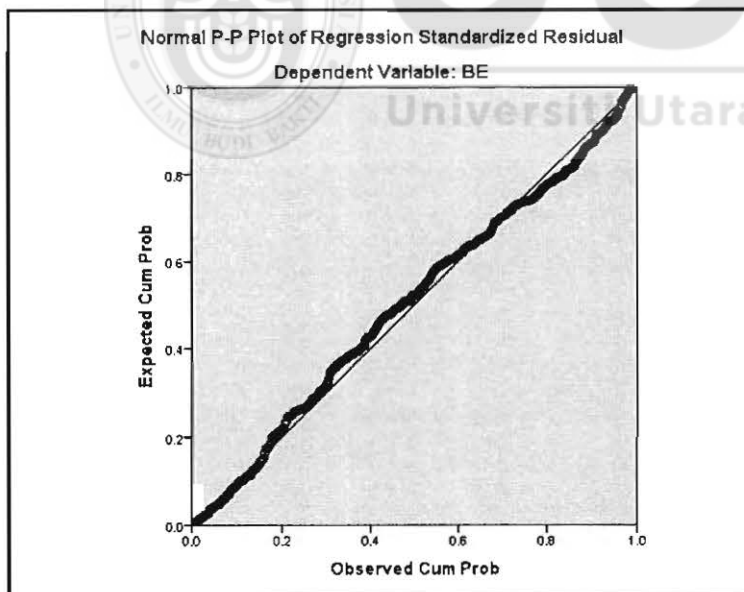
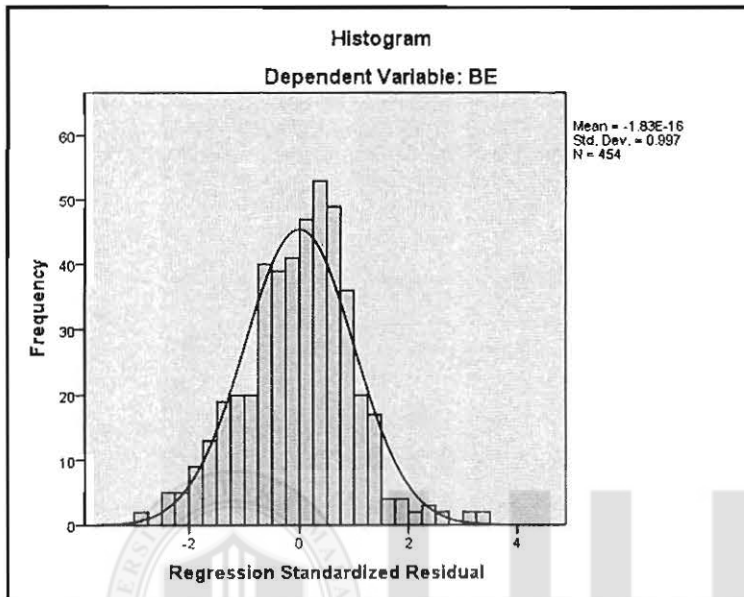
Variable	skew	c.r.	kurtosis	c.r.
KM1	0.443	3.851	-0.068	-0.294
KM2	0.476	4.142	0.416	1.807
KM3	0.404	3.512	-0.122	-0.533
KM4	0.265	2.306	-0.255	-1.111
CI1	0.360	3.132	-0.259	-1.125
CI2	0.545	4.743	0.144	0.626
CI3	0.680	5.919	0.158	0.686
LT1	0.088	0.763	-0.261	-1.134
LT2	0.188	1.637	-0.074	-0.322
LT3	0.201	1.752	-0.209	-0.910
TB1	0.109	0.949	-0.447	-1.943
TB2	0.184	1.601	-0.841	-3.660
TB3	0.280	2.438	-0.398	-1.732
TB4	0.367	3.192	-0.110	-0.480
TB5	0.174	1.516	-0.248	-1.080
JP1	0.064	0.559	-0.311	-1.353

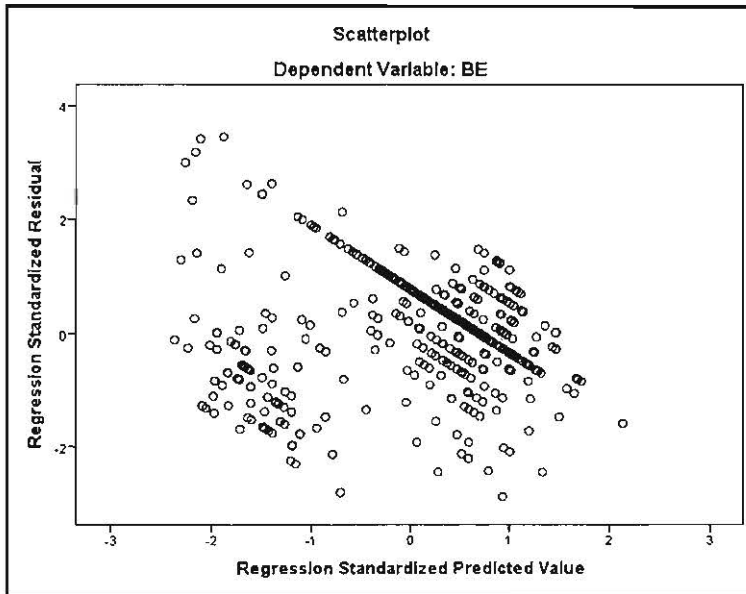
JP2	0.051	0.441	-0.164	-0.715
JP3	-0.023	-0.198	0.147	0.639
TA1	-0.191	-1.662	-1.177	-5.117
TA2	-0.183	-1.591	-1.3	-5.655
TA3	-0.178	-1.546	-0.978	-4.254
RE1	-0.23	-2.002	-1.403	-6.104
RE2	-0.24	-2.086	-1.359	-5.909
RE3	-0.357	-3.108	-1.351	-5.875
RS1	0.103	0.899	-1.26	-5.48
RS2	-0.05	-0.433	-1.097	-4.771
RS3	-0.253	-2.204	-1.31	-5.698
AS1	-0.153	-1.333	-1.456	-6.333
AS2	-0.027	-0.232	-1.388	-6.035
AS3	-0.08	-0.693	-1.216	-5.287
EM1	-0.079	-0.691	-1.426	-6.2
EM2	-0.097	-0.847	-1.332	-5.795
EM3	-0.185	-1.605	-1.581	-6.875
PD1	-0.643	-5.59	0.14	0.609
PD2	-0.406	-3.533	-0.238	-1.034
PD3	-0.623	-5.42	0.171	0.743
PD4	-0.749	-6.515	1.057	4.598
PS1	-0.673	-5.856	0.419	1.822
PS2	-0.728	-6.336	0.119	0.518
PS3	-0.611	-5.317	-0.125	-0.542
SV1	-0.577	-5.017	-0.08	-0.349
SV2	-0.674	-5.865	-0.005	-0.022
SV3	-0.868	-7.551	0.594	2.584
MK1	-0.713	-6.201	0.318	1.382
MK2	-0.044	-0.379	-1.082	-4.704
MK3	-0.691	-6.013	-0.080	-0.350
MK4	-0.503	-4.379	-0.222	-0.967
AD1	-0.669	-5.821	0.193	0.839
AD2	-0.567	-4.93	0.008	0.033
AD3	-0.262	-2.275	-1.316	-5.723
AD4	-0.573	-4.989	-0.124	-0.538
BE1	-0.879	-7.645	-0.013	-0.056
BE2	-1.001	-8.703	0.317	1.379
BE3	-0.873	-7.593	-0.186	-0.807
BE4	-0.975	-8.483	-0.14	-0.61
BE5	-1.007	-8.762	0.055	0.238
Multivariate			311.642	41.194

APPENDIX J

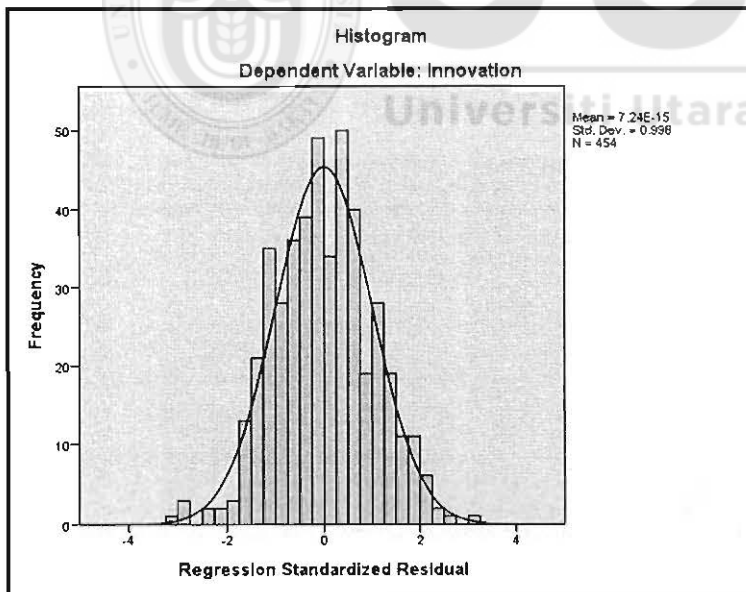
NORMALITY, LINEARITY AND HOMOSCEDASTICITY

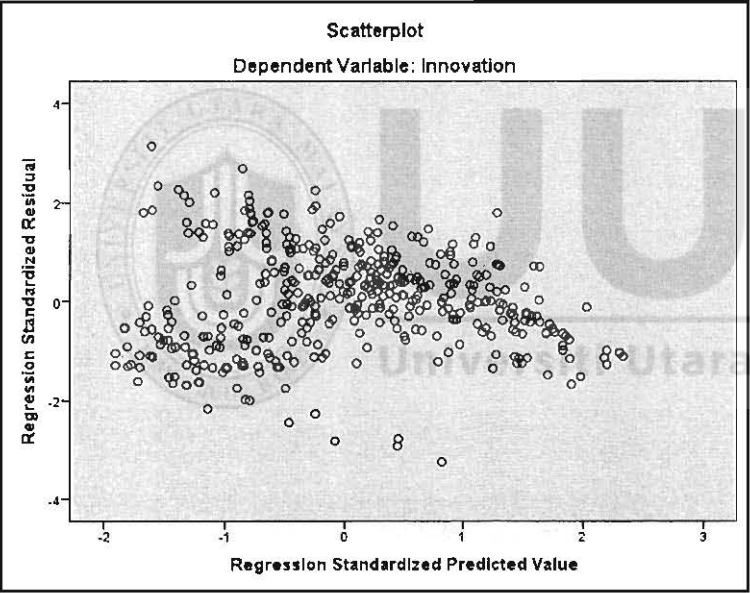
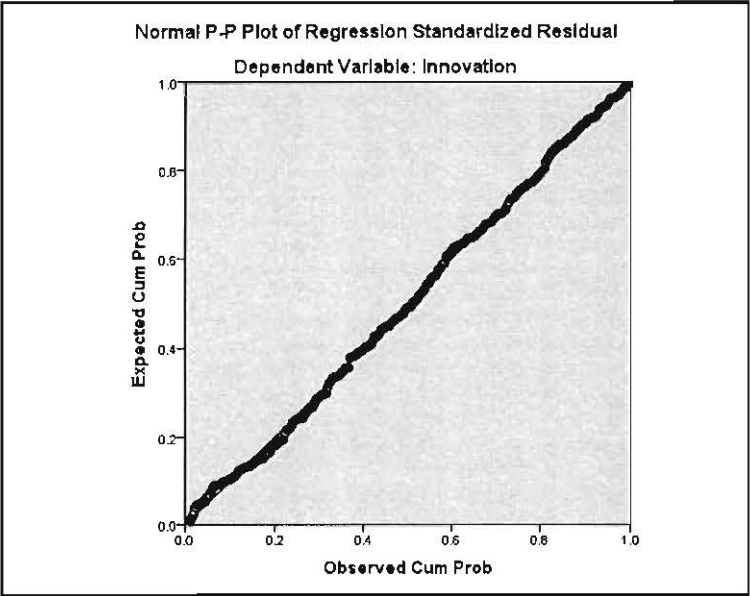
Overall Brand Equity





Innovation

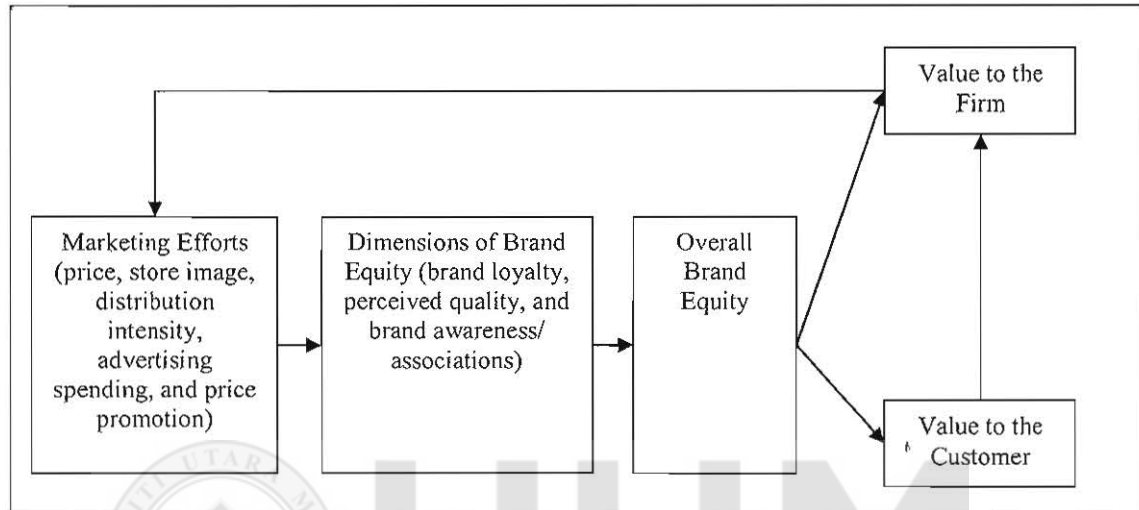




APPENDIX K

RESEARCH CONTRIBUTION COMPARED WITH INITIAL OVERALL BRAND EQUITY MODEL AND EARLIER RESEARCH

Initial Overall Brand Equity Model (Yoo et al., 2000)



Author and Year	Independent Variables	Mediators	Software
Yoo <i>et al.</i> (2000)	Price Store image Distribution intensity Advertising spending Price deals	Perceived quality Awareness/associations Brand loyalty	LISREL
Sampling	Respondent	Industry	Country
Random	Students	Product category (athletic shoes, camera films, and televisions)	U.S.A

Earlier Research Compared with Overall Brand Equity Model

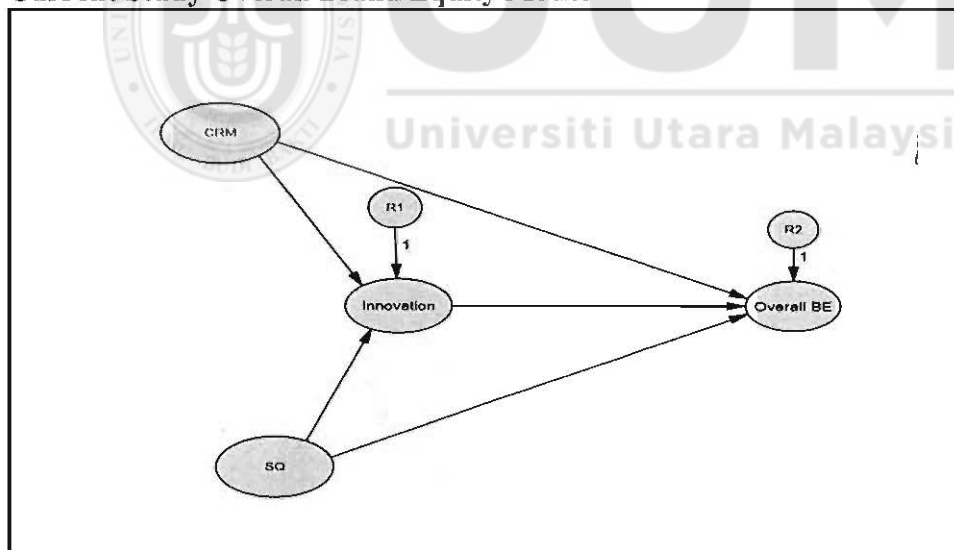
Author and Year	IVs	Mediators	Software	Sampling	Respondent	Industry	Country
Gill and Dawra (2010)	Brand image Brand awareness	Brand awareness Brand image	LINMAP	n/a	Consumers	Toothpaste	n/a
Chen (2010)	Brand image	Customer satisfaction Brand trust	AMOS	Random	Consumers	Electronics	Taiwan
Hossien (2011)	Brand association Brand personality Brand attitude	Brand loyalty Brand image	LISREL	Convenience	Consumers	Chocolate	Iran
Taleghani and Almasi (2011)	Brand awareness Brand image Perceived quality	Brand loyalty	LISREL	n/a	Customers	Insurance	Iran
Chahal and Bala (2012)	Brand image	Brand loyalty	SPSS	Convenience	Patients	Healthcare	India
Emari <i>et al.</i> (2012)	Brand attitude Brand associations Brand personality	Brand loyalty Brand image	LISREL	Convenience	Consumers	Chocolate	Iran
Sheng and Teo (2012)	Perceived ease of use Perceived usefulness Entertainment Aesthetics	Customer experience	n/a	n/a	Consumers	Mobiles	Taiwan
Severi and Ling (2013)	Brand awareness Brand associations Brand loyalty Brand image	Brand associations Brand loyalty Brand image Perceived quality	SPSS	Convenience	Students	Education	Malaysia
Zarantonello and Schmitt (2013)	Brand events Brand experience	Brand attitude Brand experience	SPSS	Convenience	Consumers	Events	n/a
Ng <i>et al.</i> (2014)	Brand credibility	Brand image Perceived value	AMOS	n/a	Consumers	Electronics	Malaysia

Panda and Misra (2014)	Brand Distinctiveness Brand loyalty Brand awareness	Country of origin	SPSS	Simple	University Staff	Durable	India
Murtiasih <i>et al.</i> (2014)	Country of origin Word of mouth	Perceived quality Brand awareness Brand associations Brand loyalty Brand awareness	AMOS	Convenience	Car users	Automobile	Indonesia
Delafrouz and Goli (2015)	Brand credibility	Perceived value Brand image	LISREL	Random	Consumers	Electronics	Iran
Azadi <i>et al.</i> (2015)	Country of origin	Perceived quality Awareness and associations Brand loyalty	LISREL	Convenience	Students	Sports apparel	Iran
Mostafa (2015)	Country of origin Country of manufacturing	Perceived quality Brand awareness Brand image Brand loyalty	SPSS	n/a	Consumers	Mobiles	Egypt
Nguetsop, Amoro, Wang, and Dacka (2016)	Brand awareness	Perceived quality Brand trust Brand loyalty	SPSS	Random	Students	Telecom	Cameroon
Taghian (2016)	Brand extension	Brand image	PLS	Random	Consumers	Groceries	Iran
Ansary and Hashim (2017)	Brand image	Brand attachment Brand attitude Brand awareness	AMOS	Convenience	Students	Products	Malaysia

Liao <i>et al.</i> (2017)	Cognitive factors (brand awareness, brand associations, brand image, perceived quality, and brand reputation)	Brand personality	PLS	Convenience	Consumers	Cosmetics	Taiwan
Hepola <i>et al.</i> (2017)	Personal involvement Sensory brand experience	Brand engagement	PLS	n/a	Consumers	Tableware	Finland
Tuan (2017)	Contact personnel Service organization Customers' interaction	Relationship quality	AMOS	Convenience	Consumers	SMEs	Vietnam
Shabbir <i>et al.</i> (2017)	Brand image Brand loyalty	Brand awareness	AMOS	Random	Customers	Telecom	Pakistan

* n/a not available

Current Study Overall Brand Equity Model



Author and Year	Independent Variables	Mediator	Software
The researcher	Customer relationship management Service quality	Innovation	AMOS
Sampling	Respondent	Industry	Country
Systematic random and simple random	Medical tourists	Medical Tourism	Jordan