



INNOVATION'S EFFECT ON BRAND EQUITY: INSIGHTS FROM MEDICAL TOURISTS



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ABSTRACT

Article History

Received: 7 November 2016

Revised: 1 December 2016

Accepted: 11 December 2016

Published: 21 December 2016

Keywords

Innovation

Brand equity

Medical tourist perception

A market-innovative firm is presumed to have superior customer-linking values, which, in turn, is likely to lead fulfillment of superior subjective brand performance in comparison with non-innovative firms. However, empirical evidence for the argument prior knowledge is weak. Therefore, this study examines the influence of innovation capabilities on brand equity building in the medical tourism sector in Jordan. Accordingly, 384 questionnaires were systematic randomly distributed to treated medical tourists at five largest private hospitals in Amman city. Only, 306 questionnaires were used for data analysis. The findings showed that innovation contributes significantly to brand equity building. More specifically, product innovation, process innovation, and service innovation positively and significantly enhance overall brand equity. Meanwhile, administrative innovation and marketing innovation insignificantly affect overall brand equity.

1. INTRODUCTION

With the globalization, enhancements in technology, improvements in quality of healthcare standards, and lower cost, led to rapidly growing phenomenon of the medical tourism industry (Guiry *et al.*, 2013). "Medical tourism" is portrayed as the overseas movement of peoples to obtain medical and surgical care (Smith *et al.*, 2009). The global annual growth in medical tourism revenues has been assumed to surpass 20% (Guiry *et al.*, 2013). Currently, more than 70 countries have stated themselves' medical tourism destination. Hence, this industry has become aggressively expandable and competitive (Han & Hyun, 2015), especially in the developing countries; Jordan is an example. In such market place, the main importance of the concerned parties is to distinguish their medical services from their rivals and therefore, the role of branding.

Branding plays a significant role in medical tourism, because it is strongly linked to superior patients' trust in medical services, reduces the brand choice, reduces patients' risk attached to decision making, enhances a promise of value (Kim *et al.*, 2008). Thus, building a solid brand equity

with a competitive advantage has become a top marketing priority for medical tourism countries, particularly in increasingly aggressive and complex changing environment (Carmen & Ciochina, 2014; Osakwe *et al.*, 2016), due to its critical role in attaining competitive differentiation, bringing greater profits, and lowering marketing activity costs (Aaker, 1991, Yoo *et al.*, 2000). However, regardless of great efforts in forming brand equity, efforts to brand equity building in medical tourism industry are still rare (Guiry *et al.*, 2013), particularly in developing nations (Van Doorn, & Leeflang, 2014).

According to Brunello (2014), innovation is one of the most key determinants of brand equity. For (Hakimi *et al.*, 2014), innovation is one of the most effective strategies in satisfying patients' needs and sustaining the competitive advantage, particularly in an era characterized by continuously changeable patient needs. Therefore, innovation has become a vital weapon in the service-differentiating success and survival in the international market (Hanaysha & Hilman, 2015). Correspondingly, innovation failure can have negative consequences on the business's brand equity (Liao & Cheng, 2014). Therefore, brand evaluations in the minds of medical tourists as they experience about the medical brand is vitally important.

Although the literature has uniformly indicated that innovation and brand equity are two correlated variables, few scholars' have verified the impact of innovation on medical tourists' brand evaluation (Hanaysha & Hilman, 2015; Liao & Cheng, 2014). In addition, the empirical evidences that investigated innovation-brand equity relationship essentially focused on product innovation (e.g., Brunello, 2014, Hanaysha & Hilman, 2015, and Liao & Cheng, 2014). Therefore, this study addresses the gap in the literature and empirically investigates the effect of five types of innovation (product, process, service, marketing, and administrative) on brand equity building in medical tourism industry in Jordan as assessed by medical tourists.

2. LITERATURE REVIEW

2.1. Brand equity

Brand management literature indicated that powerful brand adds value for the involved parties (the customer and the business firm). This notion has been termed as 'brand equity', and such strong brand has become as a firm's most valuable asset due to the positive consequences on the firm's performance (Aaker, 1991; Tuominen, 1999). Therefore, the brand equity concept has received significant attention in the marketing literature (Kim *et al.*, 2008; Mostafa, 2015). However, the definition of brand equity was basically relied on two different aspects, the financial aspect (financial-based brand equity) and the customer aspect (customer-based brand equity) (Aaker, 1991; Chang *et al.*, 2008). From the financial aspect of brand equity, Simon and Sullivan (1993) referred brand equity to "the incremental cash flows which accrue to branded products over and above the cash flows which would result from the sale of unbranded products" (p. 28). In this aspect, the brand equity measures concentrated on stock prices (Motameni & Shahrokhi, 1998). Doubtless, evaluating a financial aspect of the brand is beneficial, but it does harm the understanding of brand equity forming (Farjam & Hongyi, 2016). Wood (2000) asserted that estimating a customer value for the brand is extremely helpful to the marketing of the brand to realize the brand in the customers' minds and to form effective marketing activities to enhance the brand.

In terms of the customer aspect; the central focus of this research, is based on the value customers originate from the brand name. Accordingly, Aaker (1991) stated that brand equity is "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). So, this added value is viewed as the positive associations, awareness, perceived quality, and loyalty to the brand. Besides, Keller (1993) defined brand equity as "The differential effect of brand knowledge on consumer response to the marketing of the brand" (p. 2). This definition reflects that the strength of a brand stems from the customers' knowledge about the brand through their brand experience and marketing efforts attached to the brand. In simple words, brand equity occurs when the customers

hold favorable and unique brand associations in their memories. Therefore, it is vital for marketing managers to create effective marketing efforts that stimulate a favorable customer response and positive brand equity.

In addressing the effectiveness of marketing programs on brand equity building, [Yoo et al. \(2000\)](#) developed their overall brand equity model that investigated the effects of marketing efforts (e.g., store, price, and advertising spending) on overall brand equity mediated by brand equity assets such as brand loyalty, perceived quality, and brand awareness/associations. As a result, effective marketing actions if managed properly, would lead to high brand equity. However, as they indicated, more marketing actions should be directed to promote the brand equity building in different cultures and different categories. In response to such a call, this empirical study investigates the relationships between innovation capabilities and the creation of brand equity as outlined by [Yoo et al. \(2000\)](#) in medical tourism in Jordan.

2.2. Innovation capabilities

Innovation has become a core competence in sustaining global competitiveness. This significant role is well-emphasized in [Lin and Chen \(2007\)](#) "competing in an international arena challenges the company to become more innovative, because it is the key to staying competitive nowadays". In addition, [Zahra and Covin \(1994\)](#) stated on the central role of innovation in growth "Innovation is widely considered as the lifeblood of corporate survival and growth" (p. 183). However, despite the enhanced role of innovation, yet, there is no universally agreed definition of innovation as clearly indicated by ([Adams et al., 2006](#)), "the term 'innovation' is notoriously ambiguous and lacks either a single definition or measure". Similarly, [Damanpour and Schneider \(2006\)](#) stated that "Innovation is studied in many disciplines and has been defined from different perspectives" (p. 216).

From knowledge management perspective, [Du Plessis \(2007\)](#) defined innovation as "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. Innovation encompasses both radical and incremental innovation" (p. 21). Thus, knowledge management is critical for innovation or even for a specific type of innovation. Differently, some literature asserts on the newness degree perspective. For instance, [Van de Ven \(1986\)](#) defined innovation as "as long as the idea is perceived as new to the people involved, it is an 'innovation' even though it may appear to others to be an 'imitation' of something that exists elsewhere"(p. 591). Even [Rogers \(2003\)](#) proposed a similar definition as an "idea, practice, or project that is perceived as new by an individual or other unit of adoption" (p. 12). Hence, the newness of the idea reflects innovation.

From the innovation scope perspective, [OCDE \(2005\)](#) offers an itemized definition, which is broadly quoted: "the implementation of a new or significantly improved product, or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations"(p. 46). By this definition, different types of innovation were established, including product (good or service), process, organizational, and marketing innovation. In view of that, this empirical research investigates the five most employed innovative types: product innovation and process innovation, as well as, service innovation, administrative innovation, and marketing innovation:

- 1) Product innovation: Referred to a new brand introduction to the market or the modification of existing brands ([Atalay et al., 2013](#)).
- 2) Process innovation: The introduction of new or improved approaches in production and delivery ([Lin & Chen, 2007](#)).
- 3) Service innovation: Referred to organizational engagement in innovation efforts to enhance customer satisfaction ([Lin et al., 2010](#)).
- 4) Administrative innovation: Related to the enhancements in business activities and process allocation ([Jalali & Sardari, 2015](#)).
- 5) Marketing innovation: Included the introduction of new or improved marketing programs to the market such as pricing and advertising strategies ([Toma et al., 2014](#)).

2.3. Innovation capabilities and brand equity

Developing powerful brand equity relies on the ability of business firms to innovate effectively (Nørskov *et al.*, 2015). Zhang *et al.* (2013) empirically highlighted that truly innovative firms can strengthen the brand equity. Their finding further supported by Hanaysha and Hilman (2015), who confirmed that product innovation had a significant effect on overall brand equity and its assets, mainly; brand loyalty, brand awareness, brand leadership, and brand image. In addition, Shiau (2014) indicated that innovation had a significant effect on brand image. Similarly, Hanaysha *et al.* (2014) demonstrated that product innovation had a significant effect on brand image. Based on the mentioned empirical evidences above, it is expected that:

- H1: Innovation has a significant relationship with overall brand equity.
- H1a: Product innovation has a significant relationship with overall brand equity.
- H1b: Process innovation has a significant relationship with overall brand equity.
- H1c: Service innovation has a significant relationship with overall brand equity.
- H1d: Administrative innovation has a significant relationship with overall brand equity.
- H1e: Marketing innovation has a significant relationship with overall brand equity.

3. METHODOLOGY

This study was designed to investigate the impacts of innovation types on overall brand equity in the medical tourism industry of Jordan in Amman city. More than 100,000 medical tourists were treated in Jordan in year 2015, according to Private Hospitals Association. Therefore, following the suggestion of Krejcie and Morgan (1970), 384 questionnaires were distributed to the medical tourists at top five largest and private hospitals. The systematic sampling method was conducted whereby every 4th treated foreign patients were approached at the different care units of selected private hospitals. However, 339 questionnaires were valid for data analysis.

The measurements of the constructs were occupied from previous studies. In particular, six product innovation items were occupied from the study of Hanaysha *et al.* (2014) and Shiau (2014). To measure process innovation and administrative innovation, three items and four items were occupied from Wu and Hsieh (2015), respectively. Moreover, four items of marketing innovation were taken from Lin *et al.* (2010). For service innovation measurement scales, 6-items were used, 5-items were occupied from Lin *et al.* (2010) and one item was self-developed. Furthermore, overall brand equity was measured based on 11-items. Of these, 10-items were taken from Vatjanasaregagul (2007) and one item was self-developed. All of the structured measurements were used a 7-Point Likert scale ranging from strongly disagree (1) to strongly agree (7).

In regards to data analysis, the valid data were analyzed using SPSS 21 to describe respondents' characteristics and output Cronbach's alpha values. Then, the measurement model through confirmatory factor analysis (CFA) using structural equation modeling on AMOS 18 was calculated in order to ensure the proper of the factor loading. After that, the structural model was drawn in order to test the research hypotheses based on the regression outputs. The subsequent section highlights the results of this research, discussion, and conclusion.

4. DATA ANALYSIS

Out of 384 surveyed questionnaires, only 306 were getting back producing 79.69% of the response rate. The demographic file found out that of 306 participants, 170 (55.6%) were male and 136 (44.4%) were female. With respect to age, the majority of the respondents (28.8%) were between 36-45 years, while the minority producing 13.4% were less than 25 years old. Most of the respondents (66.7%) are married; while 20.9% are single, 6.9% divorced, 4.2% widowed, and 1.3% separated. On the education grade, 8.5% have a high school grade, 23.9% have diploma, 48.0% have bachelor certificate, and 19.6% have postgraduate certificate. In addition, the majority of the respondents (52.9%) indicated that their monthly income is below than USD 1000, where the minority of them

(5.2%) earns above USD 3001. With regard to country of origin, a proportion of (29.7%) of the all participants were originated from Yemen, 7.8% from Gulf Countries, 20.3% from Libya, 7.5% from Algeria, and 34.7% from other countries.

Confirmatory Factor Analysis (CFA) was used to verify the construct validity and to confirm the goodness of the final measurement model. According to Hair *et al.* (2010), items with weak factor loadings < 0.05 must be deleted. In addition, despite the value of Chi-square (χ^2) at $p \geq 0.05$ (Khine, 2013), the Root Mean Square Error of Approximation (RMSEA) < 0.08 , Goodness of Fit index (GFI) > 0.8 , Comparative Fit Index (CFI) > 0.9 , Average Goodness of Fit index (AGFI) > 0.8 , and Tucker-Lewis Index (TLI) > 0.9 were used to confirm the goodness of the measurement model. Based on that, the outcomes of the CFA analysis of the measurement model indicated that eight items were deleted (factor loadings less than 0.05) and the final measurement model adequately fitted the data since the overall goodness-of fit indexes were above the minimum requirements. For instance, the value of Chi-square (χ^2) recorded 664.655 ($p=0.000$), RMSEA $< 0.08 = 0.060$, GFI $> 0.8 = 0.878$, CFI $> 0.9 = 0.952$, AGFI $> 0.8 = 0.849$, and TLI $> 0.9 = 0.945$. In addition, the results showed that the factor loadings of the remained items were above 0.5, ranged between 0.602 and 0.967 and this enhances the convergent validity and construct validity assumptions (Hair *et al.*, 2010).

On the other hand, the reliability test was performed on study constructs to identify their internal consistency. In general, the findings showed that Cronbach's alpha values were greater than 0.70, supporting their reliability (Hair *et al.*, 2010). For example, overall brand equity reported Cronbach's alpha value of 0.952. Similarly, the types of innovation showed convenient internal consistency (reliability) with Cronbach's alpha values of higher than 0.7; product innovation (0.926), process innovation (0.875), service innovation (0.913), administrative innovation (0.793), and marketing innovation (0.738). Besides, to test the discriminant validity, the average variance extracted (AVE) was computed, provides acceptable values above 0.50, ranged between 0.538 and 0.785. Thus, discriminant validity was supported (Byrne, 2013). Moreover, the measurement model results showed that the multicollinearity issue does not exist in the data because the correlation matrix between any two predictors were less than 0.90 as recommended by (Tabachnick & Fidell, 2001).

After ensuring the fit of the measurement model, a structural model was drawn to estimate the direct path between innovation capabilities and overall brand equity. The proposed model has represented a good model fit. For example, the value of Chi-square (χ^2) recorded 692.125 ($p=0.000$). Other fit indices (RMSEA = 0.061, GFI = 0.873, CFI = 0.949, AGFI = 0.848, and TLI = 0.944) were also indicated that the model has fitted the data well.

In order to test the study hypotheses, the regression table generated from the structural model revealed that only four hypotheses were supported as shown in Table 1. The findings exhibited that overall innovation has a significant effect with overall brand equity ($\beta = 1.217$, CR = 11.208, $p < 0.05$), thus H1 is approved. The influence of product innovation on overall brand equity is also significant ($\beta = 0.309$, CR = 2.531, $p < 0.05$), thus H1a is also approved. Moreover, the findings revealed that process innovation has also a significant relationship with overall brand equity ($\beta = 0.092$, CR = 2.021, $p < 0.05$), hence, H1b is also confirmed. Besides, service innovation has a significant effect on overall brand equity ($\beta = 0.318$, CR = 2.741, $p < 0.05$), which indicates that H1c is supported.

Differently, administrative innovation has insignificant effect on overall brand equity ($\beta = -0.042$, CR = -0.772, $p > 0.05$), thus, H1d is rejected. In addition, marketing innovation has also an insignificant effect on overall brand equity; therefore, H1e is also rejected.

Table-1. Results of regression analysis

	Hypothesis	Estimate	S.E.	C.R.	P
H1	Innovation has a significant relationship with overall brand equity.	1.217	0.109	11.208	***
H1a	Product innovation has a significant relationship with overall brand equity.	0.309	0.120	2.531	0.011
H1b	Process innovation has a significant relationship with overall brand equity.	0.092	0.046	2.021	0.043
H1c	Service innovation has a significant relationship with overall brand equity.	0.314	0.115	2.741	0.006
H1d	Administrative innovation has a significant relationship with overall brand equity.	-0.042	0.055	-0.772	0.440
H1e	Marketing innovation has a significant relationship with overall brand equity.	0.208	0.117	1.78	0.075

5. DISCUSSION AND CONCLUSION

Innovation significantly affected brand equity. Moreover, this study also indicated that product innovation has a significant impact on overall brand equity, and it supports the belief that product innovation precisely is one of the most effective driving forces of the brand equity success (Han & Hyun, 2015). Similarly, the result of this study was confirmed by Hanaysha *et al.* (2014) and Nemati *et al.* (2010), who revealed that innovative products had a significant effect on brand equity.

The results also indicated that process innovation has a significant influence on overall brand equity. The finding is in line with Reguia (2014), who indicated that the establishment of process innovation has a direct link to competitive advantage and brand equity building. Moreover, this research offers an empirical evidence for the significant effect of service innovation on overall brand equity and it was enhanced previously by Jalali and Sardari (2015), who indicated that the service innovation is directly related to organizational superior organizational performance (e.g., brand equity).

Contradictory, the effect of administrative innovation on overall brand equity is insignificant. This finding can be due to the negative medical tourist experience towards administrative innovation. Simon and Yaya (2012) indicated that the willingness to be innovative did not necessarily generate positive results. Likewise, marketing innovation has also an insignificant influence on overall brand equity. This result is in line with Shiau (2014), who found that marketing innovation insignificantly affected brand equity. A matter of fact, that some marketing innovation activities may diminish brand equity building (Yoo *et al.*, 2000) and thus, marketers should be caution when implementing their marketing activities.

Overall, this paper presents a valuable insight into innovation-brand equity building efforts in medical tourism industry. It is more efficient for the management of marketing to invest their innovative efforts on technological health products, ease of operational processes, and service activities toward positive perceptions that attract medical tourists to select Jordan in their medical travel decisions. This as a fact could foster brand equity.

However, this empirical study contains some limitations that should overcome by future research. First, this study investigates only the direct effect of innovation capabilities on overall brand equity. Hopefully, future works investigate the indirect effect of innovation on brand equity building. This may include customer relationship management, service quality, and word of mouth. Second, the generalization of this study is limited to a single industry from a single perspective and therefore, future works may survey other industries and other perspectives. Third, this study is limited to customer-based brand equity building; future studies may investigate the effect of innovation on financial performance, this includes return on equity and return on assets. A fourth limitation, this

study relied on overall brand equity. Therefore, future work is recommended to focus on brand equity assets.

Funding: To conduct this research, author(s) bore all expenses by his/her/their own.

Competing Interests: The authors declare that they have no competing interests.

Acknowledgement: Both authors contributed equally to the conception and design of the study.

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