
Impact of Marketing Mix Elements on Brand Equity of Healthcare Equipment – A Case Study

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Abstract

Brand equity generally means the relative popularity, success & additional market share which the firm realizes in comparison with other substitute brands available in the target market. So, every company must invest heavily & design the market strategies accordingly to catch the lion share of the market. General Electric is one of the leading medical equipment manufacturers have adopted various strategies to develop brand equity in healthcare market. The present research is carried out to estimate the contribution of marketing mix elements towards brand equity of GE healthcare. The data were collected from different hospitals & diagnostic centres, who are the major users of health care instruments by using a structured questionnaire. The result revealed that irrespective of other variables of marketing mix, technical support & product innovation played a major role in the industry for determining brand equity.

Keywords: Brand equity, Healthcare equipment

1. Introduction

The wide acceptance of brand in the marketing world gives rise to the concept of brand equity. Brand equity is “a set of assets or liabilities linked to a brand’s name and add symbol that adds to or subtracts from the value provided by a product or service to a firm’s customers” (Aaker, 1996). Aaker also suggested five brand equity constructs such as brand awareness, brand perceived quality, brand association, brand loyalty and other proprietary brand’s asset such as patent trademarks and channel relationships etc. Brand equity if build-up and nurtured properly provides uninterrupted benefit to the marketers as well as consumers in terms of probability of brand choice, brand performance, cash flow, and willingness to pay a premium, marketing productivity, and product positioning and brand knowledge in consumer’s minds (Kapferer, 2004; Keller, 1993)

Most research focus on developing the elements and tools that determine the brand equity for a particular product or industry as a whole. This paper tries to explore the impact of marketing mix elements on brand equity of healthcare equipment industry which is a completely unexplored area. Marketing mix is a set of marketing tools used by the marketer to ensure customer satisfaction and pursue its marketing objective in the target market. The challenge here is to find the best combination of marketing activities to suit the particular

business at a particular time and also to use it correctly to achieve desired goal by ensuring customer satisfaction.

2. Dimensions of Brand Equity

A review of literature has revealed various dimensions of brand equity which are used in the conceptual model as dependent variables. Each factor is discussed below:

2.1. Brand Awareness

It refers to whether consumer can recall or recognize a brand, or simply whether or not consumers know about a brand (Keller, 2008). Brand awareness refers to the strength of brand’s presence in the consumer’s mind (Aaker, 1996). Keller (2003) defines awareness as “the customer’s ability to recall & 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” Brand awareness is defined as the percentage of consumer’s that recognize a brand. It is the root to develop brand equity in the target market.

2.2 Brand Loyalty

Brand loyalty is defined as “a deeply held commitment to re buy or repatronizes a preferred product/service consistently in the future, thereby causing repetitive same brand or same brand set purchasing,

despite situational influences and marketing efforts having the potential to cause switching behaviour” (Oliver, 1999). According to Aaker, 1991, brand loyalty was defined as the attachment a customer has to a brand. Marketers are managing their brand with the intention to create brand loyalty. This not only ensures a consistent profit flow but also reduces threat of rivalry to some extent.

2. 3 Perceived Quality

Perceived quality is defined as “the consumer’s personal judgement about the overall quality or excellence of a product or service” (Zeithmal, 1988).

2.3.1. Marketing Mix Elements

“The marketing mix refers to the appointment of efforts, the combination, the designing and the integration of the elements of marketing into a program or mix which on the basis of an appraisal of the market force will best achieve the objective of an enterprise at a given time” (Borden, 1993).

There are literally dozens of marketing tools. McCarthy popularized a four factor classification of these tools called as 4Ps, such as product, price, place & promotion.

Product: Product is something that possesses utility. Product concept holds that consumers will favor those product that offer most quality, performance or innovative features.

Price: Price is the money valuation placed upon the product by offerer. It is the most important tool of marketing mix as it generates revenue for the marketers. It deals with price competition.

Place: Distribution is basically concentrated on how to deliver the right product to the right customer at the right place or market. It is the last frontier in the supply chain which creates customer satisfaction by creating time & place utility.

Promotion Mix: Promotion is the persuasive communication about the product by the marketer to the prospect. Largely it deals with non-price competition.

2.4. Healthcare Equipment Industry - An Introduction

The Indian healthcare market is the most emerging & fastest growing industry which is fuelled by not only the demand from major cities of India but also by attracting medical tourist from all over the world by providing accessible, affordable & best quality healthcare services. Medical technology has played a major role in this persistent effort of providing healthcare services to different categories of requirement & expectations. The term medical technology encompasses a wide range of healthcare products (devices, equipments as well as consumables/ supplies) that are intended by its manufacturer to be used specifically for diagnostic and/ or therapeutic purposes. It encompasses any instrument, apparatus, appliance, software, material or other article, which is used, alone or in combination, for different purposes like Diagnosis, prevention, monitoring, treatment or alleviation of disease. This research includes all diagnostic and life saving equipments like; Ultrasound,

X-ray, CT-scan, MRI scan, Cathlab, Ventilator etc. used in hospitals as well as in diagnostic centres to facilitate and enhance the scope of healthcare services.

Many national and international companies working in this domain wanted to capitalize the opportunity available in India as a healthcare hub. **GE healthcare** is one of them which strives to serve people with assured quality of services and at a reducing cost.

2.4.1. GE HEALTHCARE SYSTEM, INDIA :

Over centuries GE Healthcare, strive to see life more clearly their “healthymagination”. Vision for the future invites the world to join hands on their journey to continuously develop innovations focused on reducing healthcare costs, increasing access, and improving quality and efficiency around the world. As a global leader, GE can bring together the best in science, technology, business, and people to help solve one of the world’s toughest challenges and shape a new age of healthcare. Something remarkable happens when it brings together people who are committed to making a difference – they do.

Contribution towards customer satisfaction & healthy India:

Irrespective of product innovation GE healthcare proves optimum service support as its core competency / USP (unique selling proposition) to ensure customer satisfaction. GE Healthcare Services is dedicated to partnering with customers to address their healthcare system growth, quality, and operational excellence. GE provides the support services which helps to customers to meet their business objectives. It has adopted the following strategies to ensure its service excellence.

1. The ISO certified healthcare services team in South Asia.
2. Focused customer service delivered through a large team of service engineers
3. Service transformation from reactive fix to proactive & predictive system maintenance.
4. On watch predictive services - A support that never sleeps.
5. GE Inside On - Demand 24*7 automated monitoring, trending & correction
6. Partnership in customer education

3. Objective of the Study

The aim of this paper is to critically evaluate the influence of marketing mix element on determination of brand equity in healthcare equipment industry with reference to GE.

4. Research Methodology

4.1 Sampling

The target units consist of different diagnostic centers, private hospitals, corporate hospitals as well as Govt. hospitals established in different cities, which are using different kinds of healthcare equipments in their process

of treatment. The author intends to use simple random sampling so that every member of the population has an equal chance of selection. The sample size of the present study is 100.

4.2 Data & Measurement Scale

For this paper, a questionnaire was prepared based on likert 5 point scale.

4.4. Research Model: By analyzing the available literature, a research model was constructed which justify the relationship between brand equity and marketing mix elements, and also analyse the influencing factors which affects the brand decision in healthcare sector.

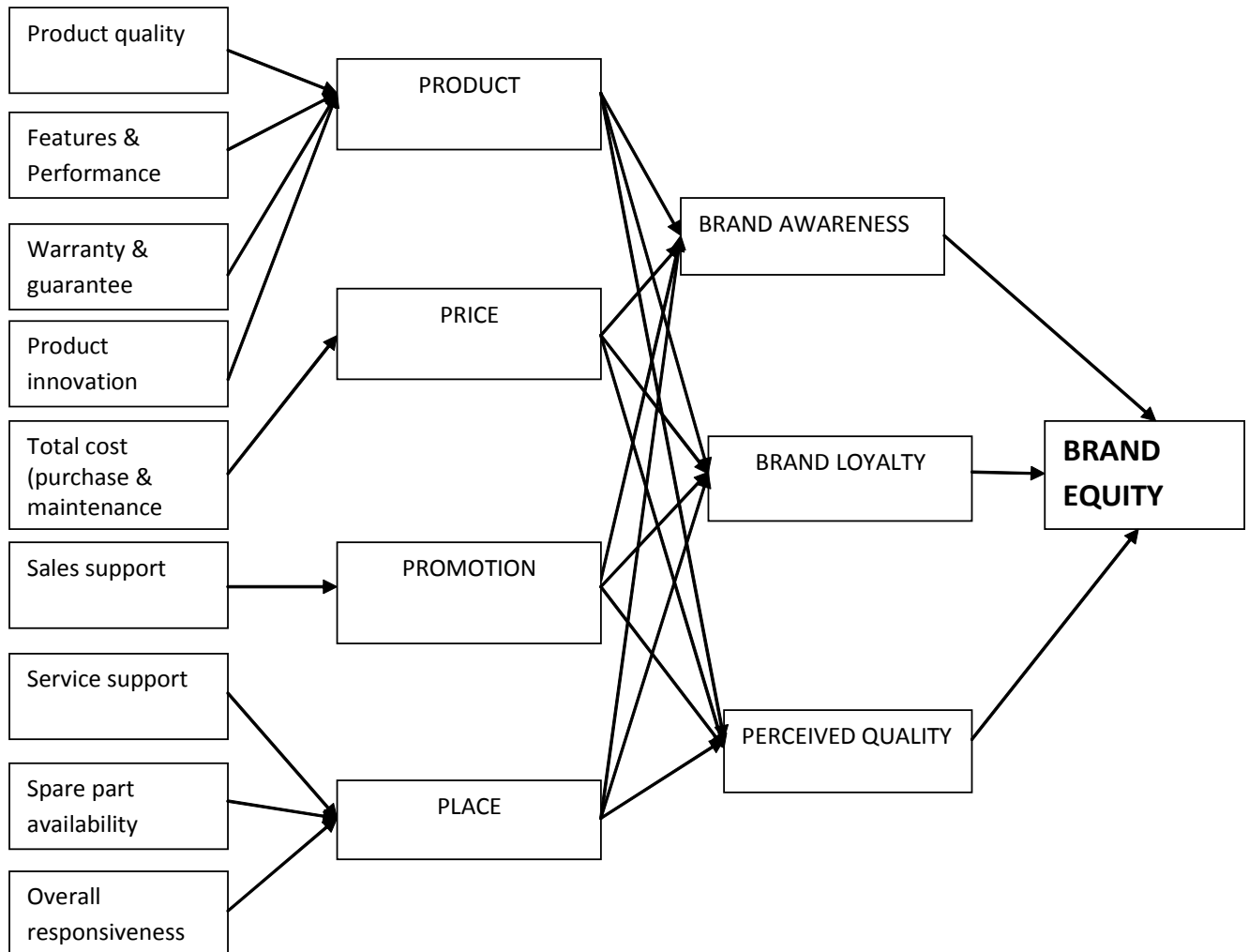


Figure 4.1: Different determinants of brand equity in healthcare equipment industry

The above figure explained various constructs taken under four Ps like Product, price, place and promotion and tries to establish the relation of four Ps with different dimensions of brand equity, which has been analyzed and proved in the context of healthcare equipment industry.

5. Data Analysis

5.1: Test of Reliability

In order to the measure the reliability (internal consistency) of the questionnaire, the Cronbach's Alpha technique has been used. The following table contains the summarized result of reliability test for different constructs considered as influencing brand equity.

Table 5.1: Reliability Statistics for constructs:

Reliability Statistics	
Cronbach's Alpha	N of Items
.918	10

Scale Statistics			
Mean	Variance	Std. Deviation	N of Items
41.5278	58.028	7.61760	10

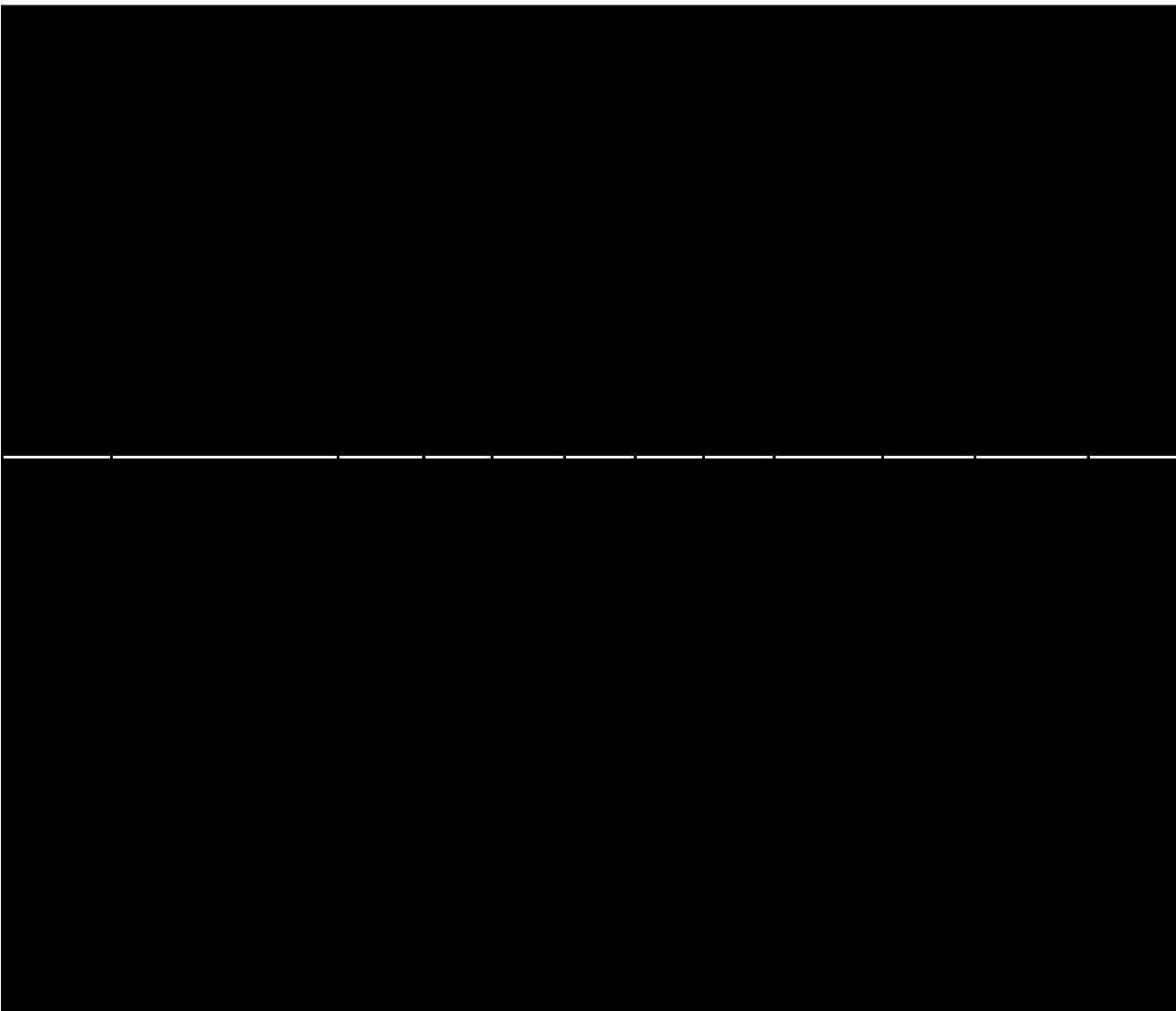
According to the study results (available in Table 5.1), the coefficients of Cronbach's Alpha test is .918, which indicates a very high level of reliability of the constructs used. This result proves that the questionnaire can be considered as a reliable measure to collect data for the study.

5.2. Multivariate Correlation and Regression Analysis. (Level of Significance: α is 5%.)

Multivariate correlation and Regression used to identify and analyze the existence of association or degree of

relationship between the dependent variable like brand equity and independent variables like quality of product, spare part availability, features and performance of the equipment, warranty and guarantee, product innovation, total purchase and maintenance cost bear by the company, sales and service support, spare part availability and over all responsiveness of the company people questioned through the questionnaire. The result of this is presented in the following table.

Table-5.2 : Multiple Correlations of 10 Variables of Brand Equity



From Table 5.3; it is observed that brand equity and after sales technical support given by the service engineer are positively correlated in high degree. Irrespective of that overall responsiveness of the company executive towards customer queries & feedback are also positively correlated with brand equity.

Table 5.4: Model Summary of Regression Analysis:

It is used to analyze the degree of relation between the independent and dependent variables, which is explained in the following table.

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.921 ^a	.848	.795	.48550	2.384
a. Predictors: (Constant), RANDDINNO, PRICE, QUALITY, WARRANTY, SALESSUPPORT, FETUPER, SPARAVA, TECHNICALSUPPORT, OVERALLRESPONS					
b. Dependent Variable: Brand equity					

Table: 5.4 represents the $R^2 = 0.848$ which shows that 84.8% of the variation in brand equity can be explained by the independent factors like quality of the product, availability of spare parts, features of the medical equipments, prices offered by the company, warranty facility & terms & conditions, technical support given

during machine break down, overall responsiveness towards customer query and grievances and innovation carried out for making value addition to the product & services. Accordingly, the equation given below may be treated as an acceptable forecasting model to judge the brand equity in consideration of the probable influential factors like x_1, x_2, \dots

Table 5.5: Multiple regression analysis

a. Dependent Variable: brand equity

Level of Significance: $\alpha\% = 5\%$.

Table: 5.5. Shows the multivariate regression equation

$$y = -0.664 + 0.071x_1 - 0.102x_2 + 0.042x_3 + 0.011x_4 - 0.004x_5 + 0.604x_6 - 0.036x_7 + 0.116x_8 + 0.441x_9$$

where y is the brand equity, x_1 is the independent variable like quality, x_2 is other independent variable like spare part availability, x_3 is the feature & performance of the brand, x_4 is the price, x_5 is the warranty, x_6 is technical support, x_7 is sales support, x_8 is overall responsibility,

and x_9 is innovation. It shows the variables like x_6 (technical support) and x_9 (innovation) are statistically significant for the regression model and considered to be more influential because the t-values mentioned against them are 3.488 and 3.385 respectively. Irrespective of that other variables like quality, feature & performance, overall responsiveness and price are also influenced brand equity in the medical equipment industry. The above analysis clearly reveals that the regression model fits well to this concern case. Hence using this model the brand equity of health care equipment can be estimated.

6. Managerial Implication

During the keen competition, it is extremely important for the company to solidly assess determinants that are not only significant in building powerful brand equity but also support them for reaching consumer loyalty and satisfaction. As these products belongs to healthcare sector where doctors are dealing with human life, so better innovation for updating medical equipments and swift technical support during the time of problem or break down is entailed to ensure customer satisfaction ,brand loyalty and finally brand equity.

7. Conclusion

This research concluded that the marketing mix elements implemented by GE; influence the brand equity of healthcare equipment. Here ten supportive elements or factors have been taken under four Ps (Product, Price, Promotion & Place) which enhances brand awareness, develops brand loyalty and transform the customer's perception in favour of GE, which ultimately augmented brand equity of the concern company. As the brand equity lies in customer satisfaction marketers bring into play various elements of marketing mix for ensuring customer satisfaction. In the above analysis out of ten supportive variables technical support given by the service people & innovations carried by General Electric (GE) for developing more customize product are statistically more significant which indicates the variation in brand equity can be explained by these independent variables.

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