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The Explanation of Model of Consumers Responses to Brand Equity Based on Marketing Mix Efforts, Corporate Image and Brand Equity Relation (Case Study: Butane Industrial Company)

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ABSTRACT

For keeping and continuing their perpetuity in nowadays, companies and should focus on competitive advantages and getting more consumers' satisfaction for sale and more market shares. One of the useful tools that makes the company less vulnerable in face of market competitive activities and consumption liability and repetition is brand equity. The purpose of this paper is investigating the consumers' responses on marketing- mix efforts, corporate image and brand equity relation using Kim & Hyun model(2011) and Buil & Martinez model(2013). This research is considered as applied based on goal and descriptive-survey based on data collection. Hypotheses were tested using structural equation modeling or SEM (in Lisrel and P.L.S software) and consumers' data Butane corporation products in Tehran. Findings corroborate the positive impact of brand equity on consumers' responses. The results of hypotheses analysis illustrate marketing- mix efforts positively impacts on brand equity and corporate image plays a significant role in creation of brand equity for Butane. So company managers should designate special places for distribution system growth, after sale services development, pricing, promotion in investment matrix for marketing mixed efforts.

Keywords: Brand equity, Dimensions of brand equity, Marketing-mix efforts, Corporate image, Consumers' responses.

1. INTRODUCTION

One of the most valuable possessions of each company is Brand Equity. Regarding brand equity, companies which have high position in their costumers' minds can easily be called as profitable among other companies in their specific industry. (Hosseini et. al, 2010). In recent years, the amount of imported heating home

appliance with different brands and salesmen's desire of commercial brands of foreign countries such as LG, DEWOO, BOSCHE become a problem for Iranian producers. Although most of the internal products of our country can compete with external products regarding quality and price, they have no position among consumers. (Khorshidi, et. al, 2011). According to serious price competition, internal and external highly qualified products and consumers' expectations raise and ... some of the active companies in this industry such as Butane, see their marketing share in danger. In these competing circumstances, those companies will be successful that can distinguish themselves from their competitors and create a unique and favorable position in their consumers' minds. In reality, innovation in products and services and technical priority will not necessarily cause long lasting competitive advantage because these advantages are normally copied and followed by others. In marketing in which products and services are coping with each other more and more, a strong brand is the only specification that can distinguish that special product or service from among others. (Kotler & Pfoertsch, 2006).

One of the ways of creating stable competitive advantage in these markets to which less attention paid is Brand Equity i.e., a value that is added to products and services due to having a brand which can be created, improved and continued. Brand Equity has many advantages for companies and producers for example, if a brand has a high value then consumers have positive thought towards that and as the result they agree on paying higher price for that product, repeat their purchase and advertise it orally for their friends and relatives (Kim & Hyun, 2011) therefore, companies can benefit of these for improving their products collections. By improving the existing brand to the new products, advertising costs for the new products will decrease. Granting concession fee or license to other companies or developing marketing communications are from among other advantages of brand equity. (Buil & Martinz, 2013).

One of the necessities of creating strong brand is to know each of the elements of creating brand equity. In today marketing, there are different ways of marketing program by which we can influence increase and creation of brand equity. Distributing network guidelines, communicating strategies, price determining guidelines and other marketing activities can weaken or strengthen brand (Yoo, Danthu & Lee, 2000). Companies can inform consumers of their brand and create a favorable image in their minds by marketing activities (Van Riel, 2005). In case of knowing about the way of marketing mixing effect especially guidelines related to product, price determining and distribution, we can use these activities for promoting brand equity. In Iran, Brand Policy Making Assembly has put brand equity evaluation of Iranian brands prior to other things because for reaching competitive advantage and preparation to enter world markets, promoting brand equity of Iranian brands is salient.

Therefore, in this paper the simultaneous effects of marketing mixing activities (distributing channel, price, promotion and after sale service) and company image on brand equity and also brand equity on consumers' replication (desire for paying higher price, brand development, brand preference and brand purchase) are analyzed by using instructional equation analysis in Butane industrial company which is one of the famous brands in heating home appliances industry.

2. MODEL AND HYPOTHESES

As shown in Figure 1, the model addresses three dimensions of brand equity, four marketing-mix efforts as antecedents of the dimensions, and the overall value of brand equity as a consequence of the dimensions. It also includes corporate image as a mediator between the marketing-mix efforts and dimensions of brand

equity, which reflects distinctive aspects of industrial branding. The three dimensions of brand equity are brand awareness with associations, perceived quality, and brand loyalty. These are adapted from Aaker (1996), and Yoo and Donthu (2001). According to Yoo et. al., (2000), the overall value of brand equity is adopted as a proxy of market performance. Marketing-mix efforts include channel performance, value-oriented price, promotion and after-sales service. It is noteworthy that after-sales service is included as an antecedent of dimensions of brand equity, and promotion is defined and operationalized in adaptation to the business market context, which is described later. In the model, the marketing-mix efforts affect the three dimensions of brand equity both directly and indirectly through corporate image. In turn, these three dimensions affect the overall value of brand equity. They are structured in a hierarchy: brand awareness with associations affects perceived quality and brand loyalty; perceived quality affects brand loyalty. According to Buil and Martinez (2013), overall brand equity affect directly on consumers' responses. In particular, consumers' responses include consumers' willingness to pay price premiums, consumers' attitude towards brand extensions, brand preference and purchase intention.

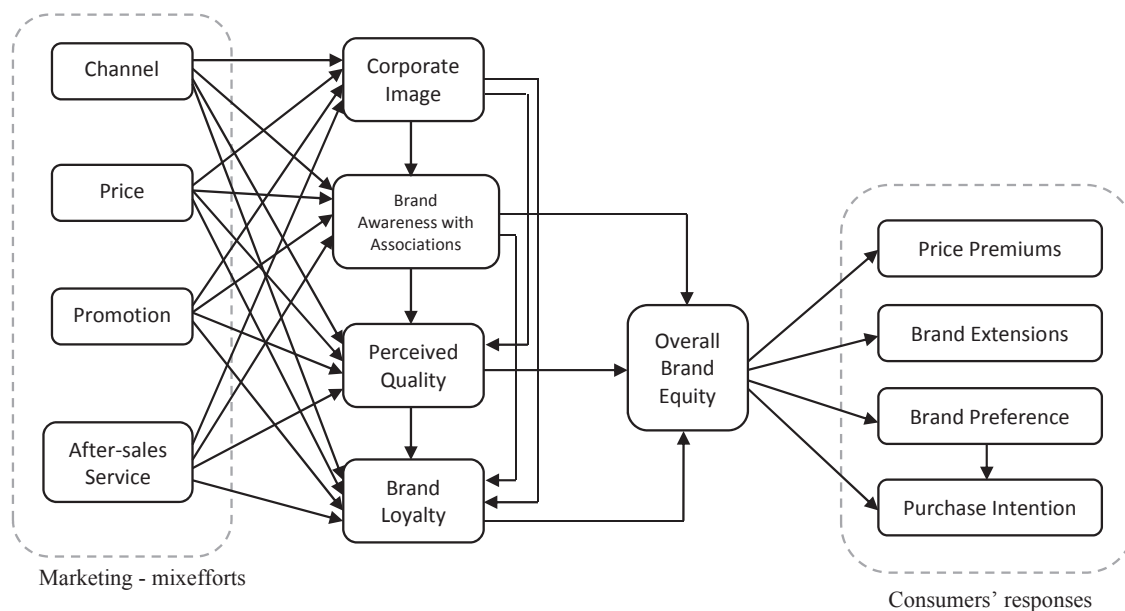


Figure 1: Conceptual framework. Retrieved from Kim & Hyun model (2011) and Buil & Martinez model (2013)

Marketing-mix Efforts, Brand Equity Dimensions and Corporate Image Channel

In consumer marketing, research shows that channel performance contributes to building brand equity (Dodds, Monroe, & Grewal, 1991; Rao & Monroe, 1989; Yoo et. al., 2000). Good store-image not only attracts more attention, interests, and contacts from potential consumers, but also increases consumer satisfaction and positive word of mouth. Thus, it levels up brand awareness with associations and brand loyalty. In addition, distributing through good-image stores signals that a brand has good quality. Distribution intensity also has a positive impact on dimensions of brand equity because high distribution intensity increases the probability of buying a brand wherever and whenever consumers want (Yoo et. al., 2000; Kim & Hyun.,2011). Specifically, since the increase in distribution intensity reduces consumer efforts for finding and acquiring a brand, consumers are likely to perceive it as more valuable, which in turn increases

consumer satisfaction and brand loyalty (Yoo et. al., 2000). In industrial marketing, the activities of order processing, coverage, and delivery are found to be critical for building brand equity (McQuiston, 2004; Mudambi et. al., 1997). van Riel et. al., (2005) find that these activities positively affect perceived quality and brand loyalty. These activities relate to channel performance, and the positive image of the industrial channel member makes buyers more assured of the performance. In this respect, as Schuiling and Moss (2004) argue, we may reason that in the context of industrial marketing, channel performance that concerns the distribution density and the channel member's image has a positive impact on the dimensions of brand equity (Kim & Hyun., 2011). Considering all this, we may formulate the following hypotheses:

H1: Channel performance positively affects brand awareness with associations.

H2: Channel performance positively affects perceived quality.

H3: Channel performance positively affects brand loyalty.

Price

In consumer markets, price is an extrinsic cue of product quality, and thus high-priced brands are often perceived to be of higher quality (Dodds et. al., 1991; Yoo et. al., 2000). On the other hand, given product quality is homogeneous and easily substantiated, a higher price may negatively affect brand loyalty because it does not signal higher product quality, but instead only highlights that more money must be paid. This negative effect of high price on brand loyalty has been reported in industrial branding (Cretu & Brodie, 2007; Jensen & Kjastrup, 2008). Mudambi et. al., (1997) propose that some industrial buyers estimate low price accounts for about 70% of the final decision in business markets. In contrast, however, Abratt (1986) shows that industrial buyers consider low price less important than other product selection criteria (e.g., technical service and product reliability), and are willing to pay a price premium for the superior equipment in high-tech markets. Higher price with more channel service would increase brand loyalty. As the impact that the price has on brand equity varies depending on market characteristics, van Riel et. al., (2005) use value for the money as an antecedent of dimensions of brand equity instead of the price. They demonstrate that value for the money has a positive impact on brand satisfaction, which in turn increases brand loyalty. It is likely that the value-oriented price would be a salient characteristic of the brand, and thus grab attention while motivating consumers to think more about the brand. On the other hand, it would undermine higher quality perception although it tells that product quality is fair for the price. For example, it makes buyers perceive that the brand is of high value, but it may have a negative impact on the buyer's perception that the brand has premium quality. With all this in mind, we develop the following hypotheses:

H4: The value-oriented price positively affects brand awareness with associations.

H5: The value-oriented price negatively affects premium-quality perception.

H6: The value-oriented price positively affects brand loyalty.

Promotion

Promotion is defined as providing information for persuasion (van Riel et. al., 2005). It includes advertising, promotional events, personal selling, Web site-based communication activities, and so on. In consumer marketing, the positive effects of advertising on the dimensions of brand equity have been fully substantiated

(Aaker & Jacobson, 1994; Simon & Sullivan, 1993; Yoo & Donthu, 2002). Promotional events with long-term goals could build brand equity through offering actual product experience that helps to create strong, favorable, and unique associations (Keller, 2008). On the other hand, short-term price reductions such as cent-off deals might not be desirable for building brand equity, even though they boost sales in the short run (Aaker, 1991; Yoo et. al., 2000). Simon and Sullivan (1993) list advertising expenditures, sales force and marketing research expenditures, age of the brand, advertising share, order of entry, and product portfolio as sources of brand equity. In industrial marketing, promotional activities such as brochures, salesperson, and Web sites are frequently mentioned as antecedents of dimensions of brand equity (van Riel et. al., 2005). Exhibition, trade show, conferences, direct mail ads, press releases, word of mouth, and technical consultant are also considered as sources of information, particularly in high-tech markets (Abratt, 1986). A salesperson is often emphasized as an especially important medium of communication in business markets (Kuhn et. al., 2008; Mudambi, 2002). The rationale is that personal selling is instrumental to offering information tailored to the different needs that each member in an organization buying center has (Mudambi, 2002; Webster & Keller, 2004). Moreover, van Riel et. al., (2005) demonstrate the positive influence that promotion has on brand loyalty as well as perceived service quality. Therefore, the following hypotheses are devised:

H7: Promotion positively affects brand awareness with associations.

H8: Promotion positively affects perceived quality.

H9: Promotion positively affects brand loyalty.

After-sales Service

In consumer marketing, after-sales service (often referred to as support service) has not been considered a major antecedent of brand equity, but rather has been taken as a product-, promotion-, or channel-related element. In contrast, it has been used as a key element for positively affecting brand equity in industrial marketing since the rapport with the customer as well as technical support may give good opportunities to establish close relationships with customers, which in turn compels customers to patronize the company (Kuhn et. al., 2008; Mudambi et. al., 1997). Arguing that support service is one of the primary factors for building brand loyalty in business markets, Kuhn et. al., (2008) make the point that Keller's customer-based brand equity (CBBE) model tends to ignore elements relevant to support services, and suggest a revised CBBE model for industrial branding. van Riel et. al., (2005) show that satisfaction with support service has a positive effect on brand loyalty in business markets. After-sales service is also found to be a more important product-selection criterion than price in high-tech markets (Abratt, 1986). Little research examines the effects of after-sales service on brand awareness with associations and perceived quality. However, excellent support service is expected to be a memorable characteristic of a brand, leading to the creation of favorable brand associations. For instance, Acme Brick is remembered as offering excellent support services such as a 100-year limited guarantee (Kotler & Pfoertsch, 2006). Furthermore, unless consumers are satisfied with repair or restoration through after-sales service, the quality of a product is not likely to be considered credible. Thus, we arrive at the following hypotheses:

H10: After-sales service positively affects brand awareness with associations.

H11: After-sales service positively affects perceived quality.

H12: After-sales service positively affects brand loyalty.

Corporate Image

Corporate image can be defined as a particular type of feedback from those in a given market regarding the credibility of the identity claims that the organization makes (Cretu & Brodie, 2007; Beristain and Zorrilla, 2011; Wartick, 2002). Dowling (1986) suggests the process by which the industrial company develops the corporate image and proposes that the corporate image is influenced by product, price, distribution channel, advertising, after-sales service, concern about the environment, and employee attitude. Henderson (1971) proposes that marketing-mix activities such as product appearance, retail outlet, and promotion are pivotal in developing the corporate image. Van Riel et. al., (2005) show in business markets that promotion and personnel (employee and staff) influence the corporate image. Corporate image is also found to be influenced strongly by characteristics of the salesperson (e.g., expertise, likeability, similarity and frequent business contact) as an important source of information (Kim and Hyun, 2011). Thus, we expect that marketing activities such as channel performance, value-oriented price, promotion, and after-sales service have a positive impact on the corporate image.

H13: Channel performance positively affects the corporate image.

H14: Value-oriented price positively affects the corporate image.

H15: Promotion positively affects the corporate image.

H16: After-sales service positively affects the corporate image.

Relationships between Corporate Image and Brand Equity Dimensions

The role of the corporate image in establishing brand equity is more emphasized in industrial marketing than in consumer marketing (Kuhn et. al., 2008; Beristain and Zorrilla, 2011). Although there are inherent difficulties in managing corporate image—due to its fragility and the time and effort required to rectify it if it becomes contaminated (Herbig & Milewicz, 1995)—such efforts are worthwhile in business markets. Mudambi et. al., (1997) suggest that corporate image is an important antecedent of brand equity in business markets. Van Riel et. al., (2005) show that corporate images such as “financially stable,” “leading edge” and “world famous” have positive effects on brand loyalty. Good corporate image is likely to give trustworthiness and credibility to consumers or industrial buyers, which in turn leads to an increase in the perceived quality of a brand (Cretu & Brodie, 2007; Beristain and Zorrilla, 2011). Yoon, Guffey, and Kijewski (1993) show that company reputation affects purchase intention directly as well as indirectly through the quality expectation of offering in a business insurance market. Good corporate image also serves as entry barriers against potential competitors (Kim and Hyun, 2011). In addition, good corporate image is particularly important when buyers need to evaluate a new supplier or product since it reduces uncertainty and rationalizes the selection process (Blomback & Axelsson, 2007). McQuiston (2004) explains that corporate image is a key driver for creating relevant associations in industrial buyers’ minds. Thus, we address the following hypotheses:

H17: Good corporate image positively affects brand awareness with associations.

H18: Good corporate image positively affects perceived quality.

H19: Good corporate image positively affects brand loyalty.

Relationships between Brand Equity Dimensions and Overall Brand Equity

The overall value of brand equity is defined as the value added to the branded product relative to the unbranded product. It is the outcome of the three dimensions of brand equity: brand awareness with associations, perceived quality, and brand loyalty (Yoo & Donthu, 2001; Yoo et. al., 2000). The positive effects of the three dimensions of brand equity on the overall value of brand equity are found in cross cultural study of America and Korea (Yoo & Donthu, 2002). Thus, we formulate the following hypotheses:

H20: Brand awareness with associations positively affects the overall value of brand equity.

H21: Perceived quality positively affects the overall value of brand equity.

H22: Brand loyalty positively affects the overall value of brand equity.

Yoo et. al., (2000) and Yoo and Donthu (2001) suggest interrelations among three dimensions of brand equity. Applying the hierarchy-of-effects theory (Kim and Hyun,2011), our model lays out three causal paths: from brand awareness with associations to perceived quality, from that awareness to brand loyalty, and from perceived quality to brand loyalty. These causal relationships are supported by the CBBE pyramid (Keller, 2008) and the five-stage development process of industrial brand equity (Gordon et. al., 1993). Thus, we arrive at the following hypotheses:

H23: Brand awareness with associations positively affects perceived quality.

H24: Brand awareness with associations positively affects brand loyalty.

H25: Perceived quality positively affects brand loyalty.

Relationships Between Overall Brand Equity and Consumers' Responses

Building a strong brand with positive equity positively influences firms' performance through its effect on consumers' responses towards brands (Milberg, Sinn, 2008). This study explores four of these consumer responses: willingness to pay a price premium, attitude towards extensions, brand preference and purchase intention. The willingness to pay a price premium reflects the amount a consumer is willing to pay for a brand in comparison with other brands offering similar benefits. The literature indicates that brand equity has a notable impact on consumers' willingness to pay a price premium (Netemeyer et. al., 2004). Brand equity makes consumers less sensitive to price increases and more willing to pay a higher price since they perceive some unique value in the brand that no other alternative can provide (Seitz et. al., 2010). Thus the following hypothesis is postulated:

H26: Overall brand equity has a positive influence on consumers' willingness to pay price premiums.

Firms with higher brand equity can also extend their brands more successfully. (Buil and Martí'nez, 2013) One of the main reasons is that endowing a new product with a well-known brand name provides consumers with a sense of familiarity and trust that positively influences their attitude towards the extension, even when they do not have specific knowledge about it (Milberg and Sinn, 2008). The strong support for transfer of knowledge and affect from the parent brand to the extension clearly justifies the key role that brand equity plays in consumers' evaluations of brand extensions (Czellar, 2003). Therefore, brands with higher equity are expected to generate more positive consumer responses towards potential extensions, as the following hypothesis propose:

H27: Overall brand equity has a positive influence on consumers' attitude towards brand extensions.

Brand equity also has a positive impact on consumers' brand preferences. The literature suggests that strong brands get preferential evaluations as well as higher overall preference (Hoeffler and Keller, 2003). Similarly, customers who perceive a higher value in a brand are more likely to buy it (Aaker, 1991). Researchers have found a positive effect of brand equity on consumers' brand preferences and purchase intentions. For instance, Cobb-Walgren et. al., (1995) found across two categories, hotels and household cleaners, that those brands with higher equity generated greater brand preferences and purchase intentions (Seitz, Razzouk, 2010). Similar results are reported by Tolba and Hassan (2009). We also propose a relationship between these two constructs: brand preference and purchase intention (Hellier et. al., 2003). The theory of reasoned action has been used to explain the relationships between attitudes, intentions and behaviour (Buil and Martínez, 2013). According to this theory, a favourable attitude towards a brand leads to purchase intention. The following hypotheses synthesise the previous arguments:

H28: Overall brand equity has a positive influence on consumers' brand preference.

H29: Overall brand equity has a positive influence on consumers' purchase intention.

H30: Brand preference has a positive influence on consumers' purchase intention.

3. METHODOLOGY

This research is applied descriptive survey that analyzes relations among marketing mixing activities, company image, brand equity and consumers' replications.

Sampling and Data Collection

The population are from all consumers of Butane industrial company products in Tehran in summer of 1392. For data collection, availability was of concern that is Tehran city was divided into 4 regions (North, South, West & East) in which 2 Butane agency and sale center of home appliances were selected. Then according to the consumers' availability and their desire to fill the questionnaire, the data were collected. Due to the unlimited population, samples were selected as 384 people and in each region 100 questionnaire were distributed.

To collect data and consumers' ideas of Butane industrial company home appliances products, questionnaire is used. Questions about marketing mixing relations, company image and brand equity are from standard questionnaire items of Kim & Hyun (2011) and for compiling the questions about consumers' replication to brand equity, standard questionnaire of Boil & Martinz is used (2011, 2013). The questions are designed in a way that have 5 choices based on Likert in which 1 means totally disagree and 5 means totally agree. The population features are indicated in the Table 1).

Content validity of the questionnaire was confirmed by some university professors and commercial experts. To evaluate construct validity of the questions, confirmatory factor analysis was used and the questions with factor loading less than 0.3 or with T statistics between +1.96 and -1.96 were omitted. In order to evaluate the questionnaire reliability, Cronbach's alpha coefficient is used whose amount is more than 0.8 for every variables of the research that indicates the strong internal homogeneity and stability of the questionnaire. The amount of Kaiser-Meyer-Olkin is 0.733 marketing mix efforts, 0.741 for corporate

image, 0.809 for dimension of brand equity, 0.722 for brand equity, 0.863 for consumers' responses and these amounts indicate efficiency of the sampling and suitability of the data for confirmatory factor analysis.

Table 1
Characteristics of the participants

<i>Characteristics</i>	<i>Number</i>	<i>Percent(%)</i>	
<i>Gender:</i>			
Male	237	62	
Female	147	38	
<i>Marital Status:</i>			
Married	247	64	N = 384
Single	137	36	
<i>Age:</i>			
Less than 20 year	21	5.46	
20 to 40 year	241	62.76	
41 to 60 year	100	26.42	
More than 60 year	22	5.72	

Table number 2 shows the results of confirmatory factor analysis and reliability coefficient of each variables of the research:

In this research, by using Structural equation modeling, we do hypothesis testing and model fitting in PLS software. Structural equation modeling is a technic with some variables which is a mixture of factor

Table 2
Operational measures and scale reliability values

<i>Marketing-mix efforts Standardized</i>	<i>Standardized loading</i>	<i>t-value</i>
Channel ($\alpha = 0.860$)		
CH1: X has various channels to purchase it.	0.409	---
CH2: The process of purchasing X is simple.	0.530	5.119
CH3: Delivering and installing X is fast and correct.	0.647	5.163
Price ($\alpha = 0.861$)		
PC1: The price of X is low.	0.655	---
PC2: The price of X is reasonable for quality of product.	0.726	9.144
PC3: The price of X is more suitable in comparison to other companies.	0.620	8.768
Promotion ($\alpha = 0.859$)		
PM1: The frequency of salesperson's visit is high.	0.427	---
PM2: Brand X frequently offers gifts.	0.555	6.303
PM3: Brand X frequently offers price discounts and often uses price discounts.	0.503	6.020
PM4: Brand X seems to spend a lot on its advertising compared to advertising for competing Home Appliances brands	0.658	6.711
PM5: The advertisements for brand X are frequently shown	0.669	6.743
After-sales service ($\alpha = 0.860$)		
AS1: The process of call for after-sales service is simple.	0.451	---
AS2: The restoration of system is fast.	0.660	6.229
AS3: The result of after-sales service is desirable.	0.607	6.170

(Contd..)

<i>Dimension of brand equity and corporate image Standardized</i>	<i>Standardized loading</i>	<i>t-value</i>
Brand awareness with associations ($\alpha = 0.859$)		
BAA1: I am always aware of X. ^(*)	0.221	5.535
BAA2: X is a brand of Home Appliances I am very familiar with.	0.473	7.017
BAA3: Characteristics of X come to my mind quickly.	0.530	7.732
BAA4: I can quickly recall the symbol or logo of X.	0.514	7.534
Perceived quality ($\alpha = 0.858$)		
PQ1: The quality of X is credible.	0.580	10.508
PQ2: X must be of very good quality. ^(*)	0.287	6.799
PQ3: High quality of X is consistent.	0.691	12.429
Brand loyalty ($\alpha = 0.854$)		
BL1: I am satisfied with X.	0.634	12.187
BL2: X is my favorite brand.	0.701	13.712
BL3: I have confidence in X.	0.719	14.123
Overall value of brand equity ($\alpha = 0.855$)		
OBE1: Although another brand has same features as X, I would prefer to buy X.	0.465	7.409
OBE2: If another brand is not different from X, it seems smarter to purchase X.	0.750	9.626
OBE3: Although there is another brand as good as X, I prefer to buy X.	0.582	8.500
Corporate image ($\alpha = 0.859$)		
CI1: What offers X is a high-tech company.	0.497	8.336
CI2: What offers X has long experience.	0.730	10.718
CI3: X has a good face.	0.659	10.095
<i>Consumers' responses Standardized</i>	<i>Standardized loading</i>	<i>t-value</i>
Willingness to pay a price premium. ($\alpha = 0.880$)		
PRI1: The price of brand X (Home Appliances) would have to go up quite a bit before I would not consider buying it	0.768	---
PRI2: I am willing to pay a higher price for brand X (Home Appliances) than for other brands of Home Appliances.	0.539	8.596
PRI3: I am willing to pay a lot more for brand X (Home Appliances) than for other brands of Home Appliances.	0.710	10.067
Brand extension. ($\alpha = 0.858$)		
EXT1: Favourability of the extension.	0.566	---
EXT2: Perceived quality of the extension.	0.629	7.140
EXT3: Likelihood of trying the extension.	0.564	6.896
Brand preference. ($\alpha = 0.853$)		
PRE1: I like brand X better than other brands of Home Appliances.	0.706	---
PRE2: I would use brand X Home Appliances more than other brands of Home Appliances.	0.667	11.295
PRE3: In Home Appliances brand X is my preferred brand.	0.668	11.314
Purchase intention. ($\alpha = 0.855$)		
PI1: I would buy brand X (Home Appliances).	0.721	---
PI2: I would seriously consider buying brand X (Home Appliances).	0.689	11.464
PI3: It is very likely that I would buy brand X (Home Appliances).	0.700	11.602

(*): Fixed parameter (*) Item deleted in the validation process

analysis and path analysis. By using this statistical technic, we can analyze some coefficient relations between dependent variables and independent ones simultaneously (Abbaszadeh, et. al, 1391). Since this article is looking for analyzing and testing the effects of marketing mix efforts on the variables of corporate image

and dimension of brand equity and also the effects of brand equity on consumers' responses. The existence of positive correlation among various variables is confirmed with 99% by using Pearson's correlation coefficient firstly. Research hypotheses' testing was done then.

Results of Hypotheses Test

In standard mode, Path correlation is meaningful at certainty level of 95% which can explain changes in dependent variable if the amount of T statistic is out of the range of -1.96 to $+1.96$. Therefore, if the T statistic is among the range of -2.58 to $+2.58$, it shows that the provided parameter at the 0.01 level is not meaningfully different from zero and can be explained as above. The results of hypotheses test are shown in the table number 3):

Table 3
Results of hypotheses testing

<i>Hypothesized relationships</i>	<i>Standardized estimates</i>	<i>t-value</i>	<i>Conclusion</i>
H1: Channel → Brand awareness with associations	0.085	1.788	Not supported
H2: Channel → Perceived quality	0.069	1.354	Not supported
H3: Channel → Brand loyalty	0.124	2.640	Supported
H4: Price → Brand awareness with associations	0.003	0.083	Not supported
H5: Price → Perceived quality	0.121	2.507	Supported
H6: Price → Brand loyalty	0.046	1.107	Not supported
H7: Promotion → Brand awareness with associations	0.123	2.115	Supported
H8: Promotion → Perceived quality	0.155	2.937	Supported
H9: Promotion → Brand loyalty	0.089	2.069	Supported
H10: After-sales service → Brand awareness with associations	0.158	2.765	Supported
H11: After-sales service → Perceived quality	0.094	2.012	Supported
H12: After-sales service → Brand loyalty	0.112	2.300	Supported
H13: Channel → Corporate image	0.108	2.042	Supported
H14: Price → Corporate image	0.070	1.492	Not supported
H15: Promotion → Corporate image	0.256	5.315	Supported
H16: After-sales service → Corporate image	0.215	3.956	Supported
H17: Corporate image → Brand awareness with associations	0.086	1.703	Not supported
H18: Corporate image → Perceived quality	0.267	5.259	Supported
H19: Corporate image → Brand loyalty	0.108	2.151	Supported
H20: Brand awareness with associations → Overall value of brand equity	0.096	2.226	Supported
H21: Perceived quality → Overall value of brand equity	0.194	3.620	Supported
H22: Brand loyalty → Overall value of brand equity	0.354	7.247	Supported
H23: Brand awareness with associations → Perceived quality	0.104	2.458	Supported
H24: Brand awareness with associations → Brand loyalty	0.019	0.641	Not supported
H25: Perceived quality → Brand loyalty	0.385	7.156	Supported
H26: Overall brand equity → Price premium	0.316	7.952	Supported
H27: Overall brand equity → Attitude towards extension	0.352	6.422	Supported
H28: Overall brand equity → Brand preference	0.443	9.653	Supported
H29: Overall brand equity → Purchase intention	0.197	4.51	Supported
H30: Brand preference → Purchase intention	0.559	16.032	Supported

By evaluating the total effects (TE) of independent variables on brand equity and finally on total value of brand equity, the highest effect is related to promotion factor (TE = 0.093) then to after sale services (TE = 0.122), distribution channel (TE = 0.093) and price (TE = 0.067) respectively. Besides that Butane brand equity influences consumers' responses directly, each of the moderator variables brand loyalty, brand understood quality, corporate image and brand awareness and association promote and strengthen Butane brand equity respectively and influence consumers' responses indirectly.

Model Fitting

PLS software has few statistical indexes for model fitting estimation. Tenenhaus et. al (2005) introduced Goodness of fit index (GOF) for PLS software. The general criterion of (GOF) can be obtained by calculating coefficient of determination and Geometric mean average share. Amount more than 0.7 indicates suitable fitting for the tested model of this index. In order to test structural model (which indicates relations between latent variables) R2 coefficient of determination, CV redundancy which is known as Stone Gyser coefficient (Q2) and CV-communality have been used. These two last indexes are intertwined with software modeling or homogeneous and integrated PLS and are strong indexes for analyzing model fitting. Positive values of these indexes are signs of qualified measurement tools and acceptable model fitting and the negative values indicate low qualification of the measurement tools and inappropriate model fitting. R2 value should be at a significant level and more than 0.6. To test measurement model (which shows relations between observed and latent variables) and internal homogeneity of structures, 3 criteria are used according to Fernel Larker (1981) suggestion: (1) reliability of each of the items or observed variables (α), (2) composite reliability of each of the structures (CR) and (3) average variance extracted (AVE). The value of α for each variable should be at least more than 0.7. The acceptable values for CR of each structure should be more than 0.7 and for AVE 0.5 or values more than it are advised (Abbaszadeh, et. al 1391).

Table 4
Goodness of fit Indicators in structural model and measurement model

	<i>Variables</i>	<i>CV Red</i>	<i>CV Com</i>	<i>R Square</i>	<i>GOF</i>	<i>AVE</i>	<i>CR</i>	<i>α</i>
Marketing-mix efforts	Channel	0.206	0.606	---		0.595	0.815	0.734
	Price	0.170	0.870	---		0.502	0.787	0.722
	Promotion	0.075	0.775	---		0.521	0.765	0.710
	After-sales service	0.105	0.505	---		0.538	0.777	0.805
	Corporate image	0.115	0.955	0.613		0.567	0.797	0.812
Dimensions of brand equity	Brand awareness with associations	0.041	0.644	0.701		0.502	0.747	0.711
	Perceived quality	0.164	0.623	0.677	0.714	0.691	0.817	0.721
	Brand loyalty	0.222	0.749	0.651		0.622	0.831	0.765
	Overall brand equity	0.142	0.650	0.672		0.564	0.795	0.713
Consumers' responses	Willingness to pay a price premium	0.056	0.832	0.700		0.594	0.811	0.763
	Brand extension	0.057	0.745	0.724		0.562	0.793	0.709
	Brand preference	0.288	0.889	0.696		0.641	0.843	0.803
	Purchase intention	0.110	0.924	0.649		0.664	0.856	0.748

As it can be seen, all the values of indexes which are in table number 4) for property of the model indicate that the proposed model has proper qualification and model fitting. Chart 2) shows the final model of the research:

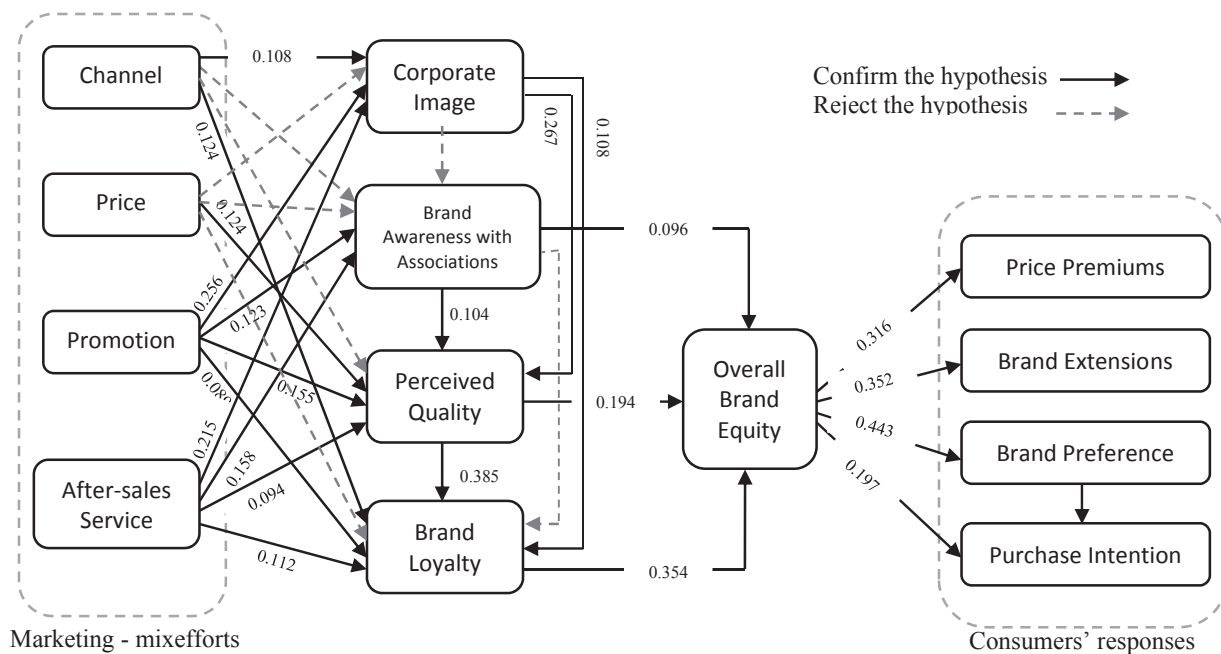


Figure 2: Results of the structural equation modeling

4. CONCLUSION

About the effects of marketing mixing activities on company image and brand equity aspects, the hypotheses H3, H5, H7, H8, H9, H10, H11, H12, H13, H15 and H16 are confirmed and H1, H2, H4, H6 and H14 are rejected. Distribution channel improves and promotes Butane brand equity by influencing brand loyalty and company image. It seems that brand equity of this company is influenced by other marketing mixing activities and investing on distribution activities may have less outcomes in comparison to other investing priorities. When the company has a stronger mechanism of different products and services and their availability in right time and place, it will promote the satisfaction level of the consumers since this mechanism puts the consumers at ease.

Price element can have effects on brand equity of Butane just by influencing the percept quality. It should be stated that the above mentioned brand products are in consuming markets and their prices are not that much different from their competitors' ones, however, due to the fact that increasing the price much will diminish the company's position in their consumers' minds, therefore; care should be taken in account for price determining policies.

By influencing each three aspects of brand equity and the company image the promotion element improves and promotes Butane brand. According to the significance of this element, it is suggested to determine a special position for promoting and developing of distribution system in investing structure on marketing of this company. After sale services have positive effects on each three aspects of brand equity and the company image. Since the coming situation of cooling and heating home appliances market is not

being exclusive anymore and is becoming competitive, the only competitive advantage for the internal producers is to focus on after sale services. According to the research findings and marketing mixing activities effects confirmation and company image on final brand value and according to the effects of each of the marketing mixing elements on the total brand value, managers of Butane industrial company should orderly determine a special position for sale advancement and promoting activities, improving after sale services, developing distribution system and increasing its channels, suitable price determining of goods, in investment structure on marketing mixing activities. This investment should be led in a way that has the most outcomes for the company and increase the sale amounts and market shares besides improving and promoting brand equity in consumers' minds.

According to the results of hypotheses testing, three marketing mixing elements of promotion, after sale services and distribution channel have positive effects on Butane company image directly. Influencing on percept quality and brand loyalty company image element has a significant role on creating value for Butane brand (H18, H19) but its effect on brand association and awareness has been rejected (H17). The research results also indicate that all triple aspects of brand awareness and association, percept quality of brand and brand loyalty influence brand equity positively (H20, H21, H22) which finally leads to increase: brand credits and value, loyalty amount, consumers' desire for paying higher prices, preferences and purchase intention and to accept its improvement and development by the consumers (H26, H27, H28, H29). Therefore, the marketers are advised that the brand can increase the market share for the new products if it has a high credit and could attract the consumers' loyalty.

Otherwise, to generalize the brand won't transfer a good feeling or percept to the new products. Due to the fact that all three aspects of brand have significant effects on total brand value, it can be said that loyalty and awareness can be a support for using Butane brand to introduce the new products. The more higher-leveled the percept quality of the brand and the consumers' satisfaction and loyalty to the brand, the more motivation the consumers will have to buy their goods of that specific brand in comparison to other similar ones. Based on the research findings, if the consumer has a positive idea towards a brand, they will pay more money to buy their goods of that specific brand. According to the mentioned points, this research advise the producers to focus on brand equity promotion and improvement.

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Table 1
Results of Pearson test

<i>Variables</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Channel	1	–	–	–	–	–	–	–	–	–	–	–	–
(2) Price	**0.253	1	–	–	–	–	–	–	–	–	–	–	–
(3) Promotion	**0.233	**0.359	1	–	–	–	–	–	–	–	–	–	–
(4) After-sales service	**0.335	**0.292	**0.353	1	–	–	–	–	–	–	–	–	–
(5) Corporate image	**0.372	**0.246	**0.254	**0.344	1	–	–	–	–	–	–	–	–
(6) Brand awareness with associations	**0.262	**0.164	**0.199	**0.269	**0.259	1	–	–	–	–	–	–	–

(Contd...)

The Explanation of Model of Consumers Responses to Brand Equity Based on Marketing Mix Efforts, Corporate Image and...

<i>Variables</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(7) Perceived quality	**0.339	**0.266	**0.218	**0.288	**0.433	**0.244	1	-	-	-	-	-	-
(8) Brand loyalty	**0.349	**0.357	**0.314	**0.385	**0.417	**0.236	**0.547	1	-	-	-	-	-
(9) Overall value of brand equity	**0.227	**0.182	**0.196	**0.320	**0.351	**0.248	**0.407	**0.493	1	-	-	-	-
(10) Willingness to pay a price premium	**0.164	**0.189	**0.317	**0.226	**0.156	**0.144	**0.160	**0.377	**0.281	1	-	-	-
(11) Brand extension	**0.259	**0.256	**0.282	**0.295	**0.224	**0.244	**0.284	**0.380	**0.343	**0.300	1	-	-
(12) Brand preference	**0.313	**0.304	**0.301	**0.277	**0.394	**0.246	**0.427	**0.563	**0.445	**0.415	**0.419	1	-
(13) Purchase intention	**0.185	**0.224	**0.245	**0.295	**0.316	**0.204	**0.421	**0.531	**0.438	**0.318	**0.350	**0.642	1

P < 0.01**

N = 384

