Impact of Selected Marketing Elements on Strategic Brand Management for Improving Brand Equity

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ABSTRACT

In this paper we defined an structural model of the effects of the marketing mix element on brand equity. Research hypotheses are defined according to the identified structural model. In order to test the defined structural model and research hypotheses empirical research was conducted on the sample of customers of Mobile Phone and Television in Tehran. Research results indicate that the structural model has an acceptable level of fit to the empirical data. The estimated structural coefficients and indirect effect coefficients indicate the direction and intensity of effects of each analysed element of marketing mix on brand equity. Finally, implications of research results for the theory and practice of brand management are analysed and discussed.

KEY WORDS: brand equity, brand, strategic brand management, marketing mix.

1- INTRODUCTION

The importance of brand equity consists in numerous benefits for companies that own brands. Brand equity has positive relationship with brand loyalty. More precisely, brand equity increases the probability of brand selection, leading to customer loyalty to a specific brand (Pitta and Katsanis, 2005). One of the benefits provided by high brand equity is the possibility of brand extension to other product categories. Generally, brand extension is defined as the use of an existing brand name for entry into a new product category (Aaker and Keller, 1999). When compared to new brand names, brand extensions have lower advertising costs and higher sales (Smith and Park, 2002). Successful brand extensions contribute to higher brand equity of the original brand (Dacin and Smith, 1994; Keller and Aaker, 1999), however, unsuccessful extensions may reduce the brand equity of the parent brand (Aaker, 1993; Loken and John, 1993). Aaker and Keller (1990) developed a model for consumer evaluation of brand extensions, and a number of authors worked on generalization of this model (Barrett et al., 1999; Bottomley and Doyle, 1996; Sunde and Brodie, 2003).

In addition, brand equity increases (1) willingness of consumers to pay premium prices, (2) possibility of brand licensing, (3) efficiency of marketing communication, (4) willingness of stores to collaborate and provide support, (5) elasticity of consumers to price reductions, and (6) inelasticity of consumers to prices increases, and reduces the company vulnerability to marketing activities of the competition and their vulnerability to crises (Barwise, 1999; Farquhar et al., 2001; Keller, 1993; Keller, 1998; Pitta and Katsanis, 2005; Simon and Sullivan, 2003; Smith and Park, 1992; Yoo et al., 2000). In general, we can say that brand equity represents a source of sustainable competitive advantage (Bharadwaj et al., 1993; Hoffman, 2000). Also, literature identifies an impact of brand equity on the stock market reactions (Lane and Jacobson, 1995; Simon and Sullivan, 2003).

Currently, there are a large number of different definitions of brand equity, which may lead to conceptual misunderstandings when researching this phenomenon. An attempt to classify the different approaches to the definition of brand equity (Feldwick, 2006) could be useful in clarifying different approaches to and relationships involved in the complex concept of brand equity. Feldwick (2006) has identified three different approaches to brand equity: (1) brand value (the total value of the brand as a company’s intangible asset – financial approach), (2) brand strength (the strength of consumer commitment to a particular brand – behavioristic approach) and (3) brand description (associations and beliefs consumers have about particular brands – cognitive approach). Brand strength and brand description are customer-based aspects of brand equity, whereas brand value is a financial aspect of brand equity. This paper will adopt a behavioristic approach to

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brand equity, and brand equity will be taken to mean the difference in consumer choice between a branded and an unbranded product given the same level of product features (Yoo et al., 2000).

Despite the fact that brand equity attracts attention of both marketing scientists and marketing practitioners, the way in which, and how intensively, individual marketing mix elements affect the creation of brand equity has remained unstudied, with the exception of a paper by Yoo et al. (2000). Given the importance that brand equity has for companies operating under contemporary conditions, it seems fully justified to explore how and with what intensity individual marketing mix elements impact brand equity, with individual brand equity dimensions used as mediator variables. Such findings may serve as guidance to managers on the Croatian market as to how they can build and maintain the brand equity of Croatian brand names, and certainly represent a scientific contribution to a better understanding of the mechanisms, ways and intensity of influence of individual marketing mix elements on brand equity.

The objective of the present paper is to explore how marketing mix elements affect brand equity. Based on literature review and analysis of findings so far, we define a structural model of impact of marketing mix elements on brand equity. Then we deal with the survey conducted with the aim to test the defined structural model and finally bring a summary of conclusions.

**2- Modeling the Impact of Marketing Mix Elements on Brand Equity**

The structural model of impact of marketing mix elements on brand equity will consist of a set of exogenous variables (those variables whose causes are not represented in the model) and a set of endogenous variables (those variables whose causes are specified in the model). Exogenous variables will include all of the analysed marketing mix variables: (1) price level, (2) store image, (3) distribution intensity, (4) advertising, (5) price deals, and (6) sponsorships. It should be pointed out here that a preliminary statistical analysis of collected data, using an exploratory factor analysis, has shown that variables: distribution intensity, advertising, and sponsorships represent a single factor that can be tentatively called “intensity of marketing activities”. In the structural model, distribution intensity, advertising, and sponsorships will hence be viewed as one exogenous variable.

Endogenous variables will be the different brand equity dimensions and brand equity itself. Variables that will be observed as brand equity dimensions will include: (1) brand awareness and (2) brand image. Brand equity dimensions will be viewed as mediator variables in the model. Mediator variables are those endogenous variables that cause some other endogenous variables (in this case brand equity).

All variables will be viewed as latent variables, whereas individual items from the measurement scales measuring specific latent variables will be viewed as manifest variables.

Figure 1 shows a diagram of the structural model of impact of marketing mix elements on brand equity. The model diagram was made using the standard elements applied in the structural equation modelling method (Kline, 2000).

![Figure 1. Structural Model of Impact of Marketing Mix Elements on Brand Equity](image-url)
H2 – the higher the intensity of marketing activities, the greater the brand awareness (parameter \( \gamma_2 \));

H3 – the higher the intensity of marketing activities, the more positive the brand image (parameter \( \gamma_3 \));

H4 – the more positive the image of stores in which the brand is sold, the more positive the brand image (parameter \( \gamma_4 \));

H5 – the more frequent the price deals, the more negative the brand image (parameter \( \gamma_5 \)).

Also, the following hypotheses can be defined on the relationships between brand equity dimensions and brand equity itself:

H6 – the higher the brand awareness, the greater the brand equity (parameter \( \beta_1 \));

H7 – the more positive the brand image, the greater the brand equity (parameter \( \beta_2 \)).

Additionally, based on defined hypotheses, the following hypotheses on the relationships between marketing mix elements and brand equity can be defined:

H8 – the higher the brand price, the greater the brand market value (parameter \( \alpha_1 \));

H9 – the higher the intensity of marketing activities, the greater the brand equity (parameter \( \alpha_2 \));

H10 – the more positive the image of stores in which the brand is sold, the greater the brand equity (parameter \( \alpha_3 \));

H11 – the more frequent the price deals, the lower the brand equity (parameter \( \alpha_4 \)).

Hypotheses H1 – H7 will be tested by evaluating parameters \( \gamma_1 - \gamma_5 \), and \( \beta_1 \) and \( \beta_2 \).

Hypotheses H8 - H11 will be tested by applying the analysis of indirect influence of a given marketing mix element on brand equity. The direction and intensity of influence of each marketing mix element will be calculated on the basis of all causal influences between marketing mix elements and brand equity. For instance, the influence of the intensity of marketing activities on brand equity (parameter \( \alpha_2 \)) will be calculated as follows: \( \text{intensity of influence of the intensity of marketing activities on brand awareness} \times \text{intensity of influence of brand awareness on brand equity} + \text{intensity of influence of the intensity of marketing activities on brand image} \times \text{intensity of influence of brand image on brand equity} \) (Kline, 2000). Or, using the symbols of each parameter:

\[
\alpha_2 = \gamma_2 \times \beta_1 + \gamma_3 \times \beta_2
\]

3- METHODOLOGY

3-1- Measurement Instrument

The exogenous and endogenous variables of the defined structural model have been measured using measurement scales that contained items with which respondents expressed their agreement/disagreement. For expressing respondents’ agreement/disagreement with the items, the five-point Likert scale was used.

Shown below are exogenous and endogenous variables with the corresponding items. It should be stressed here that this is an initial set of items that will be additionally filtered through reliability and validity assessment methods.

Price:
- The price of this brand is high (pc1).
- This brand is expensive (pc2).
- The price of this brand is low (r) (pc3).

Store Image:
- The stores in which I can buy this brand sell well-known brands (si1).
- This brand can be bought only in high-quality stores (si2).
- The stores in which I can buy this brand carry products of high quality (si3).

Distribution Intensity:
- Compared to competing brands, this brand is stocked in more stores (di1).
- The number of stores selling this brand is higher than the number of stores selling competing brands (di2).
- This brand is distributed through the largest possible number of stores (di3).

Advertising:
- Advertising campaigns for this brand are frequent (ad1).
- This brand is intensively advertised (ad2).
- Advertising campaigns for this brand are more expensive than advertising campaigns for competing brands (ad3).

Price Deals:
- This brand is frequently promoted through price deals (pd1).
- This brand can often be bought at promotional prices (pd2).

1- “r” denotes negative items that will be recoded before analysis.
Gilani nia et al., 2011

- Frequent price deals are offered for this brand (pd3).

**Sponsorships:**
- This brand seems to invest more in sponsorship of various events than competing brands (sp1).
- This brand frequently sponsors various events (sp2).
- Compared to competing brands, this brand sponsors various events more frequently (sp3).
- I often notice this brand as a sponsor of various events (sp4).
- Compared to competing brands, I notice this brand more often as a sponsor of various events (sp5).

**Brand Awareness:**
- This brand is very well known to me (ba1).
- I know this brand very well (ba2).
- This brand is not known to me (ba3).
- I am acquainted with this brand (ba4).

**Brand Image:**
- This brand completely satisfies my needs (bi1).
- The characteristics of this brand completely satisfy my needs (bi2).
- This brand is best able to satisfy my needs (bi3).

**Brand Equity:**
- It makes sense to buy this brand instead of some other brand even if these two brands are the same (be1).
- If another brand is not different from this brand in any way, it would still seem smarter to buy this brand (be2).
- Even if another brand had the same characteristics as this brand, I would rather buy this brand (be3).
- If there was another brand of the same quality as this brand, I would rather buy this brand (be4).

**3-2- Sampling**

The survey covered two categories of products (Mobile Phone and Tlevision) from which 8 brand names were selected (NOKIA, SONY ERICSSON, LG, SUMSONG, MOTOROLA, for mobile phone and SUMSONG, SONY, SHARP, SNOWA & PANASONIC for television).

The selection of individual product categories and associated brands is conditioned by the structure of the survey sample (customers). Therefore, in order to select individual product categories, 8 in-depth interviews were conducted among the customers. During the interviews, the customers were asked to name the products they currently use or have used or bought for themselves or others. Based on the results of in-depth interviews the above product categories were selected.

Also, during the final selection of product categories attention was paid to differences in products based on various criteria (e.g. price, frequency of purchase, duration of use, situations of use, risk) so as to increase the possibility for generalization of survey results through inclusion of different categories.

With the same goal in mind, in selecting individual brands we also tried to include varied brands that differ according to different criteria (e.g. price, quality, market share, country of origin).

The survey included a sample of 424 respondents. The sample size issue is essential when applying the structural equation modelling method. When using this method, two criteria need to be met in defining the sample size (Kline, 2000):

1. Structural equation modelling is a large-sample method. As a general rule, those samples are considered large that contain more than 200 sample units.
2. In structural equation modelling, it is not enough to just select a large sample (N > 200), but in selecting the sample size the complexity of the structural model must be taken into consideration; the recommended ratio between the number of units in the sample and the number of parameters in the model is at least 10:1; if this ratio is less than 5:1, the results cannot be considered statistically stable nor can the parameter assessment and test statistics be considered valid.

**4- Data Analysis**

In order to test the structural model of impact of marketing mix elements on brand equity, as defined in Part 2 of this paper, the collected data were analysed using the structural equation modelling method.

Since the relationship between sample size and number of parameters in the structural model is one of the factors in successful implementation of the structural equation modelling method, we first proceeded to define the possible number of parameters in the model in relation to sample size (N=417). The ratio between the number of units in the sample and the number of parameters in the model should be at least 10:1. In this survey, the target for this ratio was set at 11:1 so as to exceed the recommended minimum threshold. The set target presupposes a structural model with a maximum number of 38 parameters (417/11=37.91). Since the model consists of seven latent variables, and also having in mind measurement errors and disturbance parameters, it follows that each latent variable could be assigned to maximum two manifest variables (this produces 14
parameters assessing the connection between manifest and latent variables, 7 parameters assessing the causal link among latent variables, 14 parameters assessing the measurement error in specific manifest variables, and 3 parameters assessing structural errors – a part of variance of endogenous variables not explained by exogenous variables, making a total of 38 parameters). For each latent variable those manifest variables were selected that have the highest correlation to the total value of the respective measurement scale as a whole. Figure 2 shows the above described structural model that was tested in this survey.

The next step is to determine whether the defined structural model can be identified. In hybrid models (the defined model belongs to the group of hybrid models), there are three criteria for model identification:

1. The number of parameters must be lower or equal to the number of unique fields in the covariance matrix; the number of unique fields in the covariance matrix is computed according to the following formula: $v^*(v+1)/2$, where $v$ is the number of manifest variables; the defined model has 14 manifest variables, and the number of unique fields in the covariance matrix is equal to 105 ($v^*(v+1)/2 = 14*15/2 = 210/2 = 105$); given that the defined model has 38 parameters, we may conclude that the first criterion for model identification is met (38 < 105);
2. The latent factors must have their own metric; this criterion will be met by fixing the variance of all latent variables to the value of 1;
3. If the model contains only one latent variable, at least 3 manifest variables must be included; if the model contains two or more latent variables, to each latent variable at least two manifest variables must be assigned; as the defined model contains more than two latent variables, and each has two manifest variables attached to it, we conclude that this model identification criterion is met too.

![Figure 2. Structural Model of Impact of Marketing Mix Elements on Brand Equity](image)

After having established this, we proceeded to analyse the data by structural equations modelling. This method was used to analyse the covariance matrix of analysed manifest variables.

Following the analysis using structural equation modelling, we first sought to determine the level of fit between the defined model and the analysed data. Table 1 shows the indices measuring the level of fit of the model to the analysed data.

<table>
<thead>
<tr>
<th>Index Value</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.877</td>
<td>Goodness-of-Fit Index (GFI)</td>
</tr>
<tr>
<td>0.815</td>
<td>Adjusted Goodness-of-Fit Index (AGFI)</td>
</tr>
<tr>
<td>0.831</td>
<td>Normed Fit Index (NFI)</td>
</tr>
<tr>
<td>0.808</td>
<td>Non-Normed Fit Index (NNFI)</td>
</tr>
<tr>
<td>0.853</td>
<td>Comparative Fit Index (CFI)</td>
</tr>
<tr>
<td>0.063</td>
<td>(RMSEA)</td>
</tr>
</tbody>
</table>

The values of analysed indices indicate that the level of fit of defined model to data is satisfactory and that the defined model is acceptable for further analysis (Hu and Bentler, 2009).

The next step in application of the structural equation modelling method is the analysis of the structural model itself aimed at testing the set of hypotheses. Table 2 shows standardized structural coefficients that evaluate direct causal links among latent variables, specified in the defined structural model (Figure 2).
Table 2. Standardized Structural Coefficients

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Parameter</th>
<th>Standardized Structural Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H1 ): price → brand image (+)</td>
<td>( \gamma_1 )</td>
<td>0.16*</td>
</tr>
<tr>
<td>( H2 ): intensity of marketing activities → brand awareness (+)</td>
<td>( \gamma_2 )</td>
<td>0.45*</td>
</tr>
<tr>
<td>( H3 ): intensity of marketing activities → brand image (+)</td>
<td>( \gamma_3 )</td>
<td>0.10**</td>
</tr>
<tr>
<td>( H4 ): store image → brand image (+)</td>
<td>( \gamma_4 )</td>
<td>0.28*</td>
</tr>
<tr>
<td>( H5 ): price deals → brand image (+)</td>
<td>( \gamma_5 )</td>
<td>-0.20*</td>
</tr>
<tr>
<td>( H6 ): brand awareness → brand equity (+)</td>
<td>( \beta_1 )</td>
<td>0.23*</td>
</tr>
<tr>
<td>( H7 ): brand image → brand equity (+)</td>
<td>( \beta_2 )</td>
<td>0.45*</td>
</tr>
</tbody>
</table>

* standardized structural coefficients are statistically significant at a level \( p<0.001 \).
** standardized structural coefficients are statistically significant at a level \( p<0.05 \).

The resulting standardized structural coefficients indicate that hypotheses H1 through H7 can be considered confirmed. All structural coefficients are statistically significant and have the expected direction. Accordingly, the following relationships apply:

- the higher the brand price, the more positive the brand image,
- the higher the intensity of marketing activities, the higher the brand awareness,
- the higher the intensity of marketing activities, the more positive the brand image,
- the more positive the image of stores in which the brand is sold, the more positive the brand image,
- the more frequent the price deals, the more negative the brand image,
- the higher the brand awareness, the higher the brand equity,
- the more positive the brand image, the higher the brand equity.

After having identified and analysed the direct causal impacts in the analysed structural model, we may proceed to identify and analyse the indirect causal impacts of marketing mix elements on brand equity. This will allow us to test the hypotheses H8 through H11.

Indicators of indirect causal impacts have been computed by multiplying respective structural coefficients, which are placed between an individual marketing mix element and brand equity. If there is more than one direction of indirect impact of an individual marketing mix element on brand equity, then individual products of multiplication are added up. As this is the case only with the intensity of marketing activities, the indicator of indirect impact of this marketing mix element on brand equity is calculated according to the following formula:

\[ \alpha_2 = \gamma_2 \times \beta_1 + \gamma_3 \times \beta_2 \]

Table 3 shows the calculated indicators of indirect impacts with corresponding significance evaluation.

Table 3. Indicators of Indirect Causal Impact

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Parameter</th>
<th>Indicator of Indirect Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>( H8 ): price → brand equity (+)</td>
<td>( \alpha_1 )</td>
<td>0.07*</td>
</tr>
<tr>
<td>( H9 ): intensity of marketing activities → brand equity (+)</td>
<td>( \alpha_2 )</td>
<td>0.15*</td>
</tr>
<tr>
<td>( H10 ): store image → brand equity (+)</td>
<td>( \alpha_3 )</td>
<td>0.12*</td>
</tr>
<tr>
<td>( H11 ): price deals → brand equity (-)</td>
<td>( \alpha_4 )</td>
<td>-0.09*</td>
</tr>
</tbody>
</table>

* indicators of indirect impact are statistically significant at a level \( p<0.05 \)

The resulting indicators of indirect causal impact indicate that hypotheses H8 through H11 may be considered confirmed. All structural coefficients are statistical significant, and have the expected direction. Accordingly, the following relationships apply:

- the higher the brand price, the higher the brand equity,
- the higher the intensity of marketing activities, the higher the brand equity,
- the more positive the image of stores in which the brand is sold, the higher the brand equity,
- the more frequent the price deals, the lower the brand equity.

5- Conclusions

The research results indicate that different marketing mix elements impact the creation of brand equity with different levels of intensity, as well as that some elements of marketing mix can negatively affect the creation of brand equity.

This conclusion has several important implications for strategic brand management. First, the obtained research results point out very clearly to the importance of a strategic approach for brand management, with creation of brand equity, and not just brand sales, being a criterion for deciding on the application of specific marketing mix elements. If the focus of brand management is placed exclusively on sales, it may easily happen
that those marketing activities are chosen (e.g. price reduction activities) which are likely to increase sales in the short run, but may deteriorate the brand equity in the long run.

The research results also implicate that when allocating marketing budgets to individual marketing mix elements attention must necessarily be paid to the potential impact of a specific marketing mix element on the creation of brand equity. This further means that the potential impact of individual marketing mix elements on brand equity must be included as criterion in deciding on the allocation of marketing budgets to individual marketing mix elements.

The research results point out to the need for careful selection of individual marketing mix elements in order to avoid deterioration of the achieved brand equity. This additionally emphasizes the importance of a strategic approach to brand management as a means of avoiding that fulfilment of certain short-term goals (e.g. short-term increase in sales) disrupts the possibility for long-term sales growth and achievement of sustainable competitive advantages, undoubtedly resulting from high brand equity.

Furthermore, the research results indicate that managers, in their efforts to build the equity of the brands they are managing, should primarily focus on the creation of brand awareness and a positive brand image. In the tested model, the said two variables have been viewed as mediator variables that are affected by managers through marketing mix elements, and these two variables have a direct impact on brand equity. All activities aimed at positively impacting the brand equity should be focused either on increasing the brand awareness or on improving the brand image, or both.

The research results lead us to the conclusion that managers who are engaged in strategic brand management may use the price level as an instrument for improving the brand image. Namely, as supported by theoretical findings, this research has shown that a higher brand price communicates a better brand image, and through a more positive brand image indirectly leads to an increase in brand equity. Furthermore, a particularly interesting finding is that managers may contribute to an increase in brand equity through the very intensity of marketing activities. Namely, the intensity of marketing activities, without considering their quality, positively affects the creation of brand awareness and building of a more positive brand image, which in turn results in an increased brand equity. Presenting especially important implication for the practice of strategic brand management is the fact that the image of stores in which a brand is sold has the strongest positive impact on brand image, and through this variable also on brand equity. This result underlines the importance of the brand manager’s active approach in selecting and designing the distribution channels. In doing this, special heed should be paid to the effect of the selected stores on brand image, as well as that, when selecting the distribution channel members, the image of the potential channel members and the potential impact of their image on brand image, and thus the brand equity, is included as a criterion in the decision-making process. The research results indicate that brand managers should be very careful when applying price deals as a marketing mix element. Even though price deals may lead to certain short-term financial gains resulting from a short-term sales increase, in the long run a frequent use of this marketing mix element may cause a reduction in brand equity because of the negative influence of price deals on brand image, and thus may eliminate the short-term benefits that may arise from the use of this method.

The research findings underline the importance of a long-term approach to brand management. Companies using brand sales as the only indicator of the successfullness of brand management may be in danger of reducing the equity of their brands.

REFERENCES


