



Structural equation modeling of brand logo indicators and its impact on the loyalty of consumer

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Abstract. This study aims at investigating the role of brand logo on consumers' loyalty and developing an appropriate analytical model. In this study, a questionnaire with 55 questions, which is made by authors, is used for investigate research' variables. Target population of the study is consisted of all brand consumers of different products, e.g. textile, food, electronic and sanitary devices, in Tehran, of which 377 persons were sampled using cluster method to respond to the questionnaire of the research. To assess the validity of the questionnaire, the content and construct validity were used and its reliability was measured by Cronbach's alpha, which the reliability of the whole questionnaire was 0.954. Data from the survey questionnaires using structural equation modeling was analyzed, which resulted in good results for indices of fit and fitness of the model. The results of this study showed a direct correlation between independent variable and the dependent variable. Results of testing the main hypotheses of the study using structural equation modeling showed a causal relationship between research's variables. The fitness indicators of the model show that model in terms of suitability and fitness indicators has a good condition. Thus, we can conclude that model has a good fitness. The results also showed that all indicators of function variable have good T values (greater than 1.96) and acceptable load factor. In addition, according to the path coefficients, research variables altogether are able to explain 89% of variations of loyalty variable.

Keywords: Functional benefits, benefit of brand logo, customer loyalty, structural equation modeling

1. INTRODUCTION

Design converts objects from their current state to a better state (Graser, 2000). Commercial sign is an important intangible assets with great influence on the company's business performance (Morgan & Rego, 2009; Rao, Agarwal, and & Dahlhoff, 2004). Undoubtedly, customers can have a deep and meaningful relationship with a brand (Fournier, 1998; Park, Jaworski, & MacInnis, 1986), which in turn lead to increased purchase of that brand (Park, 2010), the less sensitive of customers to the price of the brand (Ailawadi, Lehmann, & Neslin, 2003), and reduced marketing costs (Mizik & Jacobson, 2008). The fact that customers consider commercial brand as typical and undetectable is a bitter fact in truth.

Business logo usually is considered as means of solving problems related to the lack of recognition of customer. As an important visual factor for brand (Wallace, 2001), logo facilitates the brand recognition and its difference with other competitors (Janiszewski & Meyvis, 2001; MacInnis, Shapiro, & Mani, 1999). Historically, logo were being used as the identification sign of groups, e.g., in ancient Chinese, emperors in order to their power used dragon as their symbol, and movements, e.g. sign of the cross at the top of the church building and a swastika on some Buddhists temples. However, logos are not means just for identification and distinguishment. The Christian cross is a symbol of sacrifice and victory of life on death, while in Buddhism, Swastika is sign of happiness and lucky. As a result, logos can imply meanings and information about the brand for which they are created.

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This study proves that from the viewpoint of customers, business logo shows the value of the company. Therefore, it is summarized information on the marketing of brand (Henderson & Cote, 1998). The key issue investigated here is the way this summary information influences on the relationship customer with brand.

Since the business logo is the visual display of brand, the perception and judgment of customers about logo affect their relationship with a business brand. First, today pictures of brand are shown to customers, which face with different and sometimes conflicting messages by customers (Luo & Bhattacharya, 2006). In such environments, logos often facilitate identification of brand and make decision-making easier for customers (Henderson & Cote, 1998; Janiszewski & Meyvis, 2001). Brand has the ability that through explanation contributes to intended definition by person (Chaplin & John, 2005) and differentiates the customer (Kleine, Kleine, & Allen, 1995). For example, brand can show different parts of the identity of customers, for example, beliefs/values or life cycling who advocate of them (Escalas & Bettman, 2005). Brands also by people who have the same values and beliefs can be shared (Schau et al., 2009). Park, MacInnis, and Priester showed that the brand could be managed to reduce uncertainty in people's life and enable them to have efficient control in obtaining the desired results. Therefore, brands can have an influential sense, helping people better do their daily activities. Logos as visual representation of the brand are able to remind customers of their performance benefits and this way relate benefits to them. For example, let Red Bull logo, two aggressive bulls is front of each other and a bright sun opposite to them. This trademark ensures that the product gives life to the mind and body.

Logo brand as a distinguishing feature of the brand than similar products and competitors can be a key factor in developing and maintaining a brand. In addition, since consumer loyalty in developing a brand is very effective and an undeniable pillar, in this paper, we have investigated the impact of three factors of benefits of logo brand, i.e. identity, function, aesthetic benefits, on consumer loyalty.

2. BACKGROUND

Baradaran et al. (2011) studied factors affecting customer loyalty through a case study on Bank Tejarat of Shiraz. The paper investigated factors affecting customer loyalty in Bank Tejarat through 10 hypotheses. Target population was consisted of permanent customers of Bank Tejarat of branches in Shiraz during the first 6 months of the year 2009. Based on a pilot study and using the indefinite society formula, a total number of 196 persons were selected as sample. Data collection using questionnaire and by stratified sampling method was conducted. In the questionnaire, customers are asked to display their opinion about appropriateness of bank Tejarat in terms of six criteria of perceived service quality, perceived value, customer satisfaction, customer image, commitment and trust. As well as issuing questions in the questionnaire, the level of customer loyalty was determined. The results, in general, showed an acceptable level of fitness between factors affecting customer loyalty and according to the results, acceptable ideas about customer loyalty obtained.

Chopani (2013) investigated the role of emotional aspects on the relationship of young consumers' brand with an emphasis on brand loyalty. In the study, she investigated the effect of three factors, i.e. self-expressing, self-concept communication, and loving brand, on customer loyalty. The sample of the study included 384 consumers of brand and the study concluded that among brand consumers, two components of self-expression and loving brand have direct significant relationship with making loyalty and consumer loyalty. However, the relationship between the self-concept and brand loyalty was not approved.

Park et al. (2011) investigated the role of brand logo on the company's performance. The research with a sample of 384 students from a research university came to the conclusion that visual symbols such as a logo create frequent opportunities. The study also showed that

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trademark using symbols as its logos more effective on identity/benefit advantageous than sign named as logo. They are also better in communicating with performance benefits. Finally, according to these findings, aesthetic tendencies of logos reinforce customer loyalty. Managers should consider that visual symbols such as logo are important in providing aesthetic attractiveness. In sum, the results clearly approve the value of using visual symbols for the business purposes.

Walsh et al. (2011) investigated whether redesign of logo can be helpful or not? In the study, a field trial with 632 respondents and two brands of sport shoes, i.e. New Balance and Adidas, were used. The results of the study showed that those who have great commitment to their favorite brand present a negative response to redesign of their favorite brand. The results of the research showed that those who have little commitment to their favorite brands, show a positive response to redesign the brand.

3. THEORETICAL FRAMEWORK

This paper introduces a theoretical framework including several variables influential on loyalty of consumers and aims at deeper understanding of the impact of benefits of brand logo, i.e. identity, function, aesthetic, on the loyalty of consumers. Park and Eisingerich (2011) investigated the role of brand logo on the performance of company. However, in this study it is shown that the positive effect of brand logo on consumer's commitment and loyalty to the trademark and company's performance, despite what has been perceived as proven, not only results from strengthening the recognition of brand, but also results from facilitating the explanation of identity and functional benefits as well as presenting aesthetic attractions. The model they used in the study was as follows: they investigated the impact of three advantages of brand logo, (identity, function, and aesthetic benefits, on the loyalty of consumers and performance of the company. The study adapted its model from the one used in Park and Eisingerich (2011). The conceptual model of the research is presented below. The model was fitted using LISREL to determine to what extent it matches with reality.

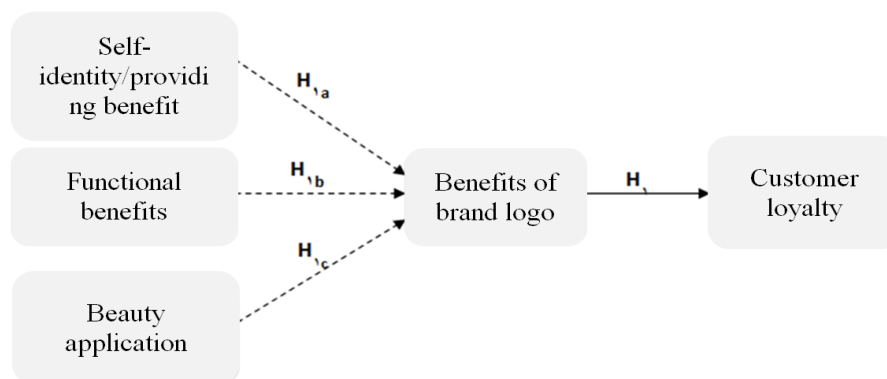


Figure 1. The conceptual model of the research.

4. RESEARCH'S HYPOTHESES

The main hypothesis

H1: Benefits resulting from brand logos have a direct impact on consumer loyalty.

Subsidiary hypotheses

H2: Expressing the identity and benefits by brand logos has direct impact on brand logo benefits in consumers' loyalty.

H3: Functional benefits of brand logo have direct impact on benefits of brand logo in consumers' loyalty.

H4: The aesthetic aspects of brand logo have direct impact on benefits of brand logo in consumers' loyalty.

5. METHODOLOGY

This study in terms of purpose is applied and in terms research is of the descriptive-survey type. Data collection tool, especially for the secondary data used in this study, was library resources as well as Internet. In order to collect the secondary data, the questionnaire was used. Geographical territory of survey is Tehran city. Target population of the study is consisted of all brand consumers of different products, e.g. textile, food, electronic and sanitary devices, in Tehran. Sample size using Cochran's formula was 384. In this study, random stratified sampling method was used. To analyze data, appropriate descriptive and inferential statistical tests were used. In this study, to analyze data, structural equation modeling techniques as well as confirmatory and exploratory factor analysis using SPSS and LISREL were employed.

Research findings

A. Descriptive findings

The results showed that men more than women have participated in the study. Also, most respondents were older than 40 years and the lowest percentage was for respondents younger than 20 years. In terms of educational background, a very high percentage of respondents participating in the survey had a bachelor's degree and the lowest percentage were for the degree of doctorate. In terms of the cost of living, very high percentage of respondents had a life cost of more than 2 million Toman. The results showed that the largest percentage of respondents was using brands Louis Vuitton and iPhone, in order.

B. Inferential results

1. Structural equation modeling

After examining the measurement models and assessing their validity, we can use confirmatory factor analysis to examine the relationships between variables based on the structural model. Thus, in order to study the accuracy of research's hypotheses, present research uses the cause-effect relationships based on structural equation modeling.

Figures 2 and 3 and Table 1 show the results related to the first hypothesis of study, which was obtained through structural equation modeling. Figures 4 and 5 show the significant numbers and the standard coefficient (R) associated to the causal relationship between variables.

Table 1. Model fitness.

Indicator	Value	Allowed value
Chi-square	2.9	< 3
CFI	0.98	> 0.9
RMSEA	0.072	< 0.08
GFI	0.92	> 0.9
AGFI	0.88	> 0.8
NFI	0.98	> 0.9
NNFI	0.98	> 0.9

Figures 4 and 5 show results of confirmatory factor analysis of indicators related to functional components, which are obtained using LISREL.

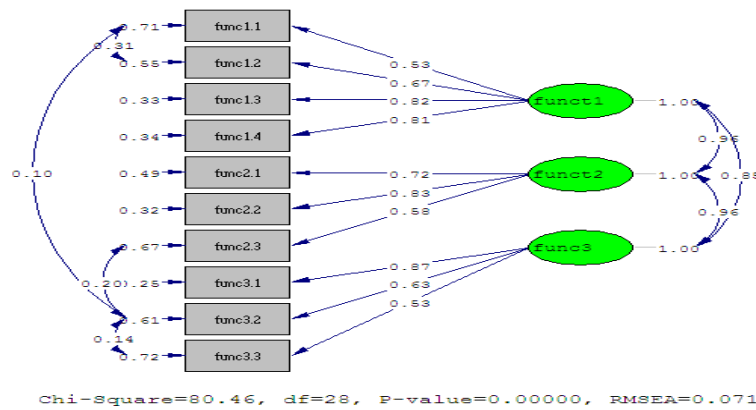


Figure 4. Model of correlation between dimensions and functional indicators in standard mode.

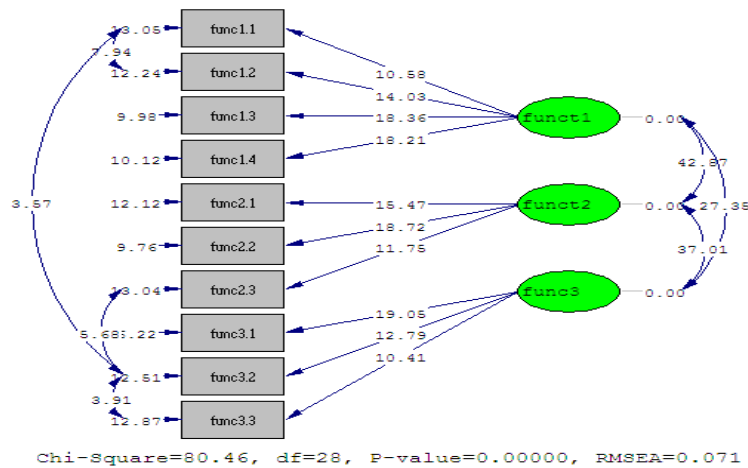


Figure 5. Correlation between functional dimensions and indicators in the mode of significance.

Results of factor analysis incorporated into Figures 4 and 5 shows that all indicators of the function variable have acceptable T value (greater than 0.96) and load factor. The indicators of fitness of the model also show that the model in terms of proportionality and fitness is in a good condition. It is because that the ratio of chi-square on degree of freedom, i.e. χ^2/df , is equal to 2.9, which is less than the allowable value of 3 and the mean square errors (RMSEA) is equal to 0.071, which is less than the allowed value of 0.08. P-value is less than 0.05, which seems to be a good indicator to measure the functional variables.

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Analysis of the coefficient of determination

This coefficient examines the ability of the dependent variable in prediction of independent variable. The index checks that what percentage of variability are explained by the independent variables. Accordingly, the independent variables were able to explain 84% of variations of benefits of brand logo. The remaining 16% is due to the forecast error and can include other variables affecting benefit of brand logo. Overall, research's variables have been able to explain 89% of variations of loyalty. The remaining 11% is due to the forecast error and can include other variables affecting on loyalty.

6. CONCLUSIONS

The purpose of this research is to gain a broader insight about issues related to marketing thought. This study clearly shows the importance of logo on customer loyalty. Studying of factors affecting customer loyalty, manufacturers find how they can by focusing on dimensions that from the viewpoint of the customers is more important, to achieve greater success in attracting customers and creating customer loyalty. Marketers must study wants, needs, perceptions and the purchase behavior of customers. This helps them to better decide on issues such as competition for development of market share, new product development, price changes, changes in product characteristics and advertising. These are all point showing us the necessity and importance of the present research.

The results of the first study hypothesis of research through structural equation modeling are shown. Figure 4 and Figure 5 represent the significance numbers and the standard coefficient (R) of the causal relationship between variables of the research.

Proportionality indicators of model show that proportionality and fitness indicators are in good condition. It is because that the ratio of chi-square on degree of freedom, i.e. χ^2/df , is equal to 2.9, which is less than the allowable value of 3, and the mean square errors (RMSEA) is equal to 0.072, which is less than the allowed value of 0.08. P-value is equal to 0.000, which is less than 0.05. As well as NFI and CFI are equal to 0.98. Thus, we can conclude that implemented model is of a good fitness.

It also shows that all indicators of functional variable have acceptable T value (greater than 1.96) and load factor. The proportionality indicators of model also show that model in terms of proportionality and fitness indicators is in good condition.

Also, according to the path coefficient, research variables overall have been able to explain 89% of variations of the variable of loyalty. The remaining 11% is due to the forecast error, which may include the rest of variables affecting on loyalty.

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