

ARTICLE

DETERMINING THE OPTIMAL POINT OF PURCHASE INTENTION: USING GENETIC ALGORITHM EVIDENCE FROM IRAN KHODRO AUTO INDUSTRY

Pouya Haddadian Nekah¹, Tahereh Nabizadeh², Ali Zeinnodini³

¹MBA Student, Shahrud University, Shahrud, IRAN

²PhD Student, Alzahra University, Tehran, IRAN

³MBA, University of Shahrood, Shahrood, IRAN

ABSTRACT

The increasing importance of brand management in turbulent competitive world of national and international markets requires further efforts in the field of marketing research. This paper follows two basic purposes: First, to explore the relationship between the dependent variable "purchase intention" and the independent variables "self-image", "Company's Brand reputation" and "brand personality". Second, To explore an equation to determine the optimum combination of three variables "self-image", "brand reputation" and "brand personality" in order to maximize the purchase intention. In this equation, either independent or dependent variables are gained by the discovery and determining path coefficients. The study is used extensively for activists in the field of automotive industry.

INTRODUCTION

In twenty-first century due to increasing advances in technology and innovation, increasing competition and demanding customers, brand management has become one of the most complex tasks. As the world moves toward globalization, the move from marketing to brand management is necessary. Generally, two general categories of company brand and product brand are classified. Compared with the company's brand, product brand has absorbed more attention among researchers in the field of brand, Keller (2003) has pointed out that the company's brand, is able to create an overall judgment immediately after purchase. Compared with the product brand, the company's brand has an indirect influence on consumer decision making [1]. This article focuses on both the product brand and the company's brand. Brand reputation is a key factor to determine the success of a company [2]. and it is an essential part of a company's reputation which is related to its past and future activities. Goldsmith et al. (2000) refers to a company's reputation as the degree to which investors, customers and other supply chain components believe in company's honesty and expertise; this is similar to the definition of company's reputation. "Company's reputation" means to the extent that, according to customers' opinions, a company can satisfy customers by offering high quality products [3]. Fewer studies have been conducted on the impact of brand reputation on customer decisions, than the studies on the validity of the whole [4]. But in recent years and especially given the global financial crisis, branding or Brand making a company has attracted a lot of attention. Brand reputation is composed of three parts: Expertise, likeability and accuracy [3]. Based on the studies that have been done in the past, it can be concluded that the higher a company's brand reputation, the higher customer's purchase intention [2]. Another concept in marketing which has attracted much attention is the brand personality; which refers to the relatedness of Human characteristics and traits to the brand [5]. Visual personality of a brand can often be determined by what is stamped in the customer's mind and imagination: In fact, it is the personality characteristics of a consumer who consumes the brand. Through the use of a brand, a consumer can improve his ideal and real self [6]. It is also assumed that the characteristics of the product brand can have effect on customers' purchase intention [7]. This study aims to explore the relationship and effect of "brand reputation" and "brand personality" on customers' purchase intention. Secondly, this study tries to determine the optimum combination of brand reputation and brand personality and self-image congruence, by using genetic algorithms. This means that with what combination of the four elements, and with what range of emphasis Iran Khodro can maximize its customers' purchase intention.

Conceptual background and hypothesis development
Company's brand reputation

Brand reputation means that to what extent the recipient believes that he presents the related source of knowledge. Therefore, the expert can trust this source [8]. Source credibility can show the ads accuracy, and hence, it affects the attitudes and purchase intentions along with the advertisements [9]. This concept can be explored in three parts: Expertise, integrity and attractiveness [8]. Creditability can also refer to a company's brand reputation. Recent studies have shown that a company's brand reputation plays an important role in influencing customer purchase, the company's reputation and credibility of the advertiser [4, 10]. In addition to all this, a company's brand reputation can illustrate the image associated with the product's brand [11]. Company brands represent all accessories of the product's brand, values, attitudes,

KEY WORDS

Iran Khodro, Purchase intention, Brand management, genetic algorithms

Published: 15 October 2016

*Corresponding Author

Email:
ontact.haddadian@gmail
.com

evaluations, interests, relationships and the company's reputation. A company's brand reputation is essential to the ultimate success of the company's brand making strategy. If a company's brand reputation is weak. It causes customers to become skeptical about buying the company's products. And doubt whether the company has the ability to provide quality products [2]. [12] believed that a company's brand reputation consists of several components that include Vision, culture, position, personality and relationship with other shareholders and stakeholders of the company. As [5] stated that the brand's identity consists of twelve dimensions, focused on four sides: Brand as a product brand as a person, Brand as a company, and the brand as a [11]. In contrast, positive and strong reputation of a company's brand also promotes brand image and equity, and therefore increase purchase intention [11]. Thus it can be said that the perceived reputation of a company is positively related to sales; therefore, the first hypothesis is proposed as:

First hypothesis: the higher a company's brand reputation, the higher purchasing intention

Product's brand personality. The brand has personality and reflects personality characteristics to customers and shareholders. In fact, the idea of brand's property originated from human features and characteristics [13]. Brand personality means human characteristics that allocates to a brand [5, 14, 15]. Brand personality makes the client get involved with a particular brand, evaluate it, keep it in mind and also maintain a strong brand [16, 17]. Aaker (1997) believes that the brand personality is different from the human personality. In this respect the human personality and his personality traits will be reflected in his behaviors, actions, attitudes, values and beliefs. But the brand personality is reflected in human contact with the product and features that the brand represents. Keller (1993) argues that the brand's personality indicates symbolic values, which are beyond the tool like application of the product's brand. Customers can achieve higher self-esteem, through the use of selected brands and ascribe human characteristics to them. Aaker (1997) offers a grading scale and a wider range of dimensions that can be used to describe the brand personality, which include Devotion (being humble, being honest and being cheerful); excitement (courage, being excited and being up to date); Complexity (being upscale and attractiveness); resistance (being exterior and tightness). Having a strong and positive brand personality will improve consumers' assessments about the brand and ultimately will lead to a better purchasing intention [18]. Another model proposed by Bosnjak et al (2007) for the brand personality, its dimensions include being raised, superficial, emotional and serious. Gvns et al (2009) have proposed a different model for the brand personality, which implies that the brand's personality includes: accountability, being active, simple, emotional and aggressive. In addition to all this, Fennis et al (2005) found that the brand personality has a good influence on human personality traits such as being consistent, being clever, conscientious and serious. In fact, some researchers have found that human personality and personality of the brand are dependent on each other [18]. Wang and Yang (2008) also found that brand personality is strongly and positively related to customer assessments about products. A large number of studies have found that brand personality has a key role in the formation of favorable attitude toward the brand, customer satisfaction, customer loyalty and recommendation of the brand to others [17, 16]. Therefore, the second hypothesis of this study is:

The second hypothesis: product brand personality is positively associated with customer purchase intention

Self-image

Based on the theory of self-image congruence, congruence between consumers' self-image and brand-user image can affect consumer behavior [19]. Congruence of the self-image can be divided into four categories: Real, ideal, social, social ideal. Real Congruence relates to its congruence between the real person and their thoughts about how a regular user should be specified. Ideal Congruence refers to the comparison between the characteristics of a common user and what a typical user wants to be. Social Congruence compares the features of a common user with what other important people see about these characteristics. Ideal social Congruence compares the features of a common user with what he wants to be seen by other important people. If Congruence is maintained between the individual's self-image and the brand' self-image, self- Congruency occurs at a high level, and vice versa. The influence of self-image congruence on brand choice, preference and loyalty has been widely studied in the marketing literature [20]. Previous studies also have shown that self-image Congruence leads to a better assessment of the product, higher satisfaction and more purchase intention [20, 19]. As a gap that is expected to be examined in future research, Wang and Yang (2011) study deals with Advertising anecdotal and self-image, which, on the basis of this study, can be used as independent variables. The present study attempts to consider self-image as an independent variable to eliminate gaps in previous research.

The Third Hypothesis: high levels of self-image Congruence increases the customer purchase intention Finally, this study is trying to investigate the relationships of each of the variables of self-image, brand personality and brand reputation, with the customer's purchase intention. In the second phase: we will explore the modifying effect of the company's brand reputation on the relationship of self-image and brand personality with the customer's purchase intention. Finally, using the technique of genetic algorithm, and to maximize customer purchase intention, the optimum combination of the three variables of brand reputation, personality and self-image is investigated.

MATERIALS AND METHODS

Questionnaire and assessment tools

The questionnaire for this study was provided in two parts: The first part of the study is demographic information; the second section is devoted to the questions that measure the study's four main variables: self-image, brand personality, brand reputation and purchase intention. The questionnaire was distributed in the Persian language, and has been considered by many PhD students to be quite fluent with no translation errors. Product brand personality is measured by using Aaker (1997) criterion: which, as earlier noted in the study, includes devotion, competence, excitement, complexity and stimulation. Likert scale includes five factors ranging from "strongly agree" to "totally disagree". Questions related to the company's brand reputation has been picked from Ohanian (1990) and involves four items of "I Trust Company", "the company claims are true" that measures Trust; "the company is good and skillful at the work she's doing" and "the company is highly specialized" that measures Expertise. "The company is attractive" and "I love the company's brand", represents the likeability of the company's brand. Hence, The Company's brand reputation includes several elements that are attractiveness, reliability and expertise of the company. self-image Congruence has been set by using Borax (1985) questionnaire, which includes these items: "the company Brand's image is matched with the image of my own"; " The brand image of the company, reflects that who I am" ; " The people who are like me, use such brand" ; the company Brand's image is like a mirror, reflecting my own.

Validity and Reliability test

To gather data, a researcher-made questionnaire was used whose face validity was confirmed based on the ideas of the experts. To measure its consistency, Chronbach Alpha coefficient was calculated. Generally, for the questionnaire related to psychological tests, Chronbach Alpha value over 0.7 is acceptable. For this study, Alpha value of 0.986 was achieved, confirming its high consistency [Table 1].

Table1: Reliability Test

Variable	Chronbach Alpha coefficient
Brand Credit	0/71
Brand Personality	0/84
Self-Image	0/83
Purchase intention	0/8
Total	0/8

Data collection and sample

The statistical population of this study is the Automobile owners of Iran Khodro Company in Tehran City. Tehran is one of the biggest and the most populated cities in Iran which has several different personal cars and Iran Khodro Company is one of the greatest car providers in Iran country. Iran Khodro Company is the biggest automobile producer company which has 48% part and 57% worth of Automobile market share in Iran. Iran Khodro Company is recognized as a biggest exporter in Iran industry. Thus, the statistical population of this study is the Automobile owners of Iran Khodro Company in Tehran City. Sampling way in this study, is nonrandom accessible. In this way, the researcher distributes questionnaires in crowded places like Fuel stations and international exhibitions. So, in summary, considerable brand in this study is Iran Khodro and product brands are: Samand (LX, Severn), Peugeot (405, 206, Pars), Dena, Rana. The total number of questionnaires collected, is 410 and the number questionnaires after reviewing is 253, which was usable.

Table2: Demographic information

Demographic variable	Answers	Frequency	Percent	Cumulative frequency Percent
Gender	Female	12	4	4
	Male	13	5	10
Age	Less than 2	1	26.4	42.9
	24-3	5	42.9	69.3
	30-4	5	26.4	95.7
	Above 4	10	4.3	100
Automobile type	Samand LX	22	9.4	9.4
	Samand Souren	30	12.9	22.3
	Rano	118	50.6	73
	Peugeot	63	30	100

As it is clear on the [Table 2], numbers of 53 percent of despondence are male and 47 percent are female and most of them are within 24-30 years old. Moreover, types of despondence automobile are Samand LX, Souren, Rano and Peugeot.

The research first target: Hypothesis analysis and the research conceptual model

To analyze data, a two-stage structural equations modeling, was used. First, measurement model fitness was tested using confirmatory factor analysis; then, a path analysis was used to analyze the hypotheses. A structural equation modeling developed the correlations between latent and observable variables. Here, latent variables were main variables. Observable variables were the questions in the questionnaire, used as a variable in the analysis software of PLS and final model.

First part: analyzing the measurement model

In [Table 3] confirmatory factor analysis (Kaiser Criterion) specifies the suitability of data for factor analysis. This criterion is varying between 0 - 1. The amount of this criterion must be above than 0.5, if the sample is suitable. For this study in table3, the criterion is 0.813, so, confirmatory factor analysis is suitable for this data collection.

Table 3: Kaiser Criterion

Kaiser Criterion	0.813	
Bartlett test	Rotation test	1516.205
	Signal	0

Measurement model fitness

Although different kinds of tests, generally called Fit Indexes, are continuously being compared, developed, and completed, there isn't consensus on any single optimum test yet. So, various articles have represented different indices and even famous programs of structural equations like Amos and Lisrel software give several Fit Indexes [21]. Those indices are classified by different methods from which the most leading is classification of absolute, relative external and internal indices. Each of these indices is between 0-1. Table 4 shows the Fit Indexes of the conceptual model in this research.

Table 4: The Fit Indexes of the conceptual model in this research

Index type	Index value
Absolute	0.664
Relative	0.783
External	0.825
internal	0.906

According to [22], Fit Indexes with the values over 0.7 are satisfactory while values less than 0.6 indicate the weakness of the model. Zhang (2003) has also considered the values higher than 0.5 as pleasant ones for model fitness. So, according to [Table 4], research model is fit and confirmed. Then, path analysis results can be used and interpreted for hypothesis test.

Research hypotheses

This model shows the values of correlation among latent variables that in other words are visual conceptions of the model. According to correlation values or coefficients, research hypotheses are confirmed or rejected. In this part, first hypotheses and then their investigations will be represented:

First hypotheses: higher brand credit will caused the higher purchase intention.

In [Table 5 and 6]correlation coefficient of two variables is 0.219 and the coefficient is 0.48, implying that 48 percent of the changes in the purchase intention comes from the changes in Brand credibility amount. Variance analysis table shows that regression model is significant. Coefficient table also revealed that brand credit variable has a significant effect on purchase intention; because, it's significant level is zero (< 0.05).

Second hypotheses: brand personality of products is positively related to purchase intention

In Table 5 and 6 correlation coefficient is 0.256 and determination coefficient is 0.65, implying that 65 % of the changes in the purchase intention comes from the change in brand personality. Variance analysis table also shows that regression model is significant. Coefficients table shows that brand personality variable has a significant effect on the purchase intention; because, its significance level is zero.

Third hypotheses: higher levels of self-image, causes higher levels of purchase intention

As seen in [Table 5 and 6], adding self-image variable to the model, correlation and determination coefficients of the model increase, implying that it improves purchase intention because of the self-image. The regression model is also significant.

Table 5: Path analyzing for the total

Independence variable	Path coefficient	Test index	Significance	Result
Corporate brand	0.653	4.187	000	Confirmed
Brand personality	0.45	4.127	000	Confirmed
Self-image	0.436	3.562	000	confirmed

Table 6: Correlation and determination coefficients of the hypotheses

Model	Correlation	determination coefficients	modified correlation
Brand credibility	0.256	0.65	0.062
Brand personality	0.257	0.71	0.064
Self-image	0.219	0.48	0.044

The second main target (optimizing by using Genetic Algorithm)

To determine the optimize level of four products (Samand, LX, Peugeot, Pride) is the second major target of the present study. In fact, in this part the main goal is to understand how to maximize purchase intention by concentrating on three variables of brand personality, brand credibility and self-image. For this reason, genetic algorithm is used. In this way, path coefficients which are showing the strength and the power of the path between two variables (purchase intention) and (brand credibility, self-image and brand personality) has been used. So, it is trying to consider the relationship between variables separately as it is mentioned in [Table7]

Table 7: Path analyzing for Samand product

Independence variable	Path coefficient	Test index	Significance	Result
Corporate brand	0.553	8.187	000	Confirmed
Brand personality	0.35	2.7	000	Confirmed
Self-image	0.136	5.255	000	confirmed

So, this formula is resulted for Samand product:

Brand credibility :X1 ·brand personality :X2 ·self-image :X3 ·purchase intention :Z
 “. 553X1 + .35X2 + .136X3 = MAX(Z)”

$0 \leq X1, X2, X3 \leq 100$

It is assumed that the number of automobile for each kind of them is a stable number. Now, with regard to produced automobiles, the level of priority for each three variables will be determined. In this way, the resulted formula by using genetic algorithm, with assumed population: 100 and mutation rate of 0.07 is analyzed. So, the results are as follow:

X1=0/46

X2=0/75

X3=0/68

Z= 0/226

It showed that this company must concentrate on brand personality, then self-image and the last on brand credibility.

RESULTS

maximizing purchase intention for LX product

This operation is the same as the last on data are presented on [Table 8]

Table 8: Path analyzing for LX product

Independence variable	Path coefficient	Test index	Significance	Result
Corporate brand	0.653	4.152	000	Confirmed
Brand personality	0.45	4.127	000	Confirmed
Self-image	0.436	3.562	000	confirmed

Brand credibility :X1 ·brand personality :X2 ·self-image :X3 ·purchase intention :Z

$$".653X1 + .45$$

The formula:

$$0 \leq X1, X2, X3 \leq 100$$

So, the results are as follow:

$$X1=0/96$$

$$X2=0/75$$

$$X3=0/58$$

$$Z= 0/121$$

It showed that this company must concentrate on brand personality, then brand credibility and the last on self-image.

maximizing purchase intention for Peugeot

This operation is the same as the last on data are presented on [Table 9]

Table 9: Path analyzing for Peugeot product

Independence variable	Path coefficient	Test index	Significance	Result
Corporate brand	0.453	4.100	000	Confirmed
Brand personality	0.25	2.157	000	Confirmed
Self-image	0.736	3.662	000	confirmed

Brand credibility :X1 ·brand personality :X2 ·self-image :X3 ·purchase intention :Z

$$".153X1$$

The formula: $0 \leq X1, X2, X3 \leq 100$

So, the results are as follow:

$$X1=0/83$$

$$X2=0/55$$

$$X3=0/39$$

$$Z= 0/226$$

It showed that this company must concentrate on brand credibility, then brand personality and the last on self-image. As it is presented on [Table 10].

Table 10: Path analyzing for Reno product

Independence variable	Path coefficient	Test index	Significance	Result
Corporate brand	0.456	3.320	000	Confirmed
Brand personality	0.265	3.157	000	Confirmed
Self-image	0.236	3.062	000	confirmed

Brand credibility :X1 ·brand personality :X2 ·self-image :X3 ·purchase intention :Z

$$.153X1 + .250X2 + .736X3 = MAX$$

The formula: $0 \leq X1, X2, X3 \leq 100$

So, the results are as follow:

$$X1=0/91$$

$$X2=0/263$$

$$X3=0/248$$

$$Z= 0/126$$

It showed that this company must concentrate on brand credibility, then brand personality and the last on self-image.

CONCLUSION

Due to increasing advances in technology and innovation, increased competition and demanding customers, brand management in the twenty-first century has become one of the most complex tasks. As the world moves toward globalization, the move from marketing to brand management is necessary. The paper was trying to explore the relationship of the brand personality, brand reputation and self-image with the customers' purchasing intention of Iran Khodro Company. Iran Khodro is one of the companies which are exclusively active in manufacturing various cars; including some brands such as Samand Soren, Samand LX, Peugeot 206 and Pride. The study will follow two main goals: firstly, to explore the relationship of the three variables of self-image, brand reputation and brand personality with purchase intention. Second, To explore an equation to determine the optimum combination of three variables "self-image", "brand reputation" and "brand personality" in order to maximize the purchase intention. For this purpose, 410 questionnaires were distributed among owners of different types of Iran Khodro cars, but possible analyzable questionnaires were 253. To achieve the first goal, the PLS software was used to determine the path coefficients between dependent and independent variables. Then, the path coefficients are calculated for each type of vehicle brands including L. X, Soren, Dena and 206; to determine the optimum combination of dependent variables to maximize purchase intention. It was considered that the company's brand reputation is equivalent to variable X-1, brand personality to variable X-2, self-image to variable X-3; and maximizing the purchase intention is regarded as the objective. Then each of the equations for each product brands was put in the genetic algorithm. The results have shown that In the case of products such as Reno, Peugeot 206 and Samand EL X, the emphasis should be on promoting the company's brand reputation, the brand personality, and ultimately on its self-image, respectively. But this optimal combination for Samand Soren is different and the emphasis should be on brand personality.

CONFLICT OF INTEREST

There is no conflict of interest.

ACKNOWLEDGEMENTS

The authors are thankful to Hon'ble Dean and Management

FINANCIAL DISCLOSURE

None

REFERENCES

- [1] Keller KL, Richey K. [2006] The importance of corporate brand personality traits to a successful 21st century business. *Journal of Brand Management*, 14(1/2), 74-81. <http://doi.org/10.1057/palgrave.bm.2550055>
- [2] Goldsmith RE, Lafferty B a, & Newell, S. J. (2000). The Impact of Corporate Credibility and Celebrity Credibility on Consumer Reaction to Advertisements and Brands. *Journal of Advertising*, 29(3), 43-54. <http://doi.org/10.1080/00913367.2000.10673616>
- [3] Keller KL. [2008] Strategic Brand Management. *Brand*, 58, 829. <http://doi.org/10.2307/1252315>
- [4] Lafferty B. a. oldsmith RE, Newell SJ. [2002] The Dual Credibility Model: The Influence Of Corporate And Endorser Credibility On Attitudes And Purchase Intentions. *Journal of Marketing Theory and Practice*. Aaker, J L. (1997). Dimensions of Brand Personality. *Journal of Marketing Research*, 34, 347. <http://doi.org/10.2307/3151897>
- [5] <http://doi.org/http://www.jstor.org/stable/41304270>
- [6] Sirgy M J, Grewal D, Mangleburg, T. [2000] mRetail Environment, Self-Congruity, Wang, X. & Yang, Z. (2008). Does country-of-origin matter in the relationship between brand personality and purchase intention in emerging economies? : Evidence from China's auto industry. *International Marketing Review*, 25(4): 458-474.
- [7] and Retail Patronage. *Journal of Business Research*, 49(2): 127-138.
- [8] Ohanian R. [1990] Construction and Validation of a Scale to Measure Celebrity Endorsers' Perceived Expertise, Trustworthiness, and Attractiveness. *Journal of Advertising*, 19(3), 39-52. <http://doi.org/10.2307/4188769>
- [9] Lutz R J McKenzie SB, Belch GE. [1983] Attitude Toward the Ad As a Mediator of Advertising Effectiveness: Determinants and Consequences. *Advances in Consumer Research*.
- [10] Hamzah ZL, Syed Alwi S F, Othman M N. [2014] Designing corporate brand experience in an online context: A qualitative

- insight. *Journal of Business Research*, 67(11):2299–2310. <http://doi.org/10.1016/j.jbusres.2014.06.018>.
- [11] Buil I, Catalán S, Martínez E. [2015] The importance of corporate brand identity in business management: An application to the UK banking sector. *BRQ De Chernatony, L. (2010). From Brand Vision to Brand Evaluation. The Strategic Process of Growing and Strengthening Brands (3rd ed.)*. United States of America.
- [12] Business Research Quarterly.
- [13] Simões C, Singh. JG Perin M. [2015] Corporate brand expressions in business-to-business companies' websites: Evidence from Brazil and India, *Industrial Marketing Management xxx (2015) xxx–xxx*.
- [14] Valette-Florence, R. & De Barnier, V. (2013). Towards a micro conception of brand personality: An application for print media brands in a French context. *Journal of Business Research*, 66(7): 897–903.
- [15] Valette-Florence, R. & De Barnier, V. (2013). Towards a micro conception of brand personality: An application for print media brands in a French context. *Journal of Business Research*, 66(7), 897–903.
- [16] Kapferer, J. (2008). *The New Strategic Brand Management: Creating and Sustaining Brand Equity Long Term*. London: Kogan-Page . Retrieved from <http://www.amazon.de/The-New-Strategic-Brand> .
- [17] Avis M. (2012). Brand personality factor based models: A critical review. *Australasian Marketing Journal*, 20(1), 89–96. <http://doi.org/10.1016/j.ausmj.2011.08.003>
- [18] Sirgy MJ, Grewal D, Mangleburg TF Park, JO Chon, KS. Claiborn, C B, Berkman H. [1997] Assessing the Predictive Validity of Two Methods of Measuring Self-Image Congruence. *Journal of the Academy of Marketing Science*, 25(3):229–241. <http://doi.org/10.1177/0092070397253004>
- [19] Sirgy MJ, Johar JS. [1999] Toward an integrated model of self-congruity and functional congruity. *European Advances in Consumer Research*, 4(1), 252-256.
- [20] Hooman, H. (2007). *Structural Equation Modeling Using Lisrel Software*. Samt Publication. 1st Ed.
- [21] Henseler J, Ringle, CM, Sinkovics, R, [2009] *The Use Of Partial Least Squares Path Modeling In International Marketing*. New Challenges to International Marketing Keller, K L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57(1): 1–22. <http://doi.org/10.2307/1252054>
- [22] Henseler J, Ringle CM, Sinkovics R. [2009] *The Use Of Partial Least Squares Path Modeling In International Marketing*. New Challenges to International Marketing *Advances in International Marketing*, 20: 217- 319.
- [23] Fennis, B. M. Pruyn, A. T. H. & Maasland, M. (2005). Revisiting the Malleable Self: Brand Effects on Consumer Self-Perceptions of Personality Traits. *Advances in Consumer Research*, 32(1):371–377.
- [24] Freling, T. H. & Forbes, L. P. (2005). An empirical analysis of the brand personality effect. *Journal of Product & Brand Management*, 14(7): 404–413. <http://doi.org/10.1108/10610420510633350>
- [25] Bagozzi, R. P. & Tybout AM. (1983). *Advances in Consumer Research*. Vol. 10. Ann Arbor, Association for Consumer Research
- [26] Bosnjak M, Bochmann V, Hufschmidt T. [2007] Dimensions of Brand Personality Attributions: a Person-Centric Approach in the German Cultural Context. *Social Behavior and Personality: An International Journal*, 35(3):303–316. <http://doi.org/10.2224/sbp.2007.35.3.303>
- [27] Geuens M, Weijters B, De Wulf K. [2009] A new measure of brand personality. *International Journal of Research in Marketing*, 26(2), 97–107. <http://doi.org/10.1016/j.ijresmar.2008.12.002>
- [28] Keller, K. L. (1993). Conceptualizing, Measuring, and Managing Customer-Based Brand Equity. *Journal of Marketing*, 57(1):1–22. <http://doi.org/10.2307/1252054>
- [29] Zhang D. [2003] Delivery of personalized & adaptive content to mobile devices: a framework & enabling technology, *Journal of Communication of the AIS*, 12(13):183-202.