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## Investigating the Role of Word of Mouth on Consumer Based Brand Equity Creation in Iran's Cell-Phone Market

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*This paper investigates the impact of Word of Mouth (WOM) on Consumer Based Brand Equity (CBBE) creation. WOM characteristics such as, volume, valence, and source quality are studied to find how intensely they each affect brand awareness, perceived quality, and brand association. This investigation has been conducted in Tehran-Iran, on the cell-phone market. The methodology selected for this study was structural equation and all the calculations were done using Lisrel 8.54. The results suggested that volume and valence, two elements of WOM, affect CBBE and no significant relationship between source type and brand equity was seen.*

**Keywords:** *Costumer-based brand equity, Word of mouth, Mobile market, Structural equation model*

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## Introduction

Previous academic researches along with every day business practices have shown the brand equity's importance as a marketing concept (Keller and Lehman, 2006). Consumers' buying habits, as proposed by Reynolds and Philips (2005), are functions of brand equity's elements. To benefit from this quality, companies and brand holders should work on strategies that facilitate the growth of brand equity (Keller, 2007). With that in mind, keeping track of building blocks of brand equity, has and needs substantial attention among academic researchers and marketing executives (Baldauf et al., 2009; Valette-Florence et al., 2011).

They along with other researchers define marketing mix as the key factor in creation of brand equity (e.g. Yoo et al., 2000; Kim and Hyun, 2011, Buil et al., 2011). According to Kraus's research Word of Mouth (WOM) marketing categorized under promotion, one of the elements in marketing mix, therefore we can infer that WOM, as well as other factors in marketing mix may have an impact on brand equity. However, numerous researches have shown that WOM has a great deal of influence on sales (e.g. Davis and Khazanchi, 2008; Liu, 2006; Buttle, 1998).

Except Bambauer and Mangold (2011), most researchers who worked on the WOM use statistical data gathered from web-sites to test and prove their hypotheses (e.g., Davis and Khazanchi, 2008; Liu, 2006). Although these data like number of comments, their valence, reviews, and so on, can be accepted as a basis for their conclusion, we can cast doubt on their conclusions since they assume these data represent real person's idea and mind set. For instance Dierkes and Bichler (2011) in their research on WOM impact on Mobile phone market use telephone call detail as sign of continuous WOM.

On the other hand, academic papers on consumer based brand equity (CBBE) referred to brand awareness, perceived quality, brand association, and brand loyalty as key factors of CBBE (e.g., Yoo et al., 2000; Yoo and Donthu, 2001; Washburn and Plank, 2002; Pappu et al., 2005; Konecnik and Gartner, 2007; Lee and Back, 2010).

This study, based on the proposed framework by Yoo et al. (2000) and following on the footsteps of Buile et al. (2011) tried to investigate the impact of WOM, as a subdivision of marketing mix (Krause, 2009) on the

creation of CBBE. Our principal contribution is to deeply explore the effect of WOM on creating CBBE, using a survey conducted on various consumers, instead of just using students as a sample or extracting statistical data from web-sites.

We continue with a brief discussion of WOM and CBBE followed by the hypotheses. Then, the fourth section explains the methodology to test the model. Next section presents the results of the study and the last chapter explains the conclusion, recommendation and research limitation.

## 1. Theoretical Framework

In the following we explain elements of WOM and CBBE in a nut shell, to demonstrate how we developed our hypotheses and conceptual model.

- **Word of Mouth**

According to scholars who have previously worked on WOM, it is defined as oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, regarding a brand, product or service (Brit, 1966; Arndt, 1967; Bayus, 1985; Bolting, 1989). Researches indicated that WOM is different from other information sources, such as advertisement in two areas: people usually think of WOM as more credible and trustworthy, comparable to others, and social networks usually accept WOM more willingly (Liu, 2006; Banerjee, 1993; Brown and Reingen, 1987; Murray, 1991).

Scholars, who have worked on concept of WOM, defined some characteristics for it. Among those characteristics we can name volume, valence, focus, source type (Davis and Khazanchi, 2008; Liu, 2006; Buttle, 1998). In the following subsection these elements will be discussed briefly.

- **Volume**

As Liu (2006) proposed, volume measures the total amount of WOM interactions. Studies have shown that wherever WOM existed, an increase in awareness and a positive (or negative) would be spotted (A'lvarez et al., 2007). It can be inferred that the more conversation or comments there are about a product the more likely that someone will know about it. Additionally there are abundant numbers of studies that show relation between the amount of WOM and the change in consumers' behavior

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(Amblee and Bui 2007b, Anderson and Salisbury 2003, Bowman and Narayandas 2001, Liu 2006)

- **Valence**

According to Buttle (1998) WOM can be either positive or negative. While citing Buttle's paper, Liu (2006) noted that valence dealing with measuring the *nature of the message* and whether it is positive or negative. Although Anderson (1998) described the relationship between positive WOM and increase in product sales as unclear, and other researches have shown that valence does not affect sales (Amblee and Bui 2007a, Davis and Khazanchi 2008), Liu (2006) proposed that positive WOM enhances expected quality and negative WOM would denigrate it. These two opposite orientation call for deeper investigation of valence roles as an element of WOM.

- **Source Type**

Sheth (1971) concluded that WOM is more effective than advertisement in increasing the level of awareness toward a product and Day (1971) suggested that this happen because of source reliability. Studies indicated that the power of reviewer is to such extend that can prevail over other marketing signals (Banerjee 1992, Ellison and Fudenberg, 1995). Previous researches on WOM distinguished experts review or comments from those of ordinary users (Davis and Khazanchi, 2008; Amblee and Bui 2007a, Kumar and Benbasat 2006, Smith et al. 2005). In our case, since we focused on traditional WOM we change the phrase 'reviewer type' to 'source type' for more clarity.

- **Consumer Based Brand Equity**

As defined by Yoo and Donthu (2001) Consumer Based Brand Equity (CBBE) is 'consumers' different response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes'. Numerous researches have been dedicated to delineate internal factors of CBBE (e.g. Yoo and Donthu, 2001; Keller, 1993; Aaker, 1991). In this study, we based the CBBE portion of our model on Yoo and Donthu (2001) findings. They followed Aaker's (1991, 1996) proposed dimensions for CBBE, brand awareness, perceived quality, brand loyalty, and brand associations. These four will be discussed briefly.

- **Brand Awareness**

Brand awareness is "the ability for a buyer to recognize or recall that a brand is a member of a certain product category" (Aaker, 1991). This definition includes brand recognition and recall in brand awareness (Rossiter and Percy, 1987; Keller, 1993)

- **Perceived Quality**

Perceived quality is "the consumer's judgment about a product's overall excellence or superiority" (Zeithaml, 1988). That means by definition users solely evaluate the product quality, not managers and/or experts (Yoo and Donthu, 2001).

- **Brand Loyalty**

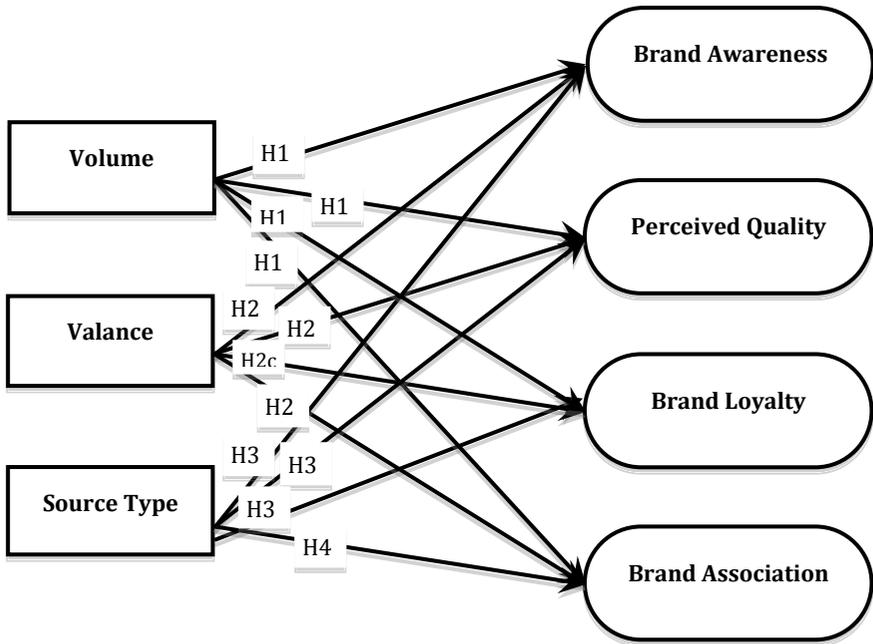
Brand loyalty means "the attachment that a customer has to a brand" Aaker (1991). Considering Oliver's (1997) remarks, in this study as well as in Yoo and Danthu's (2001) this feature is demonstrated by consumers' willingness to by product from a certain focal brand as his or her primary option. However, some scholars only considered behavioral aspects of brand loyalty (e.g., Guadagni and Little, 1983; Gupta, 1988).

- **Brand Association**

Brand associations defined as "anything linked in memory to a brand" and brand image as "a set of [brand] associations, usually in some meaningful way" (Aaker, 1991). Keller (1993) divided brand association into primary and secondary. Primary association refers to inherent characteristics of brand, such as high price or high service quality. Secondary association refers to things, which are not directly related to product or service, and help users to recall brand, such as the company, the country of origin, and the distribution channel.

## 2. Research hypotheses

Figure 1 represents the conceptual framework underlying this research. Current study focused on how WOM elements affect CBBE dimensions.



**Figure 1:** Conceptual Model

Exhaustive researches have shown that WOM affects human behavior more than any other marketer- controlled sources (Buttle, 1998). According to Day (1971) calculation WOM is nine times more effective than regular advertisement in changing negative or neutral mindset toward a product or service, into more favorable one. To make use of this tremendous power on creating brand equity first we need to determine how it works. To do so we have proposed and tested 12 hypotheses as follow:

**H1.** The amount of WOM (Volume) has a positive influence on: a) brand awareness b) perceived quality c) brand loyalty d) brand association.

**H2.** Valance has a positive influence on: a) brand awareness b) perceived quality c) brand loyalty d) brand association.

**H3.** Source type has a positive influence on: a) brand awareness b) perceived quality c) brand loyalty d) brand association.

### 3. Methodology

- **Sample selection and data collection**

To test the hypotheses data was collected from a consumer survey in the Tehran-Iran. This study along with Buil's (2011) used a sample of end-users for data collection. However similar studies in the past have used students as their samples (e.g., Yoo et al., 2000).

Unlike previous works on brand equity (e.g. Yoo et al., 2000; Netemeyer et al., 2004; Buil et al., 2011), who used several product categories, we narrowed this study to cell-phone brands for two reasons: first because of Iranians' culture cell-phones are among the few products that commonly used by different age and gender, and the second reason is the highly increased value of imported goods in this product category that shows Iranian people's interest in cell-phones. Four different brands have been selected to test the hypotheses. Market data used to detect two best seller and two medium seller cell-phone brands. Nokia, Samsung, Sony Ericsson, an LG were selected for further investigation. These four brands are well known to Iranian consumers and therefore meet the criterion proposed by Krishnan (1996) for understanding brand equity.

We used four questionnaires, one for each brand, in this study. All the questions were identical, except for the brands name. Before giving out the questionnaire, respondents were asked if they familiar with the brand, for sake of eligibility. At the introduction of the questionnaire the purpose of the study was told and the important respondent's role was declared.

500 Questionnaires were distributed on two major cell-phone shopping centers in Tehran-Iran and 432 of them were returned and 336 of returned one were considered valid. The distribution of questionnaires was almost even among male and female respondents, 48.3% male and 51.7% female. 22.9% of people attended the study were below 20 years old, 32.9% were between 20 and 30, 30.8% were between 30 and 40, and 13.43% of them were above 40.

- **Measurement**

Seven latent variables were measured in this study. Volume, valence, and source type represented the WOM elements and brand awareness, perceived quality, brand association, and brand loyalty were categorized as brand equity's factors.

To measure the brand equity's elements we translated the questionnaire developed by Yoo et al. (2000) in their study. But for WOM elements, we could not find any previously developed questionnaires, so we consulted with twenty experts, in various marketing areas, to develop questions to measure the variables.

## 4. Results

- **Measurement model**

After extracting data from questionnaire, we screened them in four levels. At first records, which contained only one answer for all the questions (e.g. the answers for all questions were 3), were eliminated. Then Cronbach's alpha for each construct calculated. In the second step one determinant of "source type" was removed due to inconsistency. We went a little further and calculated the Average variance extracted of each category; two items that measured the Brand awareness were eliminated because of low AVE of the construct. And the last step was checking the T-value of each measurement item. The results are shown in table 1.

- **Structural model**

Using Lisrel 8.54 we examined the validity of proposed hypothesizes. The goodness of fit calculated for the model showed that the model was valid. Table 2 contains information regarding the structural model.

**Table 1: Construct and Measurement**

Construct and measurement	Alpha	AVE	T-score range
Volume	0.78	0.64	15.5-16.41
Vol1			
Vol2			
Valence	0.83	0.76	8.83-10.10
Val1			
Val2			
Source Type	0.73	0.94	5.63-7.36
Sour1			
Sour3			
Brand awareness	0.71	0.54	13.53-16.87
Aw3			
Aw4			
Perceived quality	0.9	0.65	14.1-19.58
Qua1			
Qua2			
Qua3			
Qua4			
Qua5			
Brand loyalty	0.91	0.78	10.89-20.29
Loy1			
Loy2			
Loy3			
Brand association	0.82	0.65	10.89-20.29
Asc1			
Asc2			
Ac3			
Goodness of Fit			
-2ln(L) for the saturated model = 17782.11    -2ln(L) for the fitted model = 18229.184			
Degrees of Freedom = 168    Full Information ML Chi-Square = 447.072 (P = 0.0)			
Root Mean Square Error of Approximation (RMSEA) = 0.0704			

90 Percent Confidence Interval for RMSEA = (0.0625 ; 0.0784)

**Table 2: Structural Model**

	<b>Hypotheses</b>	<b>Lisrel Estimate (M.L)</b>	<b>T-Value</b>
H1a	Volume → Brand Awareness	0.847	14.19
H1b	Volume → Perceived Quality	0.882	14.25
H1c	Volume → Loyalty	0.818	12.91
H1d	Volume → Brand Association	0.322	4.88
H2a	Valence → Brand Awareness	- 0.112	-2.24
H2b	Valence → Perceived Quality	-0.067	-1.43
H2c	Valence → Loyalty	-0.093	-1.89
H2d	Valence → Brand Association	-0.126	2.21
H3a	Source Type → Brand Awareness	-0.057	- 1.64
H3b	Source Type → Perceived Quality	-0.052	- 1.35
H3c	Source Type → Loyalty	-0.039	-1.04
H3d	Source Type → Brand Association	-0.043	-0.91
Goodness of Fit			
-2ln(L) for the saturated model = 16247.872 -2ln(L) for the fitted model = 16540.688 Degrees of Freedom = 137 Full Information ML Chi-Square = 292.816 (P = 0.00) Root Mean Square Error of Approximation (RMSEA) = 0.0583			

90 Percent Confidence Interval for RMSEA = (0.0490 ; 0.0675)  
P-Value for Test of Close Fit (RMSEA < 0.05) = 0.0694

Findings suggested that Volume have a great influence on all four attributes of CBBE. Hypothesizes H1a-H1d is supported with regards to the model. So we can conclude that volume plays a substantial positive role on creating consumer based brand equity.

The other parameter of WOM, valence affect both brand awareness and brand association. Findings did not support H2b and H2c so the effect of valence on perceived quality and loyalty was not confirmed. The result suggested that valence influences brand awareness in a negative way and it also has a positive impact on brand association.

The calculations on data revealed that there is no significant effect from source type on either factors of brand equity, so the hypotheses H3a-H3d were disapproved.

## Conclusions

As mentioned by Joachimsthaler and Aaker (1997) role of visibility in creating brand equity is prominent. In other word people are attracted to known brands even if they have not experienced them yet. One of many ways to make the brand visible is using the power of word of mouth. In this study we empirically examined the impact of word of mouth's elements on consumer based brand equity.

Researches have put extra attention on the volume as an influential element in WOM (eg. Buttle, 1998; Liu, 2006). Our findings showed that the volume affects all four parameters of CBBE. Since the results of this study reflect the culture of Iran as well, we can conclude that volume's effect on brand awareness, perceived quality, brand loyalty, and brand association is due to trust bond between Iranian people and their circle of influence. (hofstade).

Valence, the other parameter of WOM, has two roles on creating brand equity. It has a positive effect on brand association and simultaneously negative impact the brand awareness.

Source type, however, has no significant effect on any parameters of brand equity. It can be inferred that Tehran's cell phone market does not show enough interest in experts' point of view on available brands.

As Aaker (1991) mentioned, one successful strategy to differentiate a product from competing brands is creating brand equity. This research tried to introduce a way to create brand equity. Unlike advertising, that now a day costs tons of dollars, WOM is free and distributed through people quickly. If a firm harnesses the power of WOM, it will benefit the firm in creating CBBE.

Future studies should focus on ways and methods to control the word of mouth. Furthermore they should use cross-cultural samples, so they can generalize the finding, the thing that we could not achieve. The other issue that is useful to consider for future studies is that researchers should expand the product categories; this would again help the generalization process.

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