Effect of Electronic Word-Of-Mouth Advertising on Brand Image, Brand Equity and Purchase Intention (Case Study: Consumers of Apple Mobiles, iPhone)

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ABSTRACT

EWOM (Electronic Word Of Mouth) in marketing is one of the most important informal means of communication among consumers for services, goods and organizations, which has drawn the researchers' attention. This study aims to investigate effect of electronic word-of-mouth advertising on brand image, brand equity and purchase intention among consumers of Apple Mobile Corporation. A descriptive survey has been used as the research method in this study, and the sample group consists of 400 individuals among consumers of Apple Mobile Corporation. The questionnaire has been used as the data collection instrument and the Likert scale is used for answering the questions; for measuring the internal consistency reliability, Cronbach Alfa coefficient was used. To test the internal structure of the questionnaire and determine the convergent validity, confirmatory factor analysis was applied. For confirming or rejecting the research hypotheses, significance coefficient (t-test) was applied. Data were analyzed through descriptive and inferential statistics. At first, the variables were explained through tables and figures using SPSS software and then to test the research hypotheses, due to the presence of mediator variable, LISREL software was used. The results of the statistical analysis, structural equation modeling and path analysis reveals the positive, linear, and direct effect of electronic word-of-mouth advertising on brand image, brand equity.
Keywords: Electronic word of mouth, Brand equity, Brand image, Purchase intention

Introduction

We are living in the modern era of communication and we have to deal with a large amount of data. Undoubtedly, we do not have sufficient time for reviewing and assessing all the information available to us. Traditional advertising has been eliminated, television channels have lost their audiences, magazines are encountering disturbances and the situation is disturbed in magazines, and the cost for publication of magazines goes beyond their benefits. Most people have not enough time to sort information overload [2]. Hence, under such circumstances that trust in organizations and advertisement has declined, word-of-mouth advertising in marketing has been regarded as a way to achieve competitive advantage [3]. Word-of-mouth advertising refers to verbal communications between actual and potential customers and other people including family, friends, service suppliers, and independent experts [4].

Studies have shown that word-of-mouth communications are more effective than communicating through other sources like written recommendations or advertisements because relatively more reliable information can be found in word-of-mouth communications [5]. On the other hand, just 14% of individuals can trust what see, read or hear in advertisements. More surprisingly, 90% of the individuals trust their family, friends and colleagues who confirm a service or product, as they know that there will be no benefit for them by verifying that service or product [6]. Moreover, by increasing use of internet as a means for communication and sale, word-of-mouth advertising has largely developed [4]. Word-of-mouth communications firstly referred to the idea of person-to-person conversation among the consumers about a product; afterwards, by expansion of internet throughout the world, less person-to- person conversation was seen but more word-of-mouth communications were spread throughout the world, and it was called online Word-of-mouth communications [5].

Online word-of-mouth communications include a variety of media forms and websites in which maximum access to views and revisions by the online consumers exist [6].

In general, word-of-mouth communications let individuals to affect consumers' purchase intention in terms of information and norms [1]. Hence, word-of-mouth communications significantly affect formation of consumers' attitudes towards decision making upon purchase and reducing risks related to purchase [7].

It is believed that by increasing the importance of word-of-mouth communications, investigating consumer behavior, which is subjected to word-of-mouth communications, has become largely important to managers especially marketing experts. Word-of-mouth communications that are resulting from a wide range of sources can be positive or negative. In general, it has been proven that this wide range of information affects consumer's behavior. In addition, branding is accounted as the early capital for most of industries. Strong brands can increase customers' trust in products and services and enable them for better understanding of intangible factors. According to Yu and Danto (2001), brand image can affect future earnings and cash flow of the company in the long run, consumer's willingness to pay premium, merger and acquisition decision-making, stock price, sustainable competitive advantage and success in marketing. In this regard, as word-of-mouth communications affect judging on products, it appears that online word-of-mouth communications, which have been formed in live interactive media called "internet", must have strong effects on brand image and as a result on purchase intention [5].

Hence, effective communications in marketing largely affect formation of a positive brand image and creation of awareness of that brand. Online word-of-mouth communications not only increases and strengthens the brand equity, but also affects its constituents and variables [8]. Brand equity affects consumer's preferences and purchase intention and finally brand selection [1]. According to discussion above, the necessity to conduct a research on the effect of word-of-mouth advertising on brand image, brand equity and purchase intention is felt. Hence, this study aims primarily to examine how word-of-mouth advertising affects brand image, brand equity and purchase intention of consumers of Apple Electronics Corporation. Besides, there will be some secondary aims as follows:

1- Determining the effect of *word-of-mouth advertising on* purchase intention

2- Determining the effect of *word-of-mouth advertising on* brand image

3- Determining the effect of *word-of-mouth advertising on* brand equity

4- Determining the effect of brand image and brand equity on purchase intention

Mohammad Reza Jalilvand and Neda Samiei (2012) carried out a study entitled "The effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran". The purpose of this paper is to examine the extent to which e-WOM among consumers can influence brand image and purchase intention in the automobile industry. The paper found that e-WOM is one of the most effective factors influencing brand image and purchase intention of brands in consumer markets.

Yi-Wen Fan et al (2012) conducted a study entitled "*effect of electronic word-of-mouth on consumer purchase intention*" and stated that electronic word of mouth is available to customers in different types of online consumer reviews, which can be used to help them make e-commerce purchasing decisions. Study results show that involvement has the most significant effect on perceived eWOM credibility.

Study results show that perceived eWOM credibility has a significant effect on eWOM acceptance and intent to purchase. Study results also show the male customers have different e-commerce shopping behaviors than female customers.

Sandes and Urdan (2013) conducted a study entitled "effect of electronic word-of-mouth advertising on consumer's behavior: empirical and explanatory studies". This study aims to examine effect of electronic word-of-mouth advertising on consumer's behavior. Empirical and explanatory studies indicated that exposure to any comment affects brand image. Management reduces negative feedback from the effect on brand image, but does not change the effect on purchase intention.

Given the above overview and using the models represented by Jalilvand& Samiei (2012), the research model will be as follow:
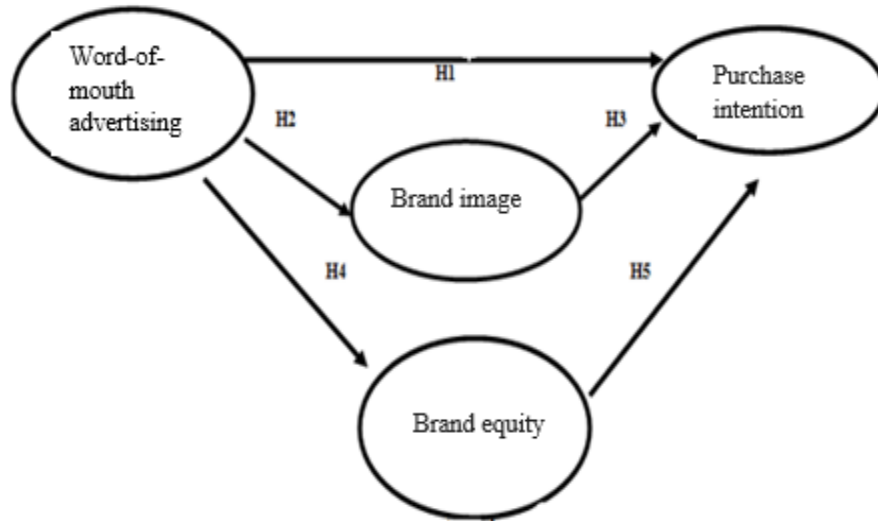

Fig. 1. Conceptual model of research

The research hypotheses are as follows:

H1: word-of-mouth advertising affects purchase intention.
H2: word-of-mouth advertising affects brand image.
H3: word-of-mouth advertising affects brand equity.
H4: brand image affects purchase intention.
H5: brand equity affects purchase intention.

Research Method

This study has been an applied research and categorized as a descriptive survey. A questionnaire has been used as a field method for data collection. To analyze data, descriptive and inferential statistics have been used. Firstly, using SPSS software, the variables were defined in form of tables and statistical indices, and then structural equation modeling and LISREL software were used to test research hypotheses. The statistical population consists of *people older than 18 years old*. Simple random sampling method has been used in this study, so that 400 questionnaires were distributed among consumers of *Apple Electronics* Corporation. The sample size has been obtained using the following formula:

$n = pqz^2/ \varepsilon^2$

As the value of success and failure has been represented by p(0.5) and q(0.5), respectively, and the distribution of sample(z) has been equal to 1.96, to calculate error level(ε) from the gathered data, Pilot questionnaire has been used in this study. The value of standard deviation was analyzed for each of questions, and the least value(0.0300) was used in the following formula:

$\varepsilon = 1.69 * 0.0300 = 0.507$

Hence:

$n = (0.5 * 0.5 * (1.96)^2) / (0.507)^2 = 373$

The reliability obtained based on Cronbach's alpha for the questionnaires (n =30) distributed at the pre-test stage was equale to 0.960, which is acceptable.

Research Findings

The value of Cronbach's alpha is indicated in table 1.

Table 1: Cronbach's alpha

| Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.980	.981	25

Reliability Statistics

Table 2. Mean, variance and correlation of each item with total scale and Cronbach's alpha coefficient in case of removing each item from 25 items

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
q1	62.7825	574.241	.828	.	.979
q2	62.7450	575.434	.785	.	.979
q3	62.7075	576.789	.697	.	.979
q4	62.7075	576.789	.697	.	.979
q5	62.7350	572.927	.807	.	.979
q6	62.7950	570.369	.887	.	.978
q7	62.8550	567.924	.925	.	.978
q8	62.8550	567.924	.925	.	.978
q9	62.8825	565.873	.896	.	.978
q10	62.8825	565.873	.896	.	.978
q11	62.9175	565.951	.903	.	.978
q12	62.9325	566.038	.901	.	.978
q13	62.9450	566.052	.908	.	.978
q14	62.9600	566.755	.933	.	.978
q15	62.9775	566.844	.918	.	.978
q16	63.0050	566.997	.904	.	.978
q17	63.0050	566.997	.904	.	.978
q18	63.0050	572.647	.746	.	.979
q19	62.9825	572.208	.767	.	.979
q20	63.0000	572.090	.760	.	.979
q21	63.0500	571.757	.740	.	.979
q22	62.9850	576.917	.630	.	.980
q23	62.9475	576.496	.638	.	.980
q24	62.9475	576.496	.638	.	.980
q25	62.8725	575.871	.610	.	.980

Item-Total Statistics

According to the table above and the value obtained from Cronbach's alpha (0.980), it seems that data enjoy a proper reliability. Confirmatory factor analysis results have been used for analysis of the internal structure of the questionnaire and determination of the convergent validity, for which standardized factor loadings relating to all items were calculated; hence, as the value of factor loadings is greater than 0.5 for

all the items, the questionnaire enjoys an acceptable validity. The model depicted via LISREL software is represented in figure 1.
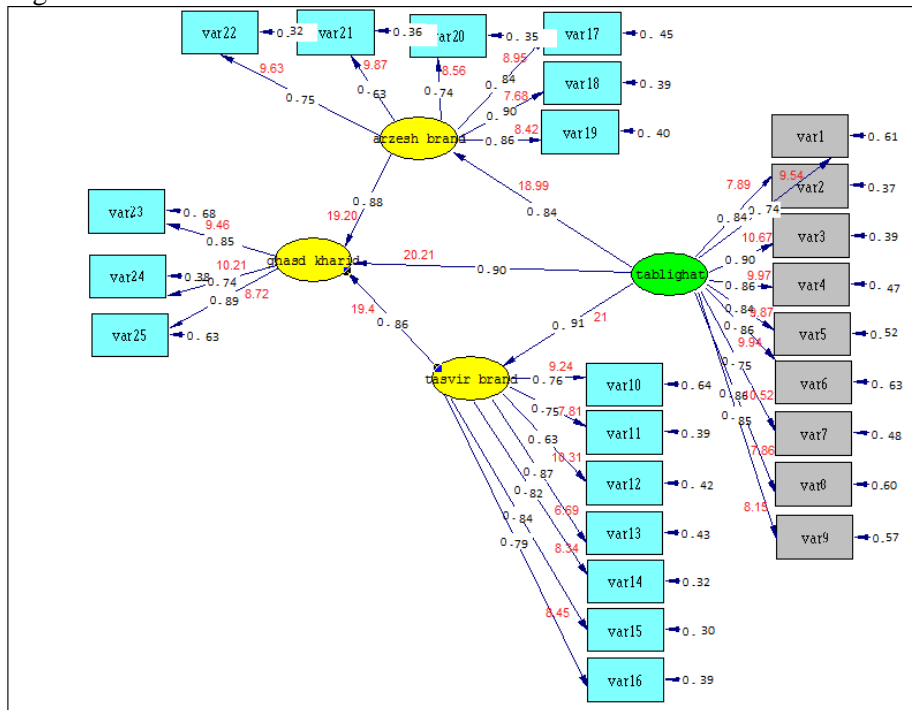
Hypotheses testing

Determination coefficient relating to the effect of *word-of-mouth advertising on purchase* intention equals to 0.91, indicating that the variable "*word-of-mouth advertising*" has been able to predict 90% of the changes in the variable "purchase intention". According to the determination coefficient relating to the effect of *word-of-mouth advertising on brand image*, the variable "*word-of-mouth advertising*" has been able to predict 91% of the changes in the variable "*brand image*". Determination coefficient relating to the effect of *word-of-mouth advertising on brand equity* equals to 0.84, indicating that the variable "*word-of-mouth advertising*" has been able to predict 84% of the changes in the variable "*brand equity*". The variable "*brand image*" has been able to predict 86% of the changes in the variable "purchase intention". Finally, determination coefficient relating to the effect of *brand equity on purchase* intention equals to 0.88, indicating that the variable "*brand equity*" has been able to predict 88% of the changes in the variable "purchase intention".

- **First hypothesis: word-of-mouth advertising affects purchase intention.**

Significance coefficient has been used to confirm or reject the first hypothesis; if t-value is greater than 1.96 or less than -1.96, the hypothesis is confirmed, and significant relationship is obtained. According to t-value, which is greater than 1.96, the first hypothesis is confirmed. In other words, *word-of-mouth advertising affects* purchase intention positively. The extent to which *word-of-mouth advertising affects* purchase intention is about 0.91, i.e. by increasing *word-of-mouth advertising for one unit,* purchase intention will also increase for about 0.91.

Table 3: Calculations relating to the first hypothesis

t-statistics	Path coefficient(β)	Determination coefficient(r^2)
20.21	0.91	0.90

- **Second hypothesis: word-of-mouth advertising affects brand image.**

Significance coefficient has been used to confirm or reject the *second* hypothesis; if t-value is greater than 1.96 or less than -1.96, the hypothesis is confirmed, and significant relationship is obtained. According to t-value, which is greater than 1.96, the second hypothesis is confirmed. In other words, *word-of-mouth advertising affects* brand image positively. The extent to which *word-of-mouth advertising affects* brand image is about 0.84, i.e. by increasing *word-of-mouth advertising for one unit,* brand image will also increase for about 0.84.

Table 4: Calculations relating to the second hypothesis

t-statistics	Path coefficient(β)	Determination coefficient(r^2)
21.00	0.84	0.91

- **Third hypothesis*: word-of-mouth advertising affects brand equity.**

Significance coefficient has been used to confirm or reject the second hypothesis; if t-value is greater than 1.96 or less than -1.96, the hypothesis is confirmed, and significant relationship is obtained. According to t-value, which is greater than 1.96, the third hypothesis is confirmed. In other words, word-of-mouth advertising affects brand equity positively. The extent to which word-of-mouth advertising affects brand equity is about 0.90, i.e. by increasing word-of-mouth advertising for one unit, brand equity will also increase for about 0.90.

Table 5: Calculations relating to the third hypothesis

t-statistics	Path coefficient(β)	Determination coefficient(r^2)
18.99	0.90	0.84

- **Fourth hypothesis: brand image affects purchase intention.**

Significance coefficient has been used to confirm or reject the *fourth* hypothesis; if t-value is greater than 1.96 or less than -1.96, the hypothesis is confirmed, and significant relationship is obtained. According to t-value, which is greater than 1.96, the *fourth hypothesis* is confirmed. In other words, brand image *affects* purchase intention positively. The extent to which brand image *affects* purchase intention is about 0.88, i.e. by increasing brand image *for one unit,* purchase intention will also increase for about 0.90.

Table 6: Calculations relating to the fourth hypothesis

t-statistics	Path coefficient(β)	Determination coefficient(r^2)
19.41	0.88	0.86

Fifth hypothesis: brand equity affects purchase intention.

Significance coefficient has been used to confirm or reject the *fifth* hypothesis; if t-value is greater than 1.96 or less than -1.96, the hypothesis is confirmed, and significant relationship is obtained. According to t-value, which is greater than 1.96, the *fifth hypothesis* is confirmed. In other words, brand equity *affects* purchase intention positively. The extent to which brand equity *affects* purchase intention is about 0.93, i.e. by increasing brand equity *for one unit,* purchase intention will also increase for about 0.93.

Table 7: Calculations relating to the fifth hypothesis

t-statistics	Path coefficient(β)	Determination coefficient(r^2)
19.20	0.93	0.88

Conclusion

The results of research hypotheses testing based on structural equation modeling have been represented in table 8.

Table 8: Results of research hypotheses

Hypothesis	t-statistics	Path coefficient(β)	Determination coefficient(r²)	Result of test
Effect of word-of-mouth advertising on purchase intention	20/21	0/91	0/90	the hypothesis is confirmed
Effect of word-of-mouth advertising on brand image	21/00	0/84	0/91	the hypothesis is confirmed
Effect of word-of-mouth advertising on brand equity	18/99	0/90	0/84	the hypothesis is confirmed
Effect of brand image on purchase intention	19/41	0/88	0/86	the hypothesis is confirmed
Effect of brand equity on purchase intention	19/20	0/93	0/88	the hypothesis is confirmed

Determination coefficient relating to the effect of *word-of-mouth advertising on purchase* intention equals to 0.90, indicating that the variable "*word-of-mouth advertising*" has been able to predict 90% of the changes in the variable "purchase intention". According to the determination coefficient relating to the effect of *word-of-mouth advertising on brand image*, the variable "*word-of-mouth advertising*" has been able to predict 91% of the changes in the variable "*brand image*". Determination coefficient relating to the effect of *word-of-mouth advertising on brand equity* equals to 0.84, indicating that the variable "*word-of-mouth advertising*" has been able to predict 84% of the changes in the variable "*brand equity*". The variable "*brand image*" has been able to predict 86% of the changes in the variable "purchase intention". Finally, determination coefficient relating to the effect of *brand equity on purchase* intention equals to 0.88, indicating that the variable "*brand equity*" has been able to predict 88% of the changes in the variable "purchase intention". As *word-of-mouth advertising is not directly under the control of any organization, taking control over such advertising is much more difficult. The main purpose of this study is to investigate* effect of electronic *word-of-mouth advertising on* brand image, brand equity and purchase intention among consumers of *Apple Electronics* Corporation. Findings indicated that the variable "*word-of-mouth advertising*" through brand image and brand equity affects purchase intention at 99% confidence level. Further, *word-of-mouth advertising directly* affects purchase intention at 99% confidence level.

References

[1] East R, Hammond K, Wright M(2007) " The relative incidence of positive and negative word of mouth : Amulti category study " . International Journal of research in marketing vol 24 , pp 175-184.

[2] Ghafari, Ashtiani , P. , " Development of verbal paradigms of the Third Millennium" , Journal of Management prudence , No. 166 , 2008 .

[3] Hakimara, MA , " communication and propaganda", Tehran : Institute for Humanities Studies, books , 2006.

[4] Jalilvand m. & Samiei N. (2012). The Effect of electronic word of mouth on brand image and purchase intention: An empirical study in the automobile industry in Iran. Journal of Marketing Intelligence &

[5] Mohammadian , Mahmoud, advertising management from the perspective of marketing , first printing, Horoufieh publication

[6] Nakhaee , A. Kheiri , B . (2012) , " The effect of selected factors on purchase intention for buying green products " , Journal of Marketing Management , No. 15 , pp 130-105 .

[7] Rousta Ahmed , Davar Venus , Ebrahimi , A. marketing management , Tehran publication , publication of books, reading and editing of Social Sciences (right), *Humanities* and *Social Sciences organization,* 1996

[8] Serkan A& Gokhan O (2005) "National customer satisfaction indices : an implementation in the Turkish mobile telephone market . Mark Intell plan 23(5) . 486-504

[9] Soleimani Beshli , A. Talebi, V . (2012) " EVALUATION of advertising and price promotion on brand equity " Branding and brand management , BANik.ir