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## Original Article

# Analyzing of Several Factors on WOM and e-WOM with AMOS techniques (Case study: Isfahan city)

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## ABSTRACT

Improve more the business environment, creating a competitive environment; organizations are looking for new ways to increasing your profits. Thus knowing Methods like mouth (WOM) and electronic word-of-mouth (e-WOM) communication in which having a low price for the Organizations that it helps to improve performance is good. Thus, the purpose of the present research is to survey the impact of four factors between WOM and e-WOM. The information gathering tools were old studied Questionnaires. The statistical population consisted of 580 units in Isfahan city; from the 580, 210 were chosen by using stratified randomized sampling. 250 questionnaires were distributed to targeted population. Out of 250 questionnaires we received 202 completed questionnaires. This represents a response rate is quite suitable for this type of study. The research model was evaluations by using SPSS and AMOS techniques. Also the results presented that all of the factors associated with WOM and e-WOM except one factor are supported.

## Introduction

The significance of word-of-mouth (WOM) communication has long been a subject of considerable importance to marketing researchers. Thomas W. Gruen et al. (2006) suggest that "WOM communication is a non-commercial, interpersonal dialog about a product, brand or service between consumers. Resulting research corroborated their findings across various products and services (Engel et al., 1969) as well as distinguishing between effects of positive versus negative WOM (Arndt, 1967; Richins, 1983)". E-WOM refers to the knowledge exchange consumers carry out online. This exchange has a direct relationship on customer faithfulness, which in

turn affects overall value of the company. Therefore, the effect of e-WOM on consumers is gradually receiving increased attention (Gruen et al., 2006). E-WOM takes the forms of posted-views, mailbags, discussion forums, list services, personal e-mail, chat rooms, instant messaging, and blogging. Paul C.S. Wu et al (2011) suggest that "E-WOM differs from commercial advertisements because it is a non-commercial message created by consumers. This message explain direct experiences of consumers and affects the purchasing decisions of other consumers (Godes and Mayzlin, 2004; Park et al., 2007)".

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Thomas W. Gruen et al. (2006) suggest that "WOM has been shown to have an important impact on consumer choice (Engel et al., 1969; Arndt, 1967; Richins, 1983), as well as post purchase product perceptions (Bone, 1995). Importantly, WOM and E-WOM has been shown in situations to be more effective than the traditional marketing tools of personal selling and various types of advertising (Engel et al., 1969)".

One of the primary advantages of E-WOM is the notion of "constant" opportunity to interact with others, regardless of time or place (Grun et al, 2006). Thomas W. Gruen et al. (2006) suggest that "Researchers recognize that by participating in e-WOM, consumers derive both social and economic value (Balasubramanian and Mahajan, 2001) and therefore may have different motivations in using or generating E-WOM (Hennig-Thurau et al., 2004)".

Paul C.S. Wu et al (2011) suggest that "research related to WOM principally focuses on the motivations of consumers to disseminate WOM (Hennig Thurau et al., 2004), factors that influence consumers to use WOM communication (Duhan et al., 1997) and then, There are large in number of factors that can influence the WOM and have been studied previously". Although many studies target WOM, very few have focused on a measure of WOM and E-WOM, especially comparison the effect of each factor between WOM and e-WOM. Thus, the objective of the present research is to develop an understanding of the impact of several factors between WOM and e-WOM. This article is structured as follows: The first section reviews prior research of the concept of WOM and WOM Measure. Subsequent sections are dedicated to the methodology, presentation of our WOM model and hypothesis and then analysis of results, respectively. The paper closes with a discussion and result of findings.

### Literature review

Recent studies have examined WOM on the Internet that below we examine a few of these:

Grun et al (2006) investigated the effects of a specific form of e-WOM communication, customer-to-customer know-how exchange, on customer perceptions of value and customer loyalty intentions. The survey results from 616 participants of an online forum suggested that customer know-how exchange impacts customer perceptions of product value and likelihood to recommend the product, but does not influence customer repurchase intentions. Interestingly, opportunity did not impact know-how exchange, whereas motivation and ability did have a significant effect.

East et al (2008) tested the relative impact of positive WOM (PWOM) and negative WOM (NWOM) on reported brand purchase probability and found that PWOM usually had more effect than NWOM. They displayed that the impact of both PWOM and NWOM had the same determinants with closely similar beta weights, which suggests that these two forms of WOM are similar behaviors. Also, Goyette et al (2010), proposed a measurement scale for word of mouth (e-WOM scale) in the context of electronic service. A battery of statistical tests reveals that the WOM construct encompasses four dimensions: WOM intensity, positive valence WOM, negative valence WOM, and WOM content. They proposed e-WOM scale can be used as a strategic tool for business managers aiming to improve their word-of-mouth marketing strategies.

Sachse and Mangold (2011), examined effects of negative online product reviews, a specific type of WOM communication, on consumer-based brand equity in terms of brand equity dilution. The results of their empirical study provided support for the assumed detrimental effect of negative online product reviews on consumer-based brand equity. In the overhead section, we present the adoption of Literature review that were used as support for the framework proposed in this study. The research model used in this paper is showing in Figure 2.

### Word-of-mouth and Electronic word-of-mouth

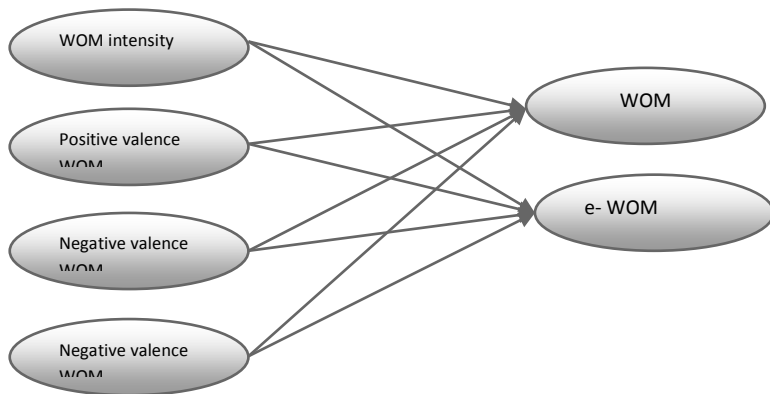
Paul C.S. Wu et al (2011) suggest that "Word-of-mouth is oral person to person communication between a receiver and a sender, which involves a product, service or brand and is a greatly accepted non-commercial information source that has a very big effect on consumer suggestion formation and purchasing decisions (Richins, 1983, Wu et al 2011)". The Word-of-mouth communication was defined as the act of telling at least one friend or acquaintance about the dissatisfaction (Richins, 1983). Goyette, 2010 suggest that "WOM is usually defined as an exchange, flow of information, communication, or conversation between 2 individuals. WOM could be influenced by a marketing effort such as advertising, media relations, and public relations as well as by spontaneous conversations between two individuals and by accounts of satisfactory or unsatisfactory buying experiences (Goyette, 2010)". Word-of-mouth communications can happen face to face, by phone, E-mail, mailing list, or any other means of communication (Silverman, 2001).

In comparison to traditional WOM, E-WOM has 2main advantages. The first lies in its higher diffusion speed for

new pieces of information. In contrast, WOM exchanged electronically can reach a much larger group of other customers. Second, electronic WOM is substantially easier to monitor than traditional WOM, which can only be measured using a relatively tedious process (Reingen & Kernan, 1986).

**Research model and hypotheses**

According to the content expressed, in this paper, we investigate Goyette et al(2010) research model that they identified four major dimensions to measure online word-of-mouth (WOM): (1) WOM intensity (activity, volume, dispersion), (2) positive valence (praise), (3) negative valence, and (4) content; and then we examine effect of this dimensions on WOM and e-WOM. Thus, considering that e-WOM is a new topic in marketing in Iran, our objective here was to develop a multidimensional word of mouth measurement scale between WOM and e-WOM. The model of this paper shows in figure 2.



**Figure 2-** The Research model

According to this model the following hypotheses were considered:

- H1 a. WOM intensity is positively associated with from e-WOM.
- H1 b. WOM intensity is positively associated with from WOM.
- H2 a. Positive valence is positively associated with from e-WOM.
- H2 b. Positive valence is positively associated with from WOM.
- H3 a. Negative valence is negatively associated with from e-WOM.

- H3 b. Negative valence is negatively associated with from WOM.
- H4a. WOM content is positively associated with from e-WOM.
- H4b. WOM content is positively associated with from WOM.

**Methodology**

**Sample**

Table 1 shows demographic data. As it is shown, most of the respondents were male with 26 to 29 years of age and most of them have income between 4000000 to 8000000 Riyal.

**Table1.** Demographic profile of the respondents

Criteria	% Frequency
Gender	
Male	62.2
Female	37.8
Age	
22-25	20
26-29	40
30-33	13.3
34-37	13.3
More than 37	13.3
Income	
Less than 4000 000 Riyal	23.00
4000 001- 8000 000	43.6
8000 001- 12000 000	24.9
More than 12000 000	8.5

**Word-of-Mouth (WOM) Measure**

Paul C.S. Wu et al (2011) suggest that "E-WOM as a way for consumers to share and discuss product and brand application experience. Kotler and Keller (2008) pointed out that message senders must think over the type of message they want to send to target receivers to obtain the expected response and determined that advertisement appeal should show some type of benefit, encouragement, agreement, or reason and why consumers should pay attention to or purchase the product. They classified message appeal into two categories:

- (1) Rational appeal – using consumer benefit as the appeal to present product attribute; and
  - (2) Emotional appeal – appeal that can elicit".
- All the model constructs were measured by multiple items on a five-point Likert-type scales ranging from "1" (totally disagree) to "5" (totally agree). According to

Malhotra (2007), when researchers do not want neutral or indifferent responses, they should use an even number of categories to force a response. In this paper, questionnaires items were adopted from the relevant literature. We used scale with 26 items scale developed by some other researchers to measure the effects of e-WOM communication additionally highlight an important difference between traditional and e-WOM communication.. Finally, the questionnaire was pretested on citizens of Isfahan with an inclination towards WOM and e-WOM. Surveys are distributed and completed in Isfahan city of Iran during the same one-month time period.

**Measurement model**

We examine the internal reliability of scales by Cronbach’s alpha (C-a); which are all higher than 0.7 (Nunnly & Bernstein, 1994). Table 2 shows C-α of every constructs.

**Table 2.**Internal reliability testing

Constructs	C-a
WOM intensity	0.95
Positive valence WOM	0.97
Negative valence WOM	0.94
WOM content	0.93
E-WOM	0.96
WOM	0.80

We assessed the measurement model fit by evaluating: (1) absolute fit measures including observed norme ( $\chi^2/df$ ), goodness of fit index (GFI) and root mean square error of approximation (RMSEA); (2) incremental fit measures including normed fit index (NFI), adjusted goodness of fit (AGFI) and comparative fit index (CFI); and (3) parsimonious fit measures including parsimony goodness-of-fit index (PGFI) and parsimony normed fit index (PNFI). As shown in Table 3, all fit indices met satisfactory levels. Therefore, we can conclude that the model fits the data well and thus is able to explain the research hypotheses.

**Table 3.** Overall fit indices of the CFA model.

Fit index	Scores	Recommended cut-off value
Absolute fit measures	1.472	$\leq 2^*$ ; $\leq 5^{**}$
$\chi^2/df$	0.832	$\leq 0.90^*$ ; $\leq 0.80^{**}$
GFI	0.048	$< 0.08^*$ ; $< 0.10^{**}$
RMSEA		
Incremental fit measures		
NFI	0.898	$\geq 0.90^*$
AGFI	0.804	$\geq 0.90^*$ ; $\geq 0.80^{**}$
CFI	0.965	$\geq 0.90^*$
Parsimonious fit measures		
PGFI	0.72	The higher, the better
PNFI	0.82	The higher, the better

\*Acceptability: acceptable.  
 \*Acceptability: marginal.

The results presented in Figure 3 and Table 4 show (e-WOM) that dimension of positive valence explains the greater part of the variance in the WOM construct ( $\lambda=.85$ ) followed by the dimension of WOM intensity ( $\lambda=.77$ ), content ( $\lambda=.56$ ), and negative valence ( $\lambda=.24$ ). All these coefficients are statistically significant ( $p < 0.01$ ). Also the results presented in Figure 3 and Table 4 show (WOM) that dimension of positive valence explains the greater part of the variance in the WOM construct ( $\lambda=.81$ ) followed by the dimension of WOM intensity ( $\lambda=.63$ ), content ( $\lambda=.66$ ). All these coefficients are statistically significant ( $p < 0.01$ ), but negative valence ( $\lambda=.085$ ) and this coefficient is non-significant ( $p > 0.05$ ).

**Table 4.** Standardized path coefficients

H		E	C.R.	P	R
H <sub>1a</sub>	WOM intensity e-WOM	.768	6.247	< 0.001	Supported
H <sub>1b</sub>	WOM intensity WOM	.625	6.152	< 0.001	Supported
H <sub>2a</sub>	Positive valence e-WOM	.846	7.725	< 0.01	Supported
H <sub>2b</sub>	Positive valence WOM	.801	7.52 2	< 0.01	Supported
H <sub>3a</sub>	Negative valence e-WOM	-.239	-4.411	< 0.01	Supported
H <sub>3b</sub>	Negative valence WOM	-.085	-1.23	0.23	Not Supported

H4a	WOM content	e-WOM	.557	5.717	<0.01	Supported
H4b	WOM content	WOM	.592	5.912	<0.01	Supported

H: Hypotheses. E: Estimate. P R: P Remarks

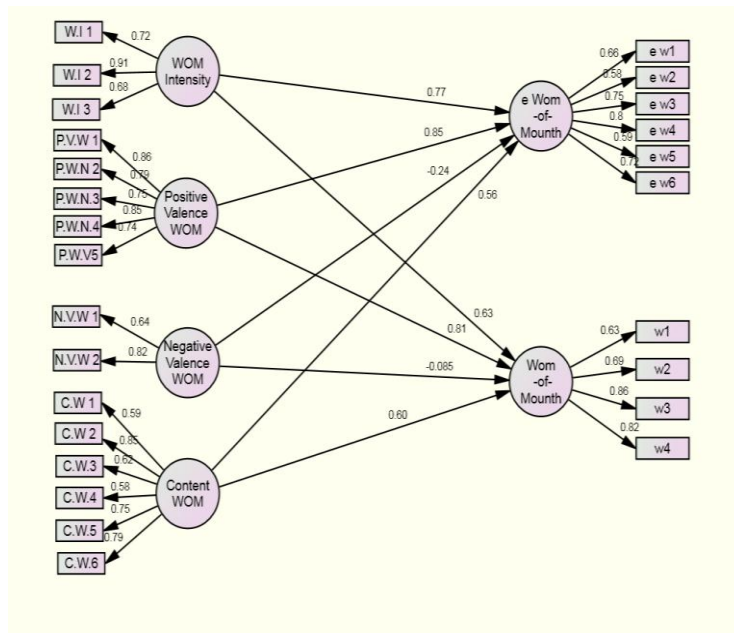


Figure3. Standardized estimates model

**Results**

Philip Kotler write in his book “Marketing Insights from A to Z”; "Marketers advertise their new product’s benefits hoping that they would be believed and carried by word of mouth. But few know how to use experts and their customers to bring in new customers. According to word-of-mouth expert Michael Cafferky: “Word of mouth . . . marches proudly but quietly onward as its Madison Avenue cousins try in vain to replicate its dramatic results Word of mouth is the brain’s low-tech method of sorting through all the high-tech hype that comes to it from the market place". Companies have been turning increasingly to word-of-mouth marketing.

They seek to identify individuals who are early adopters, vocal and curious, and with a large network of acquaintances. When a company brings its new product to the attention of such influentials, the influentials carry on the rest of the work as “unpaid salespeople”. Today we see the rise of “aggregated buzz” in such forms as Zagat, which collects New York restaurant reviews from diners (not restaurant critics) or opinions, where people voice their opinions of products. Soon consumers will be able to tell the good guys from the bad guys and no longer have to rely on advertising.

Caused by advent of the internet, great variation has arisen in the means of interpersonal communication;

anyone can store and transmit heavy information in next to no time and get responses from all internet users immediately, such that transmission of WOM becomes much quicker. (Chevalier & Mayzlin, 2006; Trusov, Bucklin,&Pauwels, 2009). The purpose of the present research was to analyze correlation WOM and E-WOM; we investigated four major dimensions to WOM and e-WOM; include: intensity (activity, volume, and dispersion), positive valence (praise), negative valence, and content. A total of 26 items are initially selected to measure the 4 different constructs in the model (3WOM intensity, 5 positive valences WOM, 2 negative valences WOM and 6 WOM content, 6 Word-of-mouth and 4 electronic word-of-mouths). Spss17 and Amos are employed to analyze the data. Based on the test results, the following conclusions were drawn: Hypotheses H1 a, H1b, H2a, H2b, H3a, H4a, H4b, were accepted while hypotheses H3b was rejected, meaning that WOM intensity, positive valence, and content have influences on WOM and e-WOMs and, however negative valence has influences on WOM but has not influences on e-WOM.

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