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Understanding e-Service Users' WOM Behavior from Expectation Confirmation Perspective

Hongxiu Li
Information Systems Science, Turku School of Economics, University of Turku, Finland, Hongxiu.li@utu.fi

Reima Suomi
Information Systems Science, Turku School of Economics, University of Turku, Finland, reima.suomi@utu.fi

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Reima.suomi@utu.fi

Abstract: Recently WOM has become popular with the penetration of Internet and the popularity of social media, and attracted the attention of IS researchers. This study develops a model to explore the factors motivating e-service users' WOM behavior from the expectation confirmation paradigm together with trust. The research model was empirical tested with 543 valid responses from the online travel service users. The research results indicate that perceived usefulness and user satisfaction affect e-service users' WOM behavior positively together with trust. Perceived usefulness was found to exert the strongest influence on WOM than satisfaction and trust. The implications to theories and practice are discussed as well.

Keywords: WOM, ECT, satisfaction, trust, e-service.

1. INTRODUCTION

In recent years, the penetration of Internet and the popularity of social media have made Word of Mouth (WOM) to be popular. Consumers produced extensive user generated content or WOM via online channels to share their experience with others [1] [2]. Meanwhile, more and more individuals rely heavily on WOM to make their decisions. WOM has become the most important information sources that help consumers reduce uncertainty and improve confidence on purchasing products or services [3].

The popularity of WOM has stimulated research efforts in studying the impact of WOM in business field through the theoretical lens of both marketing and information systems (IS) [4-6]. Prior research found that WOM significantly affects the marketing outcome; such as improving the popularity of TV shows, increasing the retail sales volume and revenues [7-9]. As Lee and Youn [10] indicated that some business companies even compensate consumers for their reviews of their products or services as they understand that WOM can help increase sales and attract new users. As stated in the Wall Street Journal, "Instead of tossing away millions of dollars on Superbowl advertisements, fledgling dot-com companies are trying to catch attention through much cheaper marketing strategies such as blogging and [WOM] campaigns" [11] (p. B2A).

Though prior research has investigated the impact of WOM in business in the IS domain, few studies have attempted to explore what motivates IS users to recommendation the IS they are using to others, such as e-services. E-service providers are pushing WOM marketing in their business, but they are not provided with evidence from the IS literature what determines e-service users' WOM behavior. Hence, it is imperative to examine the factors motivating IS users' WOM with both academic and industry significance.

In the marketing literature, prior research found that perceived usefulness and satisfaction are the dominant factors determining consumers' WOM behavior [12-15]. In the IS field, WOM research is a new topic. In IS literature, the IS post-acceptance model [16] based expectation confirmation theory (ECT) [17] has been widely employed to explore IS users' post-adoption behavior as perceived usefulness and satisfaction are suggested to be the salient factors determining IS users' post-adoption behavior after their use of an IS, such as continuance

intention, continuance use, switching and willingness-to-pay. WOM also refers to IS users' another post adoption behavior [2]. The widespread use of the IS post-acceptance model based on ECT makes it reasonable for us to use it as the theoretical framework to explore the other post-adoption behavior from the expectation confirmation paradigm, such as WOM. In fact, little research has investigated WOM from the expectation confirmation perspective in the IS literature. Thus, in this research we employ the IS post-acceptance model based on ECT as the research framework and extend it by adding trust in the model as trust is also argued to be an important factor predicting WOM behavior of consumers [18, 19]. In addition, the independent variable in the research model (continuance intention) has been replaced by another post-adoption behavior, WOM.

This research aims at exploring whether individuals would like to make WOM to others based the expectation confirmation in their IS use experience and to see whether the expectation confirmation theory is a good theory to explain the WOM behavior of IS users. This proposed research model is tested in the research context of online travel service.

The remainder of the paper is structured as following: In Section 2 we present a theoretical review on the IS post-acceptance model based on ECT, and propose our research model and research hypotheses. In Section 3 we describe the research methodology. In Section 4 we discuss the findings of the current study. In Section 5 we make conclusions based on the research findings in this research. Finally, the limitations of this study and the implications for future research are discussed.

2.   RESEARCH BACKGROUND AND RESEARCH MODEL
2.1 IS post-acceptance model based on ECT

In the marketing literature, ECT has been widely used to investigate consumer behavior, such as satisfaction, post-purchase behavior, and service marketing [20, 21]. ECT posits that consumer satisfaction with their prior use of a product/service determines their intention to repurchase a product/service [12, 22].

Bhattacherjee [16] introduced ECT to the IS field and proposed an IS post-acceptance model based on ECT. In the IS post-acceptance model, user satisfaction with their prior IS use and user perception on the IS usefulness affect user's continuance intention to use the IS. User satisfaction is determined by the perceived usefulness of the IS and the confirmation of expectations based on prior IS use. In addition, IS users' confirmation of expectations has a positive influence on the perceived usefulness of IS. Figure 1 illustrates the core constructs and relationships in the IS continuance model.

Figure 1.   IS post-acceptance model based on ECT [16]

The IS post-acceptance model was empirically validated in the context of online banking services, and found to account for 41% of the variance of IS continuance intention [16]. Later, the model has been widely applied to examine IS users' continuance intention in different research contexts, such as e-learning[23], e-banking [24], e-commerce [25, 26], e-government [27], and virtual communities [28].

Some research also tried to extend the IS continuance model in order to deeply understand IS users' post-adoption behavior. Such as Chea and Luo [29] extended the IS continuance model to examine IS users'

different post-adoption behaviors, including continuance intention, recommendation and complaint. Liao et al. [23] added attitude into the IS continuance model as a construct to predicting IS continuance intention together with perceived usefulness and satisfaction, and found that user satisfaction and their attitude to IS determines their IS continuance intention. Li and Liu [2] extended the IS continuance model to explore both WOM behavior and IS continuance behavior of IS use, and found that the model can help explain IS users' WOM behavior.

2.2 Research model and research hypotheses

As Li and Liu [2] indicated that IS users make their post-adoption decisions based on their prior IS use experience, such as continuance intention, WOM, complaints, switching intention or willingness-to-pay. Thus, we proposed our research model and hypotheses based on the IS post-acceptance model by replacing IS continuance intention with WOM.

In the IS literature perceived usefulness has been assumed to be an salient factor predicting user satisfaction with IS use in different IS theories, such as the IS continuance model, the IS success model [30]. As Bhattacherjee [16] stated that user perception on the usefulness of IS is expected to have an impact on user satisfaction with IS from the expectancy-confirmation paradigm. The positive relationship between perceived usefulness and satisfaction from the expectation-confirmation perspective has been empirically validated in various research contexts [23, 24, 27]. Rai et al. [31] also empirically test the relationship between perceive usefulness and user satisfaction with IS from the IS success perspective and found perceived usefulness positively affects user satisfaction. Thus, it is proposed that:

H1: Perceived usefulness positively affects user satisfaction with e-services.

According to Bhattacherjee [16], confirmation is a prerequisite of user satisfaction and perceived usefulness. Bhattacherjee [16] posits that IS users' confirmation of expectations in their prior IS use exerts a positive influence on their perception of the usefulness of an IS. As he stated that user perception of the usefulness of an IS will be adjusted in their IS use process according to IS user's confirmation experience in their prior IS usage, especially when users are not sure of what to expect from their initial IS usage and their perceptions on the perceived usefulness is not concrete at the initial IS usage stage [32]. Prior literature has empirically validated the positive correlation between confirmation and perceived usefulness in different contexts [23, 27, 33]. Hence, it is assumed that:

H2: The extent of the confirmation of user expectations positively affects user satisfaction with e-services.

The casual link between confirmation and satisfaction has been demonstrated in the marketing literature. According to Bhattacherjee [16], IS user satisfaction refers to how IS users are affected by or feel about their prior IS use. IS users will obtain expected benefits in their IS use and their expectations about IS use might be confirmed in there IS use experience [16]. The confirmation of expectations in their prior IS use experience will exert a positive effect on user satisfaction with the IS. Prior research based on the IS post-acceptance model has empirically validated the association between confirmation and satisfaction in the contexts of Web 2.0 [34], mobile Internet [35] and e-learning [36]. Hence, it is assumed:

H3: The extent of the confirmation of user expectations positively affects the perceived usefulness of e-services.

Following Mangold et al. [15], normally the most useful service options are recommended to others by customers. Prior marketing research found that some factors related to products or services can influence consumers' WOM behavior, such as perceived risks, perceived usefulness or performance [37, 38]. Moldovan et al. [14] tested the relationship between perceived usefulness and WOM behavior in the IS literature with empirical data from the online shopping context and found that perceived usefulness affects WOM positively. Li et al. (2011) also validated the relationship between perceived usefulness and WOM in the research context of online

travel service[2]. Thus, in this study, perceived usefulness is expected to exert impact on e-service users' WOM behavior, and the following hypothesis is proposed:

H4: Perceived usefulness positively affects users' WOM behavior regarding an e-service.

Prior research has assumed user satisfaction to be a main factor motivating the WOM behaviour of online users [2, 29, 39]. In another word, satisfied users are more likely to make WOM and recommend a product or service to others. Prior IS research has empirically validate the association between satisfaction and WOM in different research contexts, such as online travel service [40] and e-learning [23]. Prior research findings offers grounds for us to assume that satisfied e-service customers are more likely to recommend an e-service to others. Thus, the following hypothesis is proposed:

H5: User satisfaction positively affects users' WOM behavior regarding an e-service.

A significant body of research has utilized the satisfaction theory to explain WOM behavior of IS users. As Selnes [41] indicated that trust can motivate users to improve the relationship between the sellers or service providers. Some research has explored the relationship between trust and different consumer behavior, such as repurchasing, continuance intention, WOM and loyalty. Kim et al. [18] explore the relationship between trust and WOM behavior of service consumers and found that trust affects WOM significantly. In light of the aforementioned evidence, we expected that trust will also have positive impact on e-service users' WOM behavior, and the following hypothesis is suggested:

H6: User trust positively affects users' WOM behavior regarding an e-service.

Prior literature suggests that satisfaction is strongly associated with user trust. According to Zucker [42], satisfactory experience in the prior usage behaviors is essential in building trust among customers. If customers are satisfied with their prior service encounter, customers will be convinced of the competence and benevolence of the service provider, and lead to their trust to the service provider. The relationship between satisfaction and trust has been empirically validated in different research contexts, such as B2B service [43], online retailing [44], ERP service [45]. Similarly, it seems to be reasonable that online travel service users who are more satisfied with their prior usage of the e-services tend to have higher trust to the e-service, and the following hypothesis is proposed:

H7: User satisfaction positively affects user trust to an e-service.

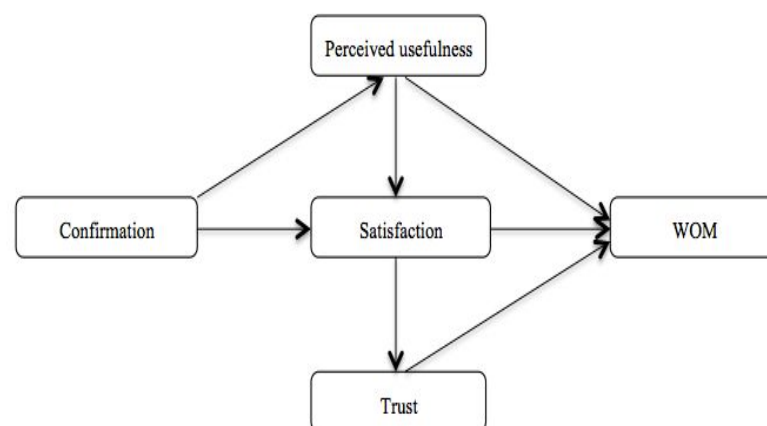Figure 2 presents the research model as well as research hypotheses.

Figure 2.   Research model

3.   RESEARCH METHODS

3.1 Data collection

In this research we employed survey method to explore e-service users' WOM behavior. Based on a

literature review of prior research on IS post-acceptance model and WOM behavior, we developed a questionnaire for data collection. In this research we choose online travel service as the subject for survey since online travel services have already been widely used by individuals and WOM behavior is also popular among online travel service users.

The empirical data was collected via surveying customers of an online travel service company in China. 1500 customers randomly selected from the customer base of the online travel service company were invited to join in the data collection in the research. The respondents were asked to indicate the motivators for them to make recommendation (WOM) of the online travel services they have used to others based on their prior use experience. Totally we received 543 valid responses, and they were used as the valid data base of this study.

The respondent group ranges from 18 to 65 years old in age, 61.9% male and 38.1% female, and the majority (90%) of the respondent ranges from 18 to 45. More details about the respondents' demographic information profile are presented in Table 1.

Table 1.   Respondent profile

Demographic profile	Category	Frequency	Percentage (%)
Gender	Male	336	61.9
	Female	207	38.1
Age	18-25	172	31.6
	26-35	165	30.4
	36-45	152	28.0
	46-55	34	6.3
	56-65	20	3.7
Education	College student	104	19.2
	Bachelor's level	287	52.9
	Master's level	114	21.0
	Ph.D level	38	7.0
Internet use experience	More than 2 years	82	15.1
	More than 3 years	461	84.9
Online travel service booking experience	1-5 times	232	42.7
	More than 5 times	311	57.3

3.2 Measurement

In this study, five constructs are included in the research models, including confirmation, perceived usefulness, satisfaction, trust and WOM. All the five constructs included in the research model are measured with multiple items. The items are mainly adapted from the existing IS literature with some modification in order to relate specifically to the research context of online travel service. A five-point Likert-scale ranging from strongly disagree (1) to strongly agree (5) was used to measure each item included in the research instrument.

Specifically, the four items of construct WOM were measured using the items adapted from Dolen et al. [46] and Maxham [47]. The items of user satisfaction, confirmation and perceived usefulness were measured taking the items from Bhattacherjee [16]. Trust was measuring using the items adapted from Gefen [48].

3.3 Data validity and reliability

In this research we applied Partial Least Squares (PLS) path modeling to evaluate both the measurement model and the structural parameters in the research model.

We test the convergent validity and discriminant validity of our research instrument. Convergent validity

evaluates the degrees to which the items of a scale that are assumed to be theoretically associated are also related in reality, whereas discriminant validity indicates whether the items of a scale reflect the construct in question or reflect another related construct.

As shown in Table 2, the factor loadings of all the measures in the research model are satisfactory with the cut-off value above 0.7, except for two whose results are acceptable with the cut-off value between 0.5 and 0.7 [49]. The values of CR of all constructs satisfy the recommended threshold values of 0.8. The values of AVE for all constructs also satisfy the recommended threshold values of 0.5 for AVE. The Cronbach's alpha values all satisfy the threshold value of 0.7. Thus, the test results show a good internal consistency and reliability of the research instrument, supporting the convergent validity of the research data [50-52].

Table 2.   The Measurement Model

Construct	Items	CR	AVE	Cronbach's alpha	Factor Loading	t-value
Perceived Usefulness	PU1	0.806	0.512	0.707	0.741	23.840
	PU2				0.799	28.042
	PU3				0.716	19.046
	PU4				0.589	10.542
Satisfaction	SAT1	0.823	0.609	0.703	0.799	30.717
	SAT2				0.786	28.991
	SAT3				0.756	28.888
Confirmation	CON1	0.816	0.599	0.721	0.702	10.960
	CON2				0.878	43.937
	CON3				0.797	13.442
Trust	TRU1	0.831	0.614	0.701	0.943	39.672
	TRU2				0.735	10.886
Word of Mouth	WOM1	0.806	0.520	0.747	0.798	32.873
	WOM2				0.894	43.196
	WOM3				0.577	5.836
	WOM4				0.589	6.647

As shown in Table 3, each construct in the proposed research model shares a greater variance with its own reflective construct than with any other construct in the research model. As Fornell and Larcker [52] indicated that if the variances of the square root of the average variance extracted for each construct are higher than any correlation between this construct and any other construct, the discriminant validity is supported.

We further conducted a cross-loading method to assess the discriminant validity. As indicated in Table 4, each item loads higher with the variables it is intended to measure than with other variables, satisfying the criteria for discriminant validity suggested by Chin [53].

Table 3.   Correlation Matrix and Discriminant Assessment

	PU	SAT	CON	TRU	WOM
PU	**0.698**				
SAT	0.431	**0.631**			
CON	0.178	0.306	**0.632**		
TRU	0.355	0.285	0.004	**0.621**	
WOM	0.431	0.392	0.232	0.285	**0.692**

Note: The bold diagonal are the square roots of the AVEs of the individual constructs; off diagonal values are the

correlations between constructs.

Table 4   Loadings and Cross loadings of the research scales

Items	PU	SAT	CON	TRU	WOM
PU1	**0.741**	0.379	0.130	0.282	0.248
PU2	**0.799**	0.365	0.164	0.199	0.394
PU3	**0.716**	0.260	0.082	0.379	0.284
PU4	**0.589**	0.211	0.122	0.170	0.301
SAT1	0.408	**0.799**	0.377	0.196	0.324
SAT2	0.332	**0.786**	0.055	0.190	0.327
SAT3	0.248	**0.756**	0.239	0.236	0.267
CON1	0.017	0.192	**0.702**	0.038	0.188
CON2	0.191	0.311	**0.878**	0.032	0.128
CON3	0.157	0.183	**0.797**	0.067	0.269
TRU1	0.315	0.229	0.061	**0.943**	0.313
TRU2	0.292	0.231	0.077	**0.735**	0.153
WOM1	0.307	0.248	0.197	0.284	**0.798**
WOM2	0.468	0.407	0.186	0.305	**0.894**
WOM3	0.132	0.023	0.196	0.078	**0.577**
WOM4	0.142	0.260	0.156	0.048	**0.589**

4.   RESEARCH RESULT

Based on the test result, we found that all our proposed hypotheses are supported (See Figure 3).
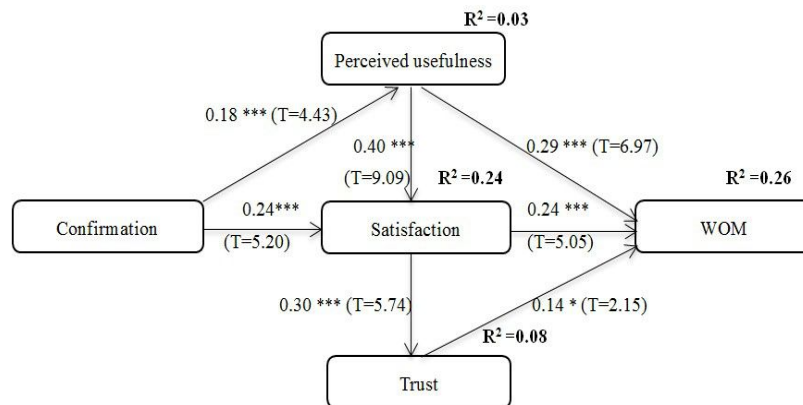
Figure 3.   Research results (*: $p<0.05$; ***: $p<0.001$**)**

Satisfaction ($\beta=0.24$, $p<0.001$), perceived usefulness ($\beta=0.29$, $p<0.001$) and trust ($\beta=0.14$, $p<0.05$) are found to exert positive influence on WOM significantly. Perceived usefulness ($\beta=0.40$, $p<0.001$) affects e-service user satisfaction significantly, and satisfaction (($\beta=0.30$, $p<0.001$)) is found to affect trust. Confirmation has positive impact on perceived usefulness ($\beta=0.18$, $p<0.001$) and satisfaction ($\beta=0.24$ $p<0.001$). The proposed research model accounts for 26 per cent of the variance of WOM, 24 per cent of the variance of satisfaction, and 8 per cent of the variance of trust and 3 per cent of the variance of perceived usefulness.

5.   DISCUSSION AND CONCLUSIONS

The study aims at exploring the factors motivating e-service users WOM behavior employing the IS

post-acceptance model as the basic research framework.

In this study perceived usefulness, user satisfaction and trust are found to be the three factors motivating e-service users' WOM behavior. Of the three factors, perceived usefulness was found to exert the strongest impact on WOM behavior directly and also affect WOM indirectly via user satisfaction. The research results indicate that e-service users' WOM behavior is mainly determined by e-service users' positive perceptions on the usefulness of e-service. In another word, when e-service users perceive an e-service to be more useful, they are more intend to recommend the e-service to other.

In the current study satisfaction are found to exert strong influence on WOM behaivor, but not as strong as that of perceived usefulness. The finding is consistent with the prior findings of Li et al. [40], but contrast to some other research findings on user satisfaction as a salient factor motivating e-service users' WOM behavior [29, 39].

In this study user satisfaction was found to lead to user trust to e-service, which in turn motivates e-service users' WOM. The finding is consistent with the prior finding that user satisfaction in their prior experience is essencial in customer trust building. An interesting finding is that trust is not the maim motivator of e-service users' WOM compared to the influence of perceived usefulness and user satisfaction in pridicting their WOM behavior. It might be due to the fact that e-service is popular in individuals' daily lives, and e-service users trust e-service much more than before.

The research results indicate that e-service users will make WOM or recommendation of e-service to others based on their perceptions of the usefulness from their confirmed e-service use experience, their satisfaction with the e-service from their prior use expeirence, and their trust to e-service. User satisfaction and trust refers to user's attitute towards e-services. Thus, we conclude that the utilitarian attibute of e-service and users' attitude towards e-services detemines their recommendation or WOM of the e-service to others, and users care more about the utilitarian attibutes of e-service compared to their attitude towards e-services when they make recommendations of the e-service to others.

This is one of the first studies trying to explore the motivators of WOM behavior of e-service users from the expectation confirmtion paradigm. The research finding implies that IS post-acceptance model based on ECT is not only a good theoretical model to explain IS continuance behavior, but also other post-acoption behavior of IS users, such as WOM,

The research findings also offer some practical guideline to e-service providers on how to make their WOM marketing strategies. Offering good service and keeping their service promises are important for e-service providers to realize WOM marketing via their current customers.

6.   LIMITATIONS AND FUTURE RESEARCH

The same as other research, this study involves some limitations that need to be acknowledged. First, this research was conducted in research context of online travel services. This gives a possible avenue for future studies to research on different research context to see the explanatory power of IS post-acceptance model based on ECT in predicting WOM behavior of e-service users. Second, other factors should be considered in WOM research, such as service quality, perceived risks and so on.

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