ARTICLE

The impact of electronic word-of-mouth

The adoption of online opinions in online customer communities

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Abstract

Purpose – Web-based technologies have created numerous opportunities for electronic word-of-mouth (eWOM) communication. This phenomenon impacts online retailers as this easily accessible information could greatly affect the online consumption decision. The purpose of this paper is to examine the extent to which opinion seekers are willing to accept and adopt online consumer reviews and which factors encourage adoption.

Design/methodology/approach – Using dual-process theories, an information adoption model was developed to examine the factors affecting information adoption of online opinion seekers in online customer communities. The model was tested empirically using a sample of 154 users who had experience within the online customer community, Openrice.com. Users were required to complete a survey regarding the online consumer reviews received from the virtual sharing platform.

Findings – The paper found comprehensiveness and relevance to be the most effective components of the argument quality construct of the research model, making them key influencers of information adoption.

Research limitations/implications – Only 46 per cent of the variance is explained by the constructs due to its intentional simplicity. This would indicate that there are more actors in motivating information adoption than solely information usefulness. A closer look should be taken at the effectiveness of some of the other motivational factors suggested in the previous research on this topic.

Practical implications – The paper outlines ways to effectively promote one's business or cause through online customer communities, as well as general tips for web site and forum moderators for facilitating such presentation in a manner useful to the members of their online communities.

Originality/value – This paper is one of the first to develop and empirically test a theory-driven information adoption model for opinion seekers in online customer communities. It also uniquely breaks down and tests the components of argument quality to discern the important motivating factors.

Keywords Internet, Electronic commerce, Consumer behaviour

Paper type Research paper

Introduction

In a time where Web 2.0 applications are starting to infiltrate every aspect of our lives, retailers are looking for the opportunities to unleash the power of this new marketing channel to promote their products and services. In particular, the web has created the

opportunities for electronic word-of-mouth (eWOM) communication through electronic media, such as online discussion forums, electronic bulletin board systems, newsgroups, blogs, review sites, and social networking sites (Goldsmith, 2006). eWOM communication through electronic media allows consumers to not only obtain information related to goods and services from the few people they know, but also from a vast, geographically dispersed group of people, who have experience with relevant products or services (Ratchford et al., 2001; Lee et al., 2006).

A recent survey found that most consumers perceive online opinions to be as trustworthy as brand web sites (ACNielson, 2007). Rowley (2001) also proposed that commercial enterprises should try organizing online communities rather than to simply advertise on the Internet. These studies indicate how great of a potential impact eWOM can have on the consumer decision process.

Consumer knowledge sharing in the Internet environment has been a popular research area in recent years (Rafaeli and Raban, 2005; Lee et al., 2006). Current studies mostly focused on the factors driving consumers to share knowledge/information, but very little attention was paid on the factors driving consumers to use online consumer reviews for purchase decisions. As a marketing researcher and practitioner, it is essential to investigate this phenomenon of information sharing in online communities. Discerning the most motivating aspects of information adoption in particular, could help electronic marketers better promote their brand and presence on the net. This study could surely help them as well as pave the way for future research on the topic. The objective of this study is to investigate how eWOM in online customer communities affects the consumption decision by discovering which factors encourage information adoption. Online community moderators may also benefit from this study by seeing how to better manage their web site for facilitating information adoption and electronic word-of-mouth.

The rest of this paper is organized as below. First, we provide a review on the literature related to electronic word-of-mouth and information adoption. Second, we introduce the research model and hypotheses. Next, we describe the research methodology and discuss the statistical results. Finally, we summarize the findings and discuss the implications for both research and practice.

Literature review

In this section, we will provide an overview of the literature on electronic word-of-mouth and how it influences purchasing decisions. We will also review the relevant literature relating to information adoption model, information quality, and source credibility.

Electronic word-of-mouth (eWOM)

Traditional word-of-mouth (WOM) has proven to play a major role in consumer buying decisions by influencing consumer choice (Katz and Lazarfeld, 1955; Arndt, 1967; Engel et al., 1969; Richins, 1983; Richins and Root-Shaffer, 1988). Past research has also illustrated that WOM is more effective than traditional marketing tools of personal selling and conventional advertising media (Katz and Lazarfeld, 1955; Engel et al., 1969). It has therefore for long been an important element for marketing researchers and practitioners.

Electronic word-of-mouth (eWOM) communication refers to any positive or negative statement made by potential, actual, or former customers about a product or

company, which is made available to a multitude of people and institutions via the Internet (Hennig-Thurau *et al.*, 2004). It can also be considered as the extension of traditional interpersonal communication into the new generation of cyberspace. It has been the focus of a great deal of marketing and consumer research, specifically how eWOM influences consumption. Stauss (1997, 2000) discussed the threats and opportunities for businesses brought about by the rise in online customer articulations. Senecal and Nantel (2004) examined how eWOM influences product choice using an experimental study of consumers' use of online recommendation sources.

The various platforms themselves, which facilitate eWOM such as discussion boards and other online communication tools are also increasingly being recognized for how they influence the adoption and use of products and services (Subramani and Rajagopalan, 2003). Researchers are interested in investigating the motives for seeking eWOM (e.g. Goldsmith, 2006; Goldsmith and Horowitz, 2006) and for sharing or articulating the eWOM (e.g. Hennig-Thurau *et al.*, 2004; Lee *et al.*, 2006), providing implications for marketers to better understand online consumer behavior. The above studies spell out the reality that eWOM has become a permanent element of the online marketing mix by contributing a great deal to the purchasing decisions of online consumers.

Information adoption model

Although eWOM creates a basic information transfer, the actual impact of the information received may vary person to person. The same content can engender very different responses in different recipients (Chaiken and Eagly, 1976), depending on the recipients' perceptions, experience and sources. This led researchers to gain interest in the information adoption process to understand the extent of informational influence on people. The information adoption process is of course, the internalization phase of knowledge transfer, in which explicit information is transformed into internalized knowledge and meaning (Nonaka, 1994).

In the existing information systems literature, dual process theories are used to explain how people are influenced in adopting ideas, knowledge or information (Sussman and Siegal, 2003; Bhattacherjee and Sanford, 2006). Sussman and Siegal (2003) adopted the elaboration likelihood model (ELM) and proposed a theoretical model of information adoption to explain how people are influenced to adopt information posted in computer-mediated communication (CMC) contexts. ELM posits that a message can influence people's attitudes and behaviors two ways: centrally and peripherally. The former refers to the nature of arguments in the message while the latter refers to issues or themes that are not directly related to the subject matter of the message (Petty and Cacioppo, 1986). When applied in a CMC context, the information adoption model has two key propositions: First, the information adoption model considers argument quality (information quality) as the central influence and source credibility as the peripheral influence (Sussman and Siegal, 2003). Figure 1 presents the information adoption model.

Information quality and source credibility

The importance of information quality and source credibility has also been highlighted and strongly validated in prior research on information seeking (e.g. Rieh, 2002; Zhang

and Watts, 2003; Davy, 2006; Hong, 2006; Xu *et al.*, 2006; Cheung and Lee, 2007; Sundar *et al.*, 2007).

Information quality has long been discussed in the context of information systems. With the ability to publish information now in the hands of almost anyone, the quality of some online information will inevitably be diminished. Argument quality refers to the persuasive strength of arguments embedded in an informational message (Bhattacherjee and Sanford, 2006). This is the value of the output produced by a system as perceived by the user (Negash *et al.*, 2002). Within the end-user computing context, the quality of information is basically evaluated in terms of the information content, accuracy, format, and timeliness (Doll and Torkzadeh, 1988). In line with the advent and proliferation of Internet shopping, researchers began to extend existing information quality dimensions. DeLone and McLean (2003) pointed out that accuracy, relevance, understandability, completeness, currency, dynamism, personalization, and variety are the information quality measures used in recent e-commerce studies. In McKinney *et al.*'s (2002) web satisfaction model, understandability, reliability, and usefulness of information are the three key dimensions related to information quality.

Source credibility refers to a message recipient's perception of the credibility of a message source, reflecting nothing about the message itself (Chaiken, 1980). It is defined as the extent to which an information source is perceived to be believable, competent, and trustworthy by information recipients (Petty and Cacioppo, 1986). The role of credibility in informational influence has been found to most significantly alter a recipients' opinion in the direction advocated by the communicator when the material was attributed to high-credibility source than when it was attributed to a low-credibility source (Hovland, 1951; Hovland *et al.*, 1953). In addition, Eagly and Chaiken (1993) found that the persuasiveness of a message depends on the number of positive attributes the communicators possess. Information provided by highly credible sources is perceived to be useful and reliable, and thereby facilitates knowledge transfer (Ko *et al.*, 2005).

Research model and statement of hypotheses

Figure 2 depicts the research model used in this study, explaining the determinants of information adoption level within an online consumer community. This research model was built upon the information adoption model (Sussman and Siegal, 2003). It examines individual relationships between argument quality, source credibility, information usefulness, and information adoption. Further analysis will be discussed regarding the components of argument quality and source credibility.
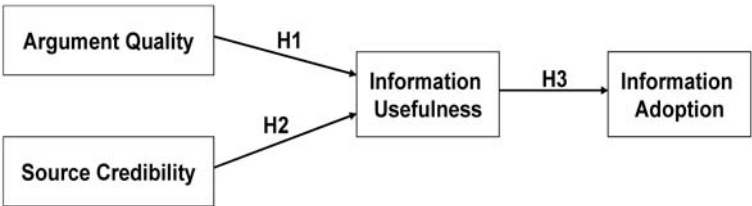

Figure 1.
Information adoption
model

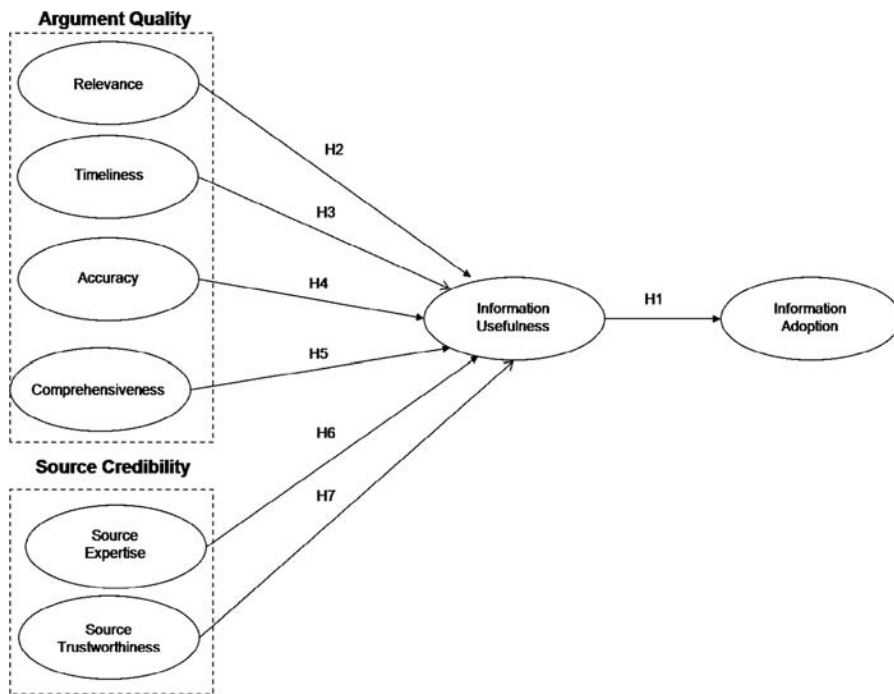**Source:** Sussman and Siegal (2003)

Figure 2.
The research model

Information adoption and information usefulness
Information adoption is a process in which people purposefully engage in using information. Information adoption behavior is one of the principal activities that users seek to conduct in virtual communities. An example would be users scanning the opinions and comments posted by others before they make a buying decision (Pitta and Fowler, 2005). Similarly, they solicit a virtual community for help by posting questions when they have queries (Sussman and Siegal, 2003). According to the "China Internet Community User Development Report 2006" (iResearch Consulting Group, 2006), 70 per cent of community users in China rated "Content" as the most important factor for an attractive virtual community. The specific cognitive beliefs of information adoption behavior in virtual communities are, therefore, essential to investigating the impact of electronic word-of-mouth.

Perceived usefulness refers to the individual's perception that using the new technology will enhance or improve his/her performance. It is a fundamental predictor of user adoption, with significant correlations to both current and future self-reported system usage (Davis, 1989, 1993). Within the virtual platform, new ideas and opinions about products or services may be articulated. People would carry individual perception of whether these opinions could be useful to help them to make a better buying decision. Therefore, if others think that a comment within an online community is useful, they will have greater intention of adopting the comment. The perceptions of usefulness of opinions would predict intentions towards adopting that idea:

H1. Messages perceived to contain information of high usefulness will result in higher levels of information adoption than messages perceived to contain information of low usefulness.

Argument quality/information quality

In a computer-mediated environment, consumer-purchasing decisions of products and services can be determined by the perceived quality of information they receive. When customers perceive that the information meets their needs and requirements, they are willing to critique the value of each product or service based on their purchase decision criteria (Olshavsky, 1985). Therefore, determining customers' perception of information quality on the web is an important element for assessing their potential buying behavior. More and more research about online information quality is currently taking place. In the current study, we used the four commonly used dimensions of information quality: relevance, timeliness, accuracy, and comprehensiveness.

Relevance of messages is important as most Internet users are conscious of their time. Madu and Madu (2002) urged that Internet users rarely read web pages in detail but rather scan the pages to find the information they need. Users want to find the information that they want quickly and with little effort (Nah and Davis, 2002). It is therefore important to have only the most relevant information present in the online community. Dunk (2004) also suggested that relevance is an important element in decision making. Therefore, the more relevant the messages are, the higher the perceived information usefulness of the message:

H2. The higher the perceived relevance of a message, the more useful the message will be perceived to be.

Timeliness of messages concerns whether the messages are current, timely, and up-to-date. Madu and Madu (2002) urged that when the web site is not updated consistently, the web site cannot deliver the expected performance and therefore provide no added value to users. Therefore, the more timely the messages are, the higher the perceived information usefulness of the message:

H3. The higher the perceived timeliness of a message, the more useful the message will be perceived to be.

Accuracy of messages concerns their reliability. It also represents user's perception that the information is correct (Wixom and Todd, 2005). According to media richness theory (Daft and Lengel, 1986), quality, accuracy, and reliability of the information exchanged are important across a medium. The more accurate the messages are, the higher the perceived information usefulness of the message:

H4. The higher the perceived accuracy of a message, the more useful the message will be perceived to be.

Comprehensiveness of messages refers to their completeness. Sullivan (1999) suggested that the more detailed the information, the wider the breadth of user categories and user-orientation of that web site, and thus resulting in a greater likelihood of user acquisition and retention. The more comprehensive the messages are, the higher the perceived information usefulness of the message:

H5. The higher the perceived comprehensiveness of a message, the more useful the message will be perceived to be.

Source credibility
Past research suggests that individuals following the peripheral route can be influenced by the source's attractiveness, likeability, and credibility. In the current study, source expertise and source trustworthiness are the two key dimensions of source credibility for in-depth investigation.

In the online environment, people have almost unlimited freedom to publish and express their feelings towards certain products or services without disclosing his/her real identity. It is therefore left up to users to determine the expertise and trustworthiness of the contributors in order to either adopt or reject the information presented. If the consumer thinks that the comments are posted by high-credibility (high degree of expertise and trustworthiness) individuals, he/she will then have a higher perception of the usefulness of the comments:

H6. The higher the perceived expertise of a message source, the more useful the message will be perceived to be.

H7. The higher the perceived trustworthiness of a message source, the more useful the message will be perceived to be.

Research methodology
As this study focuses on the factors affecting information adoption within online consumer opinion platforms, the research model was tested based on an existing online consumer community, Openrice.com. Openrice.com is a platform used for sharing information about restaurants and food in Hong Kong. Details about OpenRice.com, data collection methods, demographic data and measures will be discussed in the following sections.

Openrice.com
OpenRice.com (www.openrice.com) is an online virtual opinion platform about food and restaurants, which was founded by a group of food enthusiasts in 1999. It shares information about 10,000 restaurants in both Hong Kong and Macau with over 30,000 members. Figure 3 shows the screenshot of the Openrice.com homepage. Within the main page, there are icons with rankings of the top 10 restaurants, the top 100 members and the latest comments. By clicking these icons, users are able to search for restaurants and comments more easily. OpenRice.com provides a search engine function, allowing users to search for the particular restaurant or style of food they want. Figure 4 demonstrates the search function of the web site. Users are able to search for restaurants based on cuisine, dishes, price ranges and location of the restaurants, etc. After selecting a particular restaurant, user comments, rankings and opinions are listed. Figure 5 shows the layout of the comment listing area.

Data collection
The target respondents of this study were individuals who visit particular virtual opinion platforms and who are influenced by the comments shared within the platform.

Figure 3.
Screenshot of the Openrice.com homepage

Figure 4.
Screenshot of the search engine of Openrice.com

As OpenRice.com was chosen as our test virtual community, the respondents should have had some experience with OpenRice.com

The questionnaire was divided into different parts, each examining the factors affecting information adoption from online communities. These were mainly the quality of the comments, source credibility and information usefulness. The degree of information adoption was also asked in the questionnaire, to see if the comments affected buying decision and induced them to take any consumption action. Finally,

Figure 5.
Screenshot of one of the
comments in
Openrice.com

demographic information was asked, including average monthly income and information on dining habits.

The sample of respondents consisted of both students and members of the workforce from all age groups. There was no significant difference in the usage of OpenRice.com between the two groups of respondents. A total of 154 usable questionnaires were returned. The respondents were asked to complete the questionnaire based on their experience with OpenRice.com

Demographic data
The gender ratio of the respondents was 48 per cent female and 52 per cent male, with around 54 per cent of respondents being students. The results showed that 85 per cent of respondents attained education level of university or above. Over 60 per cent of the respondents were 19-25 years old, and 25 per cent of the respondents were 26-35 years old. Around 46 per cent of the respondents had an average monthly income of below HK$4,000. Most of the respondents visit the web site of OpenRice.com to search for suggestions on restaurants (90 per cent) and to inquire on the quality of restaurants (80 per cent) (see Tables I and II).

Measures
The survey used a multi-item approach with each construct being measured by a few items for construct validity and reliability. Measurement of Source credibility, Relevance, Timeliness, Accuracy, Comprehensiveness, Information usefulness and Information Adoption were carried out by a seven-point Likert scale, ranging from strongly agree (1) to strongly disagree (7). The measures are presented in Table III.

Measure	Value	Frequency	(%)
Gender	Male	80	52
	Female	74	48
Age	18 or below	13	8
	19-25	103	67
	26-35	38	25
	36 or above	0	0
Education level	Student	83	54
	Clerical worker	9	6
	Management level	8	5
	Postgraduate	20	13
	Others	8	5
Occupation	Primary	0	0
	Secondary	15	10
	Undergraduate	111	72
	Professional	25	16
	Servicing	15	10
	Self-employed	6	4
	Retired	0	0
	Others	8	5
Monthly income (HK$)	Below HK$4,000	71	46
	HK$4,000-HK$7,499	12	8
	HK $7,500-HK$9,999	14	9
	HK$10,000-HK$14,999	35	23
	HK$15,000-HK$19,999	14	9
	HK$20,000 or above	8	5

Table I.
Demographic statistics of the respondents

Measure	Value	Frequency	(%)
The average number of times of eating out per week	1-5 times	82	53
	6-10 times	43	28
	11-15 times	13	8
	16-20 times	6	4
	21-25 times	6	4
	More than 25 times	4	3
The average expenditure on eating out per week[a]	HK$200 or below	42	27
	HK$201-HK$400	46	30
	HK$401-HK$600	31	20
	HK$601-HK$800	17	11
	HK$801-HK$1,000	9	6
	Above HK$1,000	9	6
The reason for visiting Openrice.com (can choose multiple options)	Have a better understanding in restaurants' food quality	123	80
	Look for suggestions of restaurants	139	90
	Just for fun	20	13
	Share experience	10	6
	Others	0	0

Note: [a]HK$1 = US$0.128

Table II.
Eating out habits of the respondents

Relevance (Citrin, 2001)	AQR1	The comments in Openrice.com are relevant
	AQR2	The comments in Openrice.com are appropriate
	AQR3	The comments in Openrice.com are applicable
Timeliness (Wixom and Todd, 2005)	AQT1	The comments in Openrice.com are current
	AQT2	The comments in Openrice.com are timely
	AQT3	The comments in Openrice.com are up-to-date
Accuracy (Wixom and Todd, 2005)	AQA1	The comments in Openrice.com are accurate
	AQA2	The comments in Openrice.com are correct
	AQA3	The comments in Openrice.com are reliable
Comprehensive (Wixom and Todd, 2005)	AQC1	The comments in Openrice.com sufficiently complete your needs
	AQC2	The comments in Openrice.com include all necessary values
	AQC3	The comments in Openrice.com cover your needs
	AQC4	The comments in Openrice.com have sufficient breadth and depth
Source expertise (Wu and Shaffer, 1987)	SE1	People who left comments in Openrice.com are knowledgeable in evaluating quality of food and restaurants
	SE2	People who left comments in Openrice.com are experts in evaluating quality of food and restaurants
Source trustworthiness (Wu and Shaffer, 1987)	SC3	People who left comments in Openrice.com are trustworthy
	SC4	People who left comments in Openrice.com are reliable
Information usefulness (Bailey and Pearson, 1983)	IU1	The comments in Openrice.com are valuable
	IU2	The comments in Openrice.com are informative
	IU3	The comments in Openrice.com are helpful
Information adoption (Wu and Shaffer, 1987)	IA1	You closely followed the suggestions of the positive comments and went to the recommended restaurants
	IA2	You agree with the opinion suggested in the comments

Table III.
Measures

Data analysis and results

The research model was tested using Partial Least Squares (PLS), a structural modeling technique that is well suited for highly complex predictive models (Wold and Joreskog, 1982; Lohmoller, 1989; Barclay *et al.*, 1995; Chin, 1998). In this section, we will first examine the measurement model and then assess the structural model by following the two-step analytical procedures (Hair *et al.*, 1998).

Measurement model

Convergent validity. Convergent validity indicates the extent to which the items of a scale that are theoretically related to each other should be related in reality. It was examined by use of the composite reliability (CR) and the average variance extracted (AVE). The critical values for CR and AVE are 0.70 and 0.50 respectively (Fornell and Larcker, 1981). As summarized in Table IV, all CR and AVE values fulfill the recommended levels, with the CR ranging from 0.84 to 0.93 and the AVE ranging from 0.68 to 0.87. For the item loadings, nearly all of them meet the recommended level and are higher than 0.70.

Construct	Item	Loading	t-value	Mean	St. dev
Relevance	AQR1	0.89	43.49	4.73	0.98
CR = 0.92, AVE = 0.79	AQR2	0.89	39.22	4.54	1.01
	AQR3	0.88	33.75	4.71	0.94
Timeliness	AQT1	0.89	39.23	4.45	1.09
CR = 0.92, AVE = 0.79	AQT2	0.92	55.89	4.38	1.13
	AQT3	0.85	23.83	4.44	1.23
Accuracy	AQA1	0.92	39.85	4.33	1.02
CR = 0.93, AVE = 0.81	AQA2	0.91	55.89	4.40	0.97
	AQA3	0.87	23.83	4.36	0.99
Comprehensiveness	AQC1	0.83	31.56	4.45	1.17
CR = 0.90, AVE = 0.68	AQC2	0.80	23.32	4.18	1.12
	AQC3	0.88	50.42	4.42	1.09
	AQC4	0.78	20.13	4.08	1.03
Source expertise	SE1	0.90	37.18	4.45	1.05
CR = 0.84, AVE = 0.73	SE2	0.80	13.01	3.76	1.12
Source trustworthiness	ST1	0.92	62.11	4.30	1.06
CR = 0.91, AVE = 0.83	ST2	0.91	36.32	4.36	0.97
Information usefulness	IU1	0.86	37.83	4.45	0.95
CR = 0.90, AVE = 0.76	IU2	0.86	31.15	4.83	1.01
	IU3	0.89	45.24	4.84	0.99
Information adoption	IA1	0.93	48.55	4.82	1.19
CR = 0.93, AVE = 0.87	IA2	0.93	64.44	5.11	1.18

Notes: CR-Composite Reliability, AVE-Average Variance Extracted

Table IV.
Psychometric properties
of measures

Discriminant validity. Discriminant validity is the extent to which the measurement is
not a reflection of some other variable. It is indicated by low correlations between the
measure of interest and the measure of other constructs (Fornell and Larcker, 1981).
Evidence of discriminant validity can be demonstrated when the squared root of the
average variance extracted (AVE) for each construct is higher than the correlations
between it and all other constructs. As shown in Table V, the square root of AVE for
each construct is greater than the correlations between them and all other constructs.
The results suggest an adequate discriminant validity of all measurements.

	AQR	AQT	AQA	AQC	SE	ST	IU	IA
Relevance (AQR)	*0.89*							
Timeliness (AQT)	0.48	*0.89*						
Accuracy (AQA)	0.65	0.48	*0.90*					
Comprehensiveness (AQC)	0.61	0.43	0.65	*0.83*				
Source expertise (SE)	0.49	0.27	0.51	0.36	*0.85*			
Source trustworthiness (ST)	0.61	0.34	0.65	0.49	0.53	*0.91*		
Information usefulness (IU)	0.66	0.40	0.63	0.75	0.41	0.52	*0.87*	
Information adoption (IA)	0.60	0.34	0.44	0.64	0.27	0.31	0.68	*0.93*

Notes: Italicised diagonal elements are the square root of AVE for each construct. Off-diagonal
elements are the correlations between constructs

Table V.
Correlation matrix and
psychometric properties
of key constructs

Structural model
Figure 6 shows the overall explanatory power, estimated path coefficients (all significant paths are indicated with asterisks), and associated *t*-values of the paths of the research model. By using the bootstrap re-sampling procedure, tests of significance for all paths were performed.

The results illustrate that the exogenous variables explain 65 per cent of the variation in Information usefulness and 46 per cent of the variance in Information adoption. Not all of the structural paths were found to be statistically significant in the research model. According to the statistics, *H1*, *H2* and *H5* were indicated to be significant. The two dimensions of information quality, Relevance and Comprehensiveness are found to have significant impact on Information usefulness, with path coefficients at 0.23 and 0.53 respectively. Information usefulness also has significant positive impact on Information adoption, with path coefficient of 0.60. Source credibility, Timeliness and Accuracy do not bring any significant impact over Information usefulness.

Discussion and conclusion
This paper sought to explore the motivations behind adoption of online opinions. The research model is built on the theoretical model of information adoption by Sussman and Siegal (2003). Resulting relationships between Information adoption, Information
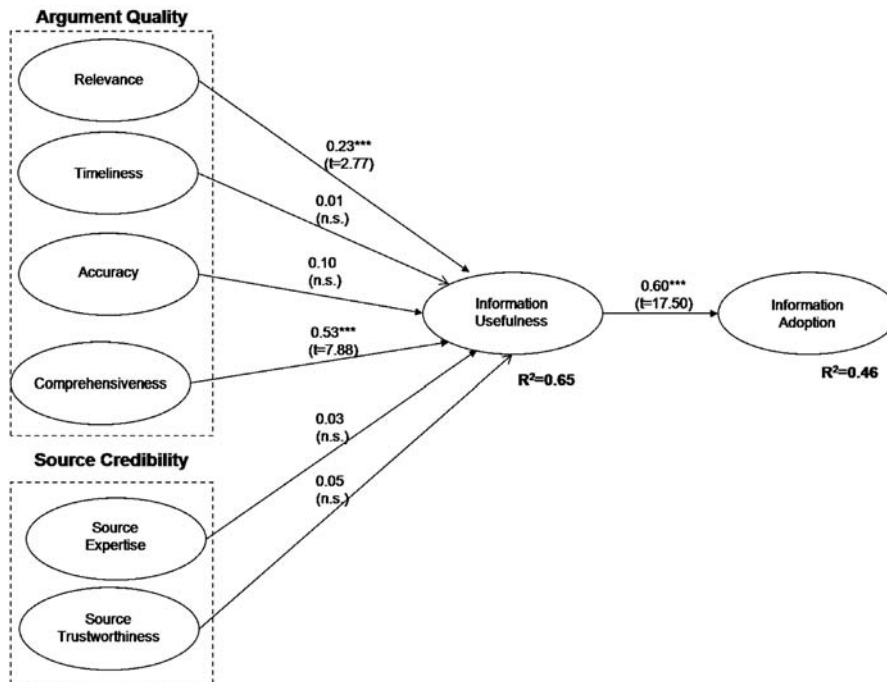
Note: *p<0.10, **p<0.05, ***p<0.01, n.s. not significant

usefulness, Relevance, Comprehensiveness, Accuracy, Timeliness, Source expertise, and Source trustworthiness, are discussed in the following section.

In this study, we clearly find that Information usefulness had a strong and significant impact on consumer decision to adopt information within online communities. This study also investigated the precursors to informational usefulness (source credibility and information quality). Source expertise, Source trustworthiness, and the four dimensions of information quality explained 65 per cent of the variance in information usefulness. Among the antecedents of Information usefulness, only Relevance and Comprehensiveness exhibited significant impacts on perceived Information usefulness. According to Bickart and Schindler (2001), online consumer forums are more relevant to consumers as the opinions and reviews are contributed by other fellow consumers. This is in line with previous research on the impact of communication source. Previous studies have showed that perceived similarity with the contributors will enhance the persuasive influence (Hass, 1981). Comprehensiveness is especially important in the current study. As mentioned before, there are more than 10,000 restaurants in Hong Kong. Consumers would like to obtain a broad range of categories of restaurants and detailed information about each restaurant (location, price, service, pictures of food, and customer reviews).

Source credibility (Source expertise and Source trustworthiness), Accuracy and Timeliness were not found to impact information usefulness as much as Relevance and Comprehensiveness. Source credibility did not play a significant role in influencing information usefulness in this study. Any user can freely register and post comments without any signature or authorization check. It was left up to users to discern from individual signatures the source of the comment. Even with that, it would have been quite difficult for users to evaluate whether the comment was posted by an expert, a child or a chef. It could simply be that in this example of Openrice.com, not enough clues were present for users to speculate as to the source of the comment, making it less relevant to their evaluation of comment usefulness. Source credibility may prove to be more helpful in determining information usefulness when there is more indication of who the poster is and who they represent.

Similarly, Accuracy was another dimension of information quality that may have been difficult for users to evaluate within the online community. The previous discussion about perceived accuracy stated that there was required confirmation or disconfirmation of things the user knows to be as definitely true or definitely false within the comment. If part of the comment matched what the user already knew to be factual, they would be more inclined to deem the rest of the comment as accurate. In the context of OpenRice.com, if there was a comment about a restaurant they had never been to, it would be unlikely for them to know whether any or all of the comment is factual. Accuracy therefore was also found to have little influence on information usefulness. In other contexts, where there is opportunity for partial confirmation or disconfirmation the comment, accuracy may prove to more influential. Previous experience with the source providing the opinion may offer the user some opportunity to perceive the accuracy of the comment. Pertaining to the previous discussion regarding source credibility, the anonymity of online sources makes it more difficult for a user to have any confirmation or disconfirmation, as there is no benchmark as to whether that source tends to be accurate or not. When outside of the online

environment, there is less anonymity for sources to hide behind; therefore perceived accuracy may prove more influential in an offline context than online.

Timeliness also displayed no significant relationship to information usefulness. In the online environment, comments about casual topics like food and restaurants may not be as time sensitive as other topics. Comments from the past may even have proved to be useful in this case as they could help to map out a growing reputation for the restaurant. Online comments about products or services that do not need to be absolutely up to date will not have timeliness impact on the usefulness of the information as highly as more imminent topics. Timeliness would likely have more of an impact in situations where, for example, an offer expires or if it refers to an event that has already taken place.

Limitations of the study

In interpreting the results of this study, one must pay attention to a number of limitations. First, the research model used in this research is intentionally simplified. The six constructs in the theoretical model account for only about 46 per cent of the variance of information adoption, indicating that some of the important predictors may be missing. This is understandable, as the previous research on the topic has uncovered multiple constructs of information usefulness. As well, the study omitted physical environment and entertainment value from the model. Further research should be done to explore the effect that these additional factors have upon information adoption. Other dimensions of argument quality such as detail, helpfulness and persuasiveness (Bhattacherjee and Sanford, 2006) may be added to test whether they are positively correlated with information usefulness and inherently information adoption. Other antecedents of information usefulness like the web site design and layout may also be added to further enhance the variance of information adoption and to fill in missing predictors.

Second, the study respondents were users of OpenRice.com. The study represents one type of online consumer communities. Care must be taken when extrapolating the findings to other types of online communities. Third, the sample size is relatively small. A larger sample size would be helpful in painting a more precise measurement of the research model. In addition, the sample is not randomly selected. The current sample is bias towards student population, which represents a low-income group. A more diverse sample of potential users in different age categories and professions should be examined in the future research. Finally, as this study only uses one single questionnaire to measure all constructs included, common method bias may be presented in the measurement.

Implications for research

This study contributes to existing electronic word-of-mouth research in several ways. First, our research model is built upon the information adoption model developed by Sussman and Siegal (2003). They conducted their study by examining how individuals are influenced to follow certain courses of action based on actual advice, recommendations, and suggestions they received via e-mail in an organizational context. The current study applied the model in the context of online consumer communities. The explanatory power of the research model remains high. In addition to just applying the information adoption model in the current investigation, our

elaboration of information quality into the four components of relevance, accuracy, timeliness, and comprehensives (Negash *et al.*, 2002; Bailey and Pearson, 1983) added new insight into the ultimate effect these components ultimately have on information adoption. We discovered that there may be limitations to the model, given the selection of the online community of one's study. The four dimensions of argument quality may play different roles in determining information usefulness given the nature of desired information. Additional research could be conducted to explore different dimensions of argument quality found in other studies, which may be effective in influencing information usefulness and information adoption. These dimensions include format (Wixom and Todd, 2005), reliability (Bailey and Pearson, 1983) and understandability (Srinivasan, 1985) etc.

Implications for practice

Previous studies mostly focused on the underlying motivations of spreading eWOM. This study however examined the factors that drive consumers to adopt and use the messages (eWOM) from other consumers. We expect the findings of this study can provide some advice to the organizers of online communities in order to help them better manage their web site for the purpose of presenting useful information. This would help them to attract users, and in effect paying advertisers.

From our study, we found that information relevance and information comprehensiveness were the most vital elements for influencing information usefulness and information adoption within an online consumer community. Companies should actively get involved in some online consumer communities and provide all the relevant and complete information about the companies. For example, restaurants could join Openrice.com and provide comprehensive information, like pictures, menu, location, and price. In this way, complete information is ensured, rather having webmasters track down that information. This fulfillment of information usefulness should lead to greater information adoption, which means more customers in the restaurants. This philosophy should apply to all e-marketers. Getting the most relevant and comprehensive information to where customers will see it should result in higher information adoption. E-marketers should however be wary and consider the nature of their product or service to see if it matches that of OpenRice.com. If it is different in nature, other components of information quality may be more influential.

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