

# Facebook Users' Behaviour and Motivation for Writing Reviews

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**Abstract** Individuals depend considerably on gathering information from personal social networks rather than from commercial network channels or the mass media. Most academic journals that have examined this topic concentrate on online users' information-searching behaviours; however, this paper discusses online users' information-providing behaviour in the online community. The aim of this study is to investigate that online users' motivation to write reviews on Facebook and how the motivations affect users' information-providing behaviour. This study focusses on Facebook members' motivations that affect their review-writing behaviour. The fundamental theory for examining this topic is Vogt and Fesenmaier's (1998) 'information need'. This study modifies Vogt and Fesenmaier's (1998) theory for virtual communities through the development of each concept's measurement items, selecting the information need of four variables: functional, hedonic, innovation, and sign need. Among the four variables, sign need is the most important factor for Facebook users in the virtual environment. Through sign need, people indicate their status, personality form, and position, which significantly affects members' review-writing behaviour on Facebook.

**Key Words** : Motivation, Information Need, Social Network, Functional Need, Hedonic Need, Sign Need, Innovation Need

## 1. INTRODUCTION

Recently, online communities have developed community functionality in their Web sites to enhance the members' sharing experiences such as reviews[32]. Through online communities, people can share interesting experiences or information

without physical community-based restrictions such as time or space[31]. Furthermore, people have increased their vocalisations about their experiences with products or services through online facilities, a process that is known as expert power[11]. Online social communities have an important role as reference groups that use word-of-mouth channels,

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because they have a different nature compared to offline environments[18].

Most journals that have addressed this topic have concentrated on online users' information-searching behaviour; however, this paper discusses online users' information-providing behavior and the motivation to review Facebook [6-7, 29-30, 32]. This study uses the context of Facebook, as the most popular social networking site[7]. To examine this topic, this study uses Vogt and Fesenmaier's (1998) 'information need' as a basic fundamental theory, and modify it to fit virtual communities. Previous researchers have not studied this subject, and the 'information need' model created by Vogt and Fesenmaier's (1998) theories has not yet been adapted to the online world.

This study puts forth an integrated model of information need that reflects users' motivations for review-writing behaviour on Facebook.

## 2. LITERATURE REVIEW

Many Facebook users depend on peers' opinions, also reporting on their experiences by giving reviews on Facebook. This study is based on Vogt and Fesenmaier's (1998) 'information need' model, which includes functional, hedonic, innovation, aesthetic, and sign needs. Some researchers have studied this model in a virtual community[5,6,29,31]. However, they did not clearly mention their models' relevance with regard to Vogt and Fesenmaier's (1998) model. Table 1 shows how Vogt and Fesenmaier's (1998) theory has been studied in the virtual community by other researchers, and Table 2 shows the definitions

of the factors in the 'information need' model [2,5,16-17,22,24,28,29,34].

This study modifies Vogt and Fesenmaier's (1998) theory for the virtual community through the development of each concept's measurement items, using the four variables of functional, hedonic, innovation, and sign need. As the features of aesthetic need overlap many of those of hedonic need, the two needs are combined under hedonic need[28]. In addition, both hedonic and aesthetic needs have a distinctive common feature that online users desire to share their emotions when they have an uncommon experience[29].

Thus, this study proposes an integrated model, shown in Fig. 1, which has been adapted from Vogt and Fesenmaier (1998) and Wang and Fesenmaier (2004a).

In addition, measurement items were developed under each of the concepts. Among the four variables, social interaction is the most important factor for Facebook users in a virtual environment. Through social interaction, people indicate their status, personality, and opinions, all of which significantly affect review-writing behaviour on Facebook. In conclusion, this study could confirm Facebook users' motivation for writing their reviews on Facebook through information theory. In particular, functional, hedonic, innovation, and sign needs mainly influence Facebook users' participation in reviews.

Table 1 Measurement Concepts for Information Need

Original Factors and Concepts	Studies	Concepts	Researchers
<b>Functional</b>	Alba and Hutchinson (1987);	● Information	Wang and
● Knowledge	Assael (1984); Bettman (1979);	Efficiency	Fesenmaier (2004a);
● Utility	Bettman and Sujan (1987); Bloch	● Convenience	Wang and
● Efficiency	et al (1986); Hirschman (1986);	● Utilitarian	Fesenmaier (2004b);
● Uncertainty	Hirschman and Solomon (1984);	● Risk avoidance	Cho and Jang (2008);
	Hirschman and Wallendorf (1982);	● Information	Chung and Buhalis
	Murray (1991); Roehl and Fesenmaier	Acquisition	(2008)
	(1992)		
<b>Hedonic</b>	Bloch et al (1986); Bloch and	● Entertainment	Wang and Fesenmaier
● Emotional	Bruce (1984); Hirschman (1984);	● Enjoyment	(2004a); Wang and
● Sensory	Hirschman and Holbrook (1982);	● Fun	Fesenmaier (2004b);
● Phenomenology	Holbrook (1983); Holbrook,	● Amusement	Cho and Jang (2008);
● Experience	Chestnut, Oliva and Greenleaf	● Sensation seeking	Chung and Buhalis
	(1984); Holbrook and Hirschman		(2008); Yoo and Gretzel
	(1982)		(2008)
<b>Innovation</b>	Assael (1984); Crompton (1979);		
● Novelty	Hirschman (1980); Hirschman		
● Variety	and Wallendorf (1980);		
● Creativity	Hirschman and Wallendorf		
	(1982); Hoyer and Ridgway		
	(1984); Rogers (1983); McAlister		
	and Pessemaier (1982); Ross		
	and Robertson (1991)		
<b>Aesthetic</b>	Gunn (1988); Hirschman (1983);		
● Fantasy	Hirschman (1986); Hirschman and		
● Image	Holbrook (1982); Hirschman and		
	Solomon (1984); Holbrook and		
	Hirschman (1982); Holbrook and Zirlin		
	(1985);		
<b>Sign</b>	Bloch (1986); Dimanche and	<b>Social</b>	Wang and
● Advisory	Samdahl (1994); Gitelson and	● Affiliation	Fesenmaier
● Symbolic	Crompton (1983); Hirschman	● Belonging	(2004a); Wang and
● Social	and Wallendorf (1982);	● Identification	Fesenmaier
	Holbrook (1983); Mick (1986);		(2004b); Cho and
	Laurent and Kapferer (1985)	<b>Psychological</b>	Jang (2008);
		● Communication	Chung and Buhalis
		● Relationship	(2008);
		● Involvement	Henning-Thurau
		● Trust	and Walsh (2003)
		<b>Social-Psychological</b>	
		● Seeking identity	
		● Keeping	
		relationship with	
		members	
		● Seeking a sense	
		of belonging	
		● Getting involved	
		with members	

Table 2 Definition of Information Need

Information factors of definition	Vogt and Fesenmaier (1998)	Cho and Jang (2008)	Wang and Fesenmaier (2004a)	Chung and Buhalis (2008)	Sohee
<b>Functional</b> Knowledge Utility Uncertainty Efficiency	Functional need as identifying choices and making product-related decisions requires individuals to evaluate knowledge currently stored	<b>Utilitarian</b> Utilitarian information is factual, logical, objectively verifiable descriptions and evaluation of tangible product features and utility  <b>Riskavoidance</b> Information as a means to reduce perceived risk as well as to justify their choices	<b>Functional</b> Functional needs are met when community members go online to fulfill specific activities.	<b>Information Acquisition</b> Functional benefits are associated with information gathering and the convenience and efficiency beyond the time and geographical limits	<b>Functional</b> Functional need as motivated efforts which have a close relationship with online users specific activities
<b>Hedonic</b> Emotional Sensory Phenomenology Experience	The hedonic perspective views consumers as pleasure seekers engaged in activities which elicit enjoyment, amusement, arousal, fun, and sensory stimulation.	<b>Hedonic</b> Hedonic value is made up of multisensory experiences, fantasy imagery, and emotive responses and is linked to consumption focused on the entertainment value of products	<b>Hedonic</b> The hedonic perspective views consumers as pleasure seekers engaged in activities which elicit enjoyment, amusement, and fun.	<b>Hedonic</b> Fun, enjoyment, and amusement	<b>Hedonic</b> Hedonic value is made up of multisensory experiences, fantasy imagery, and emotive responses and is linked to consumption focused on the entertainment value of products
		<b>Sensationseeking</b> The need for "varied, novel, and complex sensations experiences....." (Zuckerman 1979, p. 10) and the willingness to take physical, social, legal,			

		and financial risks for the sake of such an experience		
<b>Aesthetic</b> Fantasy Image	Aesthetic consumption goes beyond tangible characteristics, lending itself to an intangible, self-evoked need.			<b>Aesthetic</b> Aesthetic needs mean the search for visual stimulation for the imagination.
<b>Innovation</b> Novelty Variety Creativity	Individual adopts choices independently of the communicated experiences of others			<b>Innovation</b> Innovation needs involve a tendency towards new products and information, and sign needs are symbolic expressions and social interaction.
<b>Sign</b> Advisory Symbolic Social	Sign role that its multiplier effect is considered; that is, information is passed along which results in exposures to larger audiences than just the original receiver.	<b>Social</b> Social value, which may imply information through social interaction, does affect individuals' decisions to purchase leisure-based products and services	<b>Social</b> Online travel communities are socially structured, convey social meaning, and meet social needs	<b>Social</b> Communication with other members, building relationships, exchanging ideas and opinions, and getting involved  <b>Social</b> Social interaction, building relationships, and sharing information with other members.
			<b>Psychological</b> These include a sense of belonging to the community, identity expression through the community, and a sense of affiliation with other members in the community.	<b>Psychological</b> Initially required when people join the community  <b>Psychological</b> A sense of belonging and a sense of affiliation with other members in the community.

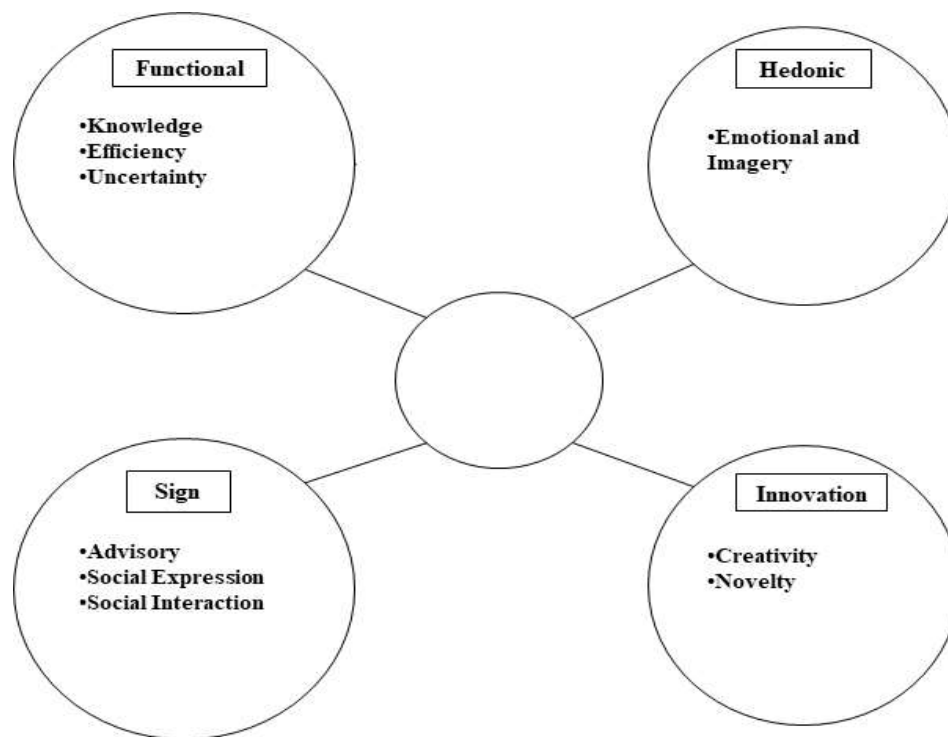


Fig. 1 The Proposed Information Need Model in Online Community

### 3. METHODOLOGY

#### 3.1 Survey Research Method

This study uses analytical surveys to take a deductive approach to the issue in addition to a questionnaire for data collection. The study population of this research involves Facebook members who have written reviews on Facebook. Participants were chosen both online and offline from 16 October to 4 November 2011, with an aim of recruiting 150 to 200 eligible respondents. First, the questionnaires for the offline survey were distributed through face-to-face contact at Bournemouth University in the U.K. The author met respondents directly, distributing questionnaires randomly. Second, the online survey link was sent via Facebook channels to the author's Facebook friends, and posted on the author's Facebook page. Online survey questionnaires are an increasingly

popular method of data collection[19]. The researcher aimed for a sample of 150 to 200 Facebook members, with an approximately equal number of male/female respondents. There was no age limitation; the respondents were simply required to have a Facebook account and have the experience of writing reviews on Facebook.

The questionnaire is made up of two main parts, the instructions and the main body. The instructions give the purpose of the survey, the time limits, the researcher's e-mail address, and instructions regarding the questionnaire itself. The main body of the questionnaire includes the questions to be answered, and includes content, structure, wording, flow, and format[14]. The format of the questionnaire is organised into questions within the context of the questionnaire[18].

#### 3.2 Questionnaire Design and Measurement Scale

The structure of the questionnaire is fundamentally based on Vogt and Fesenmaier's (1998) 'information need' theory, with variables and demographic items added to the questionnaire. Thus, the questionnaire is composed of two main parts: demographic information and the motivation of Facebook users' review-writing behaviours.

The questionnaire was designed with HTML for offline responders and with Survey Monkey for online responders. A filtering question was asked in Item 1 to exclude non-acceptable participants such as non-members of Facebook or those who have not written reviews on Facebook[19].

The motivational factors and concepts that inspired the measurement items in this study, the measurement items themselves, and the demographic profiles are indicated in Table 3 [3,5-6,14-15,18-19,20-21,30].

### 3.3 Data Analysis

There were three main methods of analysis of this data: descriptive statistics, factor analysis with reliability analysis and cluster analysis. Two methods were used to analyse the data for content validity: one sample t-test and Content Validity Index (CVI) suggested by Davis (1992). First of all, 47 measurement items checked the content validity of the scale. All score were found to be significant at the  $p < .001$  level. The mean value that are 3.0 (=acceptable) or above were deemed valid.

The results showed that the mean scores of 33 items were higher than 3.0 in the relevance, representativeness, and clarity. Table 4 and Table 5 indicates the content validity survey of the t-test results and CVI results. Throughout the content validity analysis, a total of 33 items were selected for the questionnaire survey[4,9,12,25].

Table 3 Each Concept of Measurement Items by Authors

Variable	N=15	Authors for each items
<b>Functional Knowledge (FK)</b>	As I write the restaurant review on Facebook, I want to provide up to date information to my Facebook friends	Chung and Buhalis (2008), Henning and Walsh (2004), Mathwick <i>et al.</i> (2007),
	As I write the restaurant review on Facebook, I want to provide useful information to my Facebook friends	Cho and Jang (2008), Wang and Fesenmaier (2004b), Henning and Walsh (2004), Brooner and Hoog (2011)
	As I write the restaurant review on Facebook, I want to provide benefits to my Facebook friends	Cho and Jang (2008), Henning and Walsh (2004), Brooner and Hoog (2011), Kim <i>et al.</i> (2011)
<b>Uncertainty (UN)</b>	As I write the restaurant review on Facebook, I want to contribute my friends to make the right decisions on their restaurant choice	Henning and Walsh (2004), Brooner and Hoog (2011), Kim <i>et al.</i> (2011)
	As I write the restaurant review on Facebook, I want to reduce situational risks of my Facebook friends (e.g. crime, environmental danger)	Cho and Jang (2008), Kim <i>et al.</i> (2011)
	As I write the restaurant review on Facebook, I want to reduce performance risks of my Facebook friends (e.g. accident, reservation)	Cho and Jang (2008), Kim <i>et al.</i> (2011)
<b>Efficiency (EF)</b>	As I write the restaurant review on Facebook, I can save time to provide information to my Facebook friends	Henning and Walsh (2004), Kim <i>et al.</i> (2011)
	It is efficient to inform my restaurant experience	Chung and Buhalis (2008), Wang and Fesenmaier (2004b), Kim <i>et al.</i> (2011)
	It is convenient to inform my restaurant experience	Chung and Buhalis (2008), Wang and Fesenmaier (2004b), Kim <i>et al.</i> (2011)

	Writing the restaurant review on Facebook is more convenient than writing to or calling to the company	Henning <i>et al.</i> (2004), Murphy <i>et al.</i> (2010), Brooner and Hoog (2011)
<b>Hedonic</b> Emotional and Imagery (HEI)	I enjoy writing the restaurant review on Facebook	Chung and Buhalis (2008), Wang and Fesenmaier (2004b), Gretzel (2008), Marett and Joshi (2009)
	Writing the restaurant review is entertaining	Chung and Buhalis (2008), Wang and Fesenmaier (2004b), Brooner and Hoog (2011)
	Writing the restaurant review enhances recollecting my experience	Gretzel (2008)
	Writing the restaurant review helps me to recollect my virtual senses	Chung and Buhalis (2008), Lee <i>et al.</i> (2010),
	I recollect many images related to the restaurant in my mind	Lee <i>et al.</i> (2010)
	My restaurant review helps my friends to recollect their experience	Brooner and Hoog (2011)
<b>Innovation</b> Novelty (IN)	Writing the restaurant review introduces new experience	Cho and Jang (2008), Henning and Walsh (2004)
	Writing the restaurant review introduces new restaurant	Kim <i>et al.</i> (2011)
	Writing the restaurant review introduces adventurous experience	Cho and Jang (2008)
<b>Innovation</b> Creativity (IC)	As I write the restaurant review on Facebook, the quality of the restaurant can be improved	Wang and Fesenmaier (2004b), Marett and Joshi (2009), Murphy <i>et al.</i> (2010)
	As I write the restaurant review on Facebook, the restaurant reputation can be improved	Marett and Joshi (2009), Murphy <i>et al.</i> (2010), Kim <i>et al.</i> (2011)
	As I write the restaurant review on Facebook, the problem can be solved	Wang and Fesenmaier (2004b), Henning and Walsh (2004), Mathwick <i>et al.</i> (2007), Kim <i>et al.</i> (2011)
<b>Sign</b> Advisory (SA)	I write the restaurant review on Facebook because I want to help my friends in their restaurant choice	Wang and Fesenmaier (2004b), Henning <i>et al.</i> (2004), Brooner and Hoog (2011), Kim <i>et al.</i> (2011)
	I write the restaurant review on Facebook because I want to warn my friends from having the same negative experience as me	Henning <i>et al.</i> (2004), Gretzel (2008), Murphy <i>et al.</i> (2010)
	I write the restaurant review on Facebook because I want to help my friends to select the right restaurant	Henning and Walsh (2004), Mathwick <i>et al.</i> (2007)
	I write the restaurant review on Facebook because I want to save my friends from having the same negative experience as me	Henning (2004), Gretzel (2008)
Symbolic expression (SE)	I write the restaurant review on Facebook because I feel good when I tell my successful experience to my friends	Henning (2004), Gretzel (2008), Brooner and Hoog (2011)
	I write the restaurant review on Facebook because I want to express my joy about a good restaurant experience	Henning <i>et al.</i> (2004), Murphy <i>et al.</i> (2010),
	I write the restaurant review on Facebook because I want to tell my great experience to my friends	Henning <i>et al.</i> (2004), Gretzel (2008), Murphy <i>et al.</i> (2010)
	I write the restaurant review on Facebook because I feel good when my friends "Like" my review	Marett and Joshi (2009), Murphy <i>et al.</i> (2010), Brooner and Hoog (2011), Kim <i>et al.</i> (2011)
Social interaction (SI)	I write the restaurant review on Facebook because I want to share my experience with my friends	Cho and Jang (2008), Wang and Fesenmaier (2004b), Gretzel (2008), Henning and Walsh (2004), Murphy <i>et al.</i> (2010), Brooner and Hoog (2011), Kim <i>et al.</i> (2011)
	I write the restaurant review on Facebook because my friends leave a comment on my review	Marett and Joshi (2009), Murphy <i>et al.</i> (2010), Brooner and Hoog (2011), Kim <i>et al.</i> (2011)

	I write the restaurant review on Facebook because I meet nice people this way	Chung and Buhalis (2008), Wang and Fesenmaier (2004b), Henning <i>et al.</i> (2004), Brooner and Hoog (2011)
	I write the restaurant review on Facebook because it is fun to community this way with my friends	Wang and Fesenmaier (2004b), Henning <i>et al.</i> (2004), Marett and Joshi (2009), Brooner and Hoog (2011), Kim <i>et al.</i> (2001)

Table 4 CVI Agreement Measures for Content Validity

Variable names	(N=15)	Relevance <sup>a</sup>	Representativeness <sup>a</sup>	Clarity <sup>a</sup>
FK	I want to provide up to date information	1.00	.93	1.00
	I want to provide useful information	1.00	.93	1.00
	I want to provide benefits to others	.80	.87	.87
UN	I want to reduce situational risks(e.g. crime, environmental danger)	.87	.80	.93
	I want to reduce performance risks (e.g. accident, reservation, schedule)	.87	.80	.66
	I want to contribute my friends make the right decisions	.73	.73	.73
EF	It is efficient to inform my restaurant experience	.93	.87	.80
	Writing restaurant review on Facebook is more convenient than writing to or calling to the company	.87	.80	.80
	I can save informing time	.73	.80	.67
	It is convenient to inform my restaurant experience	.60	.80	.67
<b>Hedonic Emotional (HE)</b>	I enjoy writing restaurant review	.60	.80	.73
	Writing restaurant review is fun	.60	.53	.60
	Writing restaurant review is entertaining	.53	.60	.67
	Writing restaurant review is amusing	.47	.53	.60
Sensory (SE)	Writing restaurant review arise my sensory	.67	.60	.67
	My review stimulate my friends' virtual feeling	.67	.53	.53
	Writing restaurant review arise my virtual feeling	.47	.47	.47
	My review stimulate my friends' sense of hearing	.27	.40	.33
	Writing restaurant review arise my sense of hearing	.27	.27	.33
Imagery (IM)	Writing review enhances recollecting my experience	.93	.80	.80
	Writing review helps me to recollect my virtual senses	.93	.73	.73
	I recollect many images in my mind	.87	.80	.87
	My review helps my friends to recollect their experience	.80	.80	.80
<b>IN</b>	Writing review introduce new restaurant	.80	.73	.80
	Writing review introduce new experience	.80	.67	.87
	Writing review introduce adventurous experience	.60	.40	.53
Creativity	As I write the review on Facebook the restaurant reputation can be improved	1.00	.93	1.00

	As I write the review on Facebook quality of restaurant can be improved	.73	.60	.73
	As I write the review on Facebook the problem can be solved	.67	.53	.67
SA	I write restaurant review on Facebook because I want to help my friends to select the right restaurant	1.00	1.00	.93
	I write restaurant review on Facebook because I want to save my friends from having the same negative experience as me	1.00	1.00	.87
	I write restaurant review on Facebook because I want to warn my friends from having the same negative experience as me	.93	.93	1.00
	I write restaurant review on Facebook because I want to help my friends in their restaurant choice	.80	.87	.80
SE	I write restaurant review on Facebook because I want to tell my great experience to my friends	.93	.80	.87
	I write restaurant review on Facebook because I feel good when I tell my successful experience to my friends	.87	.93	.87
	I write restaurant review on Facebook because I want to express my joy about a good restaurant experience	.87	.80	.73
	I write restaurant review on Facebook because I feel good when my friends "Like" my review	.80	.73	.80
	I write restaurant review on Facebook because I earn respect from my friends	.67	.53	.53
	I write restaurant review on Facebook because it improves my status	.47	.27	.33
	I write restaurant review on Facebook because it improves my reputation	.27	.27	.27
	I write restaurant review on Facebook because my friends think that I am a clever customer	.20	.13	.33
SI	I write restaurant review on Facebook because I want to share my experience with my friends	.93	.93	1.00
	I write restaurant review on Facebook because my friends leave a comment on my review	.67	.87	.67
	I write restaurant review on Facebook because it is fun to community this way with my friends	.67	.67	.80
	I write restaurant review on Facebook because I want to establish relationship with my friends	.60	.47	.60
	I write restaurant review on Facebook because I meet nice people this way	.53	.47	.60
	I write restaurant review on Facebook because I want to keep relationship with my friends	.40	.40	.53

<sup>a</sup> Proportion calculated by the number of agreement divided by the total number (i.e., x/12)

Table 5 One Sample t-Test for Content Validity

Variable name	(N=15)	Relevance		Representativeness		Clarity	
		Ma	SD	t(***) <sup>b</sup>	Ma	SD	t(***) <sup>b</sup>
<b>FK</b>	I want to provide up to date information	4.20	.862	18.873	3.67	.724	19.621
	I want to provide useful information	4.27	.884	18.699	4.13	.743	21.539
	I want to provide benefits to others	3.47	1.246	10.776	3.40	.986	13.360
UN	I want to contribute my friends make the right decisions	3.13	1.187	10.222	3.07	.961	12.357
	I want to reduce situational risks(e.g. crime, environmental danger)	3.73	1.100	13.147	3.60	1.183	11.784
	I want to reduce performance risks (e.g. accident, reservation, schedule)	3.47	.990	13.556	3.40	.910	14.466
EF	I can save informing time	3.13	1.125	10.783	2.93	1.100	10.330
	It is efficient to inform my restaurant experience	3.47	.834	16.102	3.33	.816	15.811
	It is convenient to inform my restaurant experience	2.80	.941	11.523	3.07	.961	12.257
	Writing restaurant review on Facebook is more convenient than writing to or calling to the company	4.07	1.033	15.250	3.67	1.175	12.084
	I enjoy writing restaurant review	3.07	1.163	10.213	3.60	1.121	12.435
<b>HE</b>	Writing restaurant review is fun	2.80	1.014	10.693	2.87	1.060	10.473
	Writing restaurant review is entertaining	2.67	.900	11.479	2.67	.816	12.647
	Writing restaurant review is amusing	2.40	1.121	8.290	2.47	.990	9.646
SE	Writing restaurant review arise my sensory	2.67	.900	11.479	2.73	1.033	10.250
	Writing restaurant review arise my virtual feeling	2.67	1.175	8.789	2.53	1.187	8.264
	Writing restaurant review arise my sense of hearing	2.13	1.187	6.959	2.13	1.302	6.346
	My review stimulate my friends' virtual feeling	2.73	.961	11.014	2.53	.915	10.717
	My review stimulate my friends' sense of hearing	2.27	1.100	7.982	2.27	1.033	8.500
IM	Writing review enhances recollecting my experience	4.07	.961	16.387	3.80	1.320	11.148
	Writing review helps me to recollect my virtual senses	3.87	.915	16.358	3.33	1.113	11.602
	I recollect many images in my mind	3.87	.990	15.120	3.53	1.246	10.983
<b>IN</b>	My review helps my friends to recollect their experience	3.73	1.100	13.147	3.47	1.060	12.665
	Writing review introduce new experience	3.60	1.242	11.225	3.20	1.207	10.267
	Writing review introduce new restaurant	3.53	1.060	12.909	3.60	1.242	11.225
Creativity	Writing review introduce adventurous experience	2.87	1.187	9.352	2.73	1.486	7.122
	As I write the review on Facebook quality of restaurant can be improved	3.33	1.496	8.629	3.00	1.464	7.937
	As I write the review on Facebook the restaurant reputation can be improved	4.07	.704	22.381	3.93	.884	17.238
<b>SA</b>	As I write the review on Facebook the problem can be solved	3.20	1.082	11.451	2.67	.900	11.479
	I write restaurant review on Facebook because I want to help my friends in their restaurant choice	4.07	1.335	11.802	4.07	1.100	14.321

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Sign Symbolic expression	I write restaurant review on Facebook because I want to warn my friends from having the same negative experience as me	4.20	.862	18.873	4.00	.926	16.733	4.40	.737	23.129
	I write restaurant review on Facebook because I want to help my friends to select the right restaurant	4.00	.756	20.494	4.13	.743	21.539	4.00	1.069	14.491
	I write restaurant review on Facebook because I want to save my friends from having the same negative experience as me	4.40	.737	23.129	4.27	.799	20.687	4.07	1.100	14.321
	I write restaurant review on Facebook because I feel good when I tell my successful experience to my friends	3.67	1.047	13.569	3.73	.961	15.044	3.47	1.246	10.776
	I write restaurant review on Facebook because I want to express my joy about a good restaurant experience	3.73	.884	16.362	3.53	1.302	10.510	3.60	1.352	10.311
	I write restaurant review on Facebook because I want to tell my great experience to my friends	3.67	.900	15.783	3.47	1.246	10.776	3.60	1.121	12.435
	I write restaurant review on Facebook because I feel good when my friends "Like" my review	3.53	1.356	10.094	3.27	1.223	10.347	3.87	1.302	11.502
	I write restaurant review on Facebook because I earn respect from my friends	2.93	1.033	11.000	2.53	.915	10.717	2.87	1.302	8.527
	I write restaurant review on Facebook because it improves my status	2.20	.862	9.886	2.00	.926	8.367	2.40	1.502	6.187
	I write restaurant review on Facebook because it improves my reputation	2.07	1.033	7.750	1.93	.961	7.790	2.27	1.534	5.724
	I write restaurant review on Facebook because my friends think that I am a clever customer	1.87	.915	7.897	1.67	.900	7.174	2.27	1.280	6.859
	I write restaurant review on Facebook because I want to establish relationship with my friends	2.73	1.335	7.933	2.60	1.404	7.172	2.80	1.424	7.614
SI	I write restaurant review on Facebook because I want to keep relationship with my friends	2.33	.976	9.260	2.27	.884	9.934	2.73	1.033	10.250
	I write restaurant review on Facebook because I want to share my experience with my friends	3.87	1.060	14.127	3.80	1.014	14.511	3.73	.884	16.362
	I write restaurant review on Facebook because my friends leave a comment on my review	3.00	1.069	10.869	3.27	.799	15.838	3.13	1.060	11.447
	I write restaurant review on Facebook because I met nice people this way	2.60	1.183	8.510	2.47	1.060	9.012	3.00	1.309	8.874
	I write restaurant review on Facebook because it is fun to community this way with my friends	3.27	1.223	10.347	3.20	1.373	9.025	3.60	1.242	11.225

<sup>a</sup> Mean Score based on a 5-point scale where 1 equals unacceptable, 2 equals poor, 3 equals acceptable, 4 equals good and 5 equals excellent

<sup>b</sup> \*\*\* p<.001

## 4. RESULTS AND FINDINGS

### 4.1 Demographic Profiles of Respondents and Study Population

The study population of this research involves Facebook members who have written reviews on Facebook. The data were collected from 16 October to 4 November 2011 from 275 online and offline respondents.

A total of 157 online questionnaires were collected, with respondents from Korea, other Asian countries, Great Britain, and elsewhere in Europe. A total of 118 offline questionnaires were collected, with respondents mainly from Great Britain, Europe, and Asia. Of the 275 collected questionnaires, 175 were eligible for the study.

This study adopts Hutcheson and Sofroniou's rule of 150, and the 175 usable questionnaires make up an acceptable number for this research. Table 6 represents the demographic profiles of

the descriptive statistics results.

The results of descriptive statistics show 30 reasonable items and three bad items. In particular, the four integrated factors are all reasonable, which are sign and hedonic (f1b), sign (f2b), innovation novelty (f4b), innovation creativity (f5b), and functional need (f6b) through descriptive statistics, factor analysis with reliability statistics, and cluster analysis. Moreover, cluster analysis shows that the innovation need of creativity (f5b) includes all the other factors.

The results of descriptive statistical analysis for the information need scale are presented in Table 7. Table 8 indicates the final five factors of the factor analysis and descriptive statistics results. In order to demonstrate the correlation between the factors, cluster analysis was conducted. The results indicate an average level of linkage between the factors, shown in the dendrogram in Fig. 2.

Table 6 Demographic Profiles of Descriptive Statistics Results

		Frequency	Percent
<b>Gender</b>	Male	83	47.4
	Female	92	52.6
<b>Education</b>	GCSE	4	2.3
	A LEVEL	30	17.1
	UNDERGRADUATE	73	41.7
	POSTGRADUATE	68	38.9
<b>Nationality</b>	British	52	29.7
	European	11	6.3
	Korean	30	17.1
	Thai	21	12.0
	Vietnamese	5	2.9
	Chinese	26	14.9
	Taiwanese	13	7.4
	Indian	8	4.6
	Other Asian	6	3.4
	Other	3	1.7

Table 7 Information Need of Descriptive Statistics Analysis

Variable names	Measurement items (N=171)	Mean Score <sup>a</sup>	Standard Deviation
IC	As I write the restaurant review on Facebook, the problem that I had at the restaurant will be solved	2.69	1.092
IC	As I write the restaurant review on Facebook, the reputation of the restaurant will be improved	3.11	1.028
IC	As I write the restaurant review on Facebook, the service quality of the restaurant will be improved	2.82	.986
HE	I enjoy writing the restaurant review on Facebook	3.01	.994
SSE	I write the restaurant review on Facebook because I feel good when I tell my successful experience to my friends	3.59	.990
SSE	I write the restaurant review on Facebook because I feel good when my friends "Like" my review	3.67	1.019
SSI	I write the restaurant review on Facebook because I meet nice people this way	2.93	1.141
HE	I write the restaurant review on Facebook because it enhances my recollection of the restaurant experience	3.19	1.010
HE	I write the restaurant review on Facebook because it helps me to recollect my virtual senses (e.g., virtual environment, physical presence)	3.06	1.060
FE	I write the restaurant review on Facebook because it is convenient to inform my restaurant experience to my friends	3.62	.920
FE	I write the restaurant review on Facebook because it is efficient to inform my restaurant experience to my friends	3.60	.931
SSI	I write the restaurant review on Facebook because it is fun to share information in this way with my friends	3.61	.982
SSI	I write the restaurant review on Facebook because my friends leave a comment on my review	3.32	.965
SSE	I write the restaurant review on Facebook to express my joy about a good restaurant experience	3.64	1.012
FU	I write the restaurant review on Facebook to help my friends make the right decision on their restaurant choice	3.62	.950
FU	I write the restaurant review on Facebook to help my friends reduce the performance risks (e.g., accident, reservation) that they may have	3.36	.995
FU	I write the restaurant review on Facebook to help my friends reduce the situational risks (e.g., crime, environmental danger) that they may have	3.15	1.083
SA	I write the restaurant review on Facebook to help my friends select the right restaurant	3.76	.935
IN	I write the restaurant review on Facebook to introduce new restaurant	3.67	.920
IN	I write the restaurant review on Facebook to introduces adventurous experience	3.34	.969
IN	I write the restaurant review on Facebook to introduces new experience	3.57	.931
FK	I write the restaurant review on Facebook to provide benefits to my friends	3.58	.860
FK	I write the restaurant review on Facebook to provide up-to-date information to my friends	3.47	.889
FK	I write the restaurant review on Facebook to provide useful information to my friends	3.68	.831
SA	I write the restaurant review on Facebook to save my friends from having the same negative experience as me	3.69	1.044

FE	I write the restaurant review on Facebook to save time in providing information to my friends	3.39	.933
SSI	I write the restaurant review on Facebook to share my experience with my friends	3.70	.938
SSE	I write the restaurant review on Facebook to tell my great experience to my friends	3.66	.965
SA	I write the restaurant review on Facebook to warn my friends from having the same negative experience as me	3.58	1.002
HE	My restaurant review helps my friends to recollect their restaurant experience	3.29	.952
HE	While writing the restaurant review, I am able to recollect many images of the restaurant in my mind	3.39	.995
HE	Writing the restaurant review on Facebook is entertaining	3.29	.995
FE	Writing the restaurant review on Facebook is more convenient than writing to or calling to the company	3.41	1.161

<sup>a</sup> Mean Score based on a 5-point scale where 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree

Table 8 Factor Analysis Results with Mean and Standard Deviation

	Cronbach's Alpha	Factor Loadings	Ma	SD
<b>Sign and Hedonic</b>	<b>.762</b>			
• Writing the restaurant review on Facebook is entertaining		.614	3.29	.996
• While writing the restaurant review, I am able to recollect many images of the restaurant in my mind		.541	3.39	.995
• I write the restaurant review on Facebook because my friends leave a comment on my review		.524	3.32	.967
• I write the restaurant review on Facebook because I feel good when I tell my successful experience to my friends		.573	3.58	.987
<b>Sign</b>	<b>.779</b>			
• I write the restaurant review on Facebook to help my friends make the right decision on their restaurant choice		.562	3.62	.953
• I write the restaurant review on Facebook to help my friends select the right restaurant		.832	3.76	.935
• Innovation	<b>.791</b>			
• I write the restaurant review on Facebook to introduce new restaurant		.515	3.67	.920
• I write the restaurant review on Facebook to introduces adventurous experience		.666	3.34	.971
• I write the restaurant review on Facebook to introduces new experience		.719	3.58	.926
<b>Innovation</b>	<b>.743</b>			
• As I write the restaurant review on Facebook, the problem that I had at the restaurant will be solved		.821	2.70	1.087
• As I write the restaurant review on Facebook, the reputation of the restaurant will be improved		.595	3.11	1.030
• As I write the restaurant review on Facebook, the service quality of the restaurant will be improved		.647	2.82	.986
<b>Functional</b>	<b>.777</b>			
• I write the restaurant review on Facebook to help my friends reduce the performance risks (e.g., accident, reservation) that they may have		.734	3.36	.995
• I write the restaurant review on Facebook to help my friends reduce the situational risks (e.g., crime, environmental danger) that they may have		.723	3.15	1.083

<sup>a</sup> Mean score based on a 5-point scale where 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, 5 strongly disagree

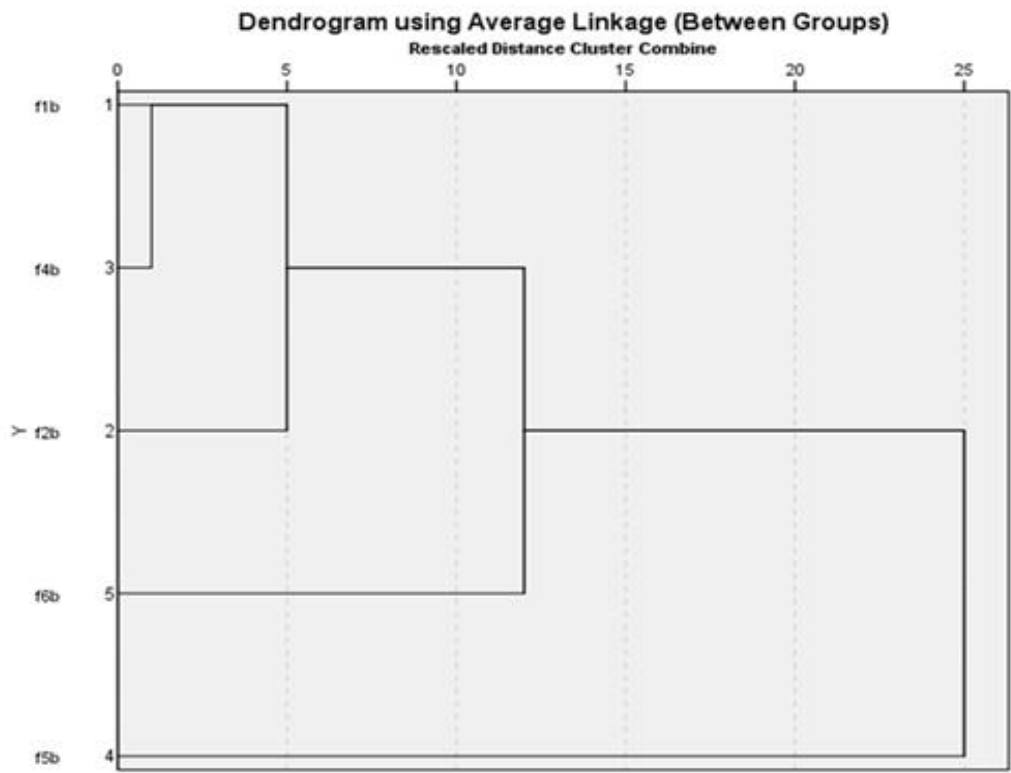


Fig. 2 Cluster Analysis result (Key to constructs - f1b: Sign and Hedonic, f2b: Sign, f4b: Innovation, f5b: Innovation, f6b: Functional)

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Study Findings and Discussion

This study has resulted in some interesting findings; first, Vogt and Fesenmaier’s five motivations (functional, hedonic, aesthetic, innovation, and sign) that were modified into five new motivations (sign, sign and hedonic, innovation creativity, innovation novelty, and functional need). The aesthetic need is involved in the hedonic need as well as situated between the sign and hedonic need.

Second, sign and innovation needs are essential factors in the online community. In particular, earlier research suggests that the sign need is the most important factor in a virtual

environment, but innovation need is not involved. Thus, this study found a distinctive result compared with other studies, showing that innovation need was also an essential factor in a virtual world [5-6,29].

Third, when developing measurement items in this study, content validity analysis shows that social expression has the largest amount of insufficient items. This may be because survey participants do not respond honestly to questions, and the results varied depending on participants’ nationalities.

Fourth, the developed questionnaire contains 33 measurement items, 30 of which were acceptable. The unacceptable items include two questions about innovation need and one about sign need. This was evaluated through descriptive statistical analysis.

Fifth, a filter question was used at the start of the questionnaire, which resulted in 100 ineligible responses. This highlights the importance of using a filter question to target specific respondents using questionnaires. Doing so improves response rate and the quality of the survey data.

Sixth, innovation need has been divided into two factors: innovation novelty and innovation creativity. Creativity is not only for creating new things but includes a wide range of features such as changes or improvements. As a result, novelty and creativity from the framework have more distinctive definitions.

Finally, the innovation need of creativity includes three other factors, which have the largest range of definitions in a virtual environment. Therefore, the reason Facebook users write experienced reviews on the site is related to innovation creativity.

This modified 'information need' theory can be used by other researchers when they study motivation or review-writing behaviour in the future.

## 5.2 Theoretical Implications

This study modified Vogt and Fesenmaier's 'information need' theory, which has been adopted by some researchers (Table 1), for virtual communities, and developed measurement items for its factors. The original theory involves five motivations (functional, hedonic, aesthetic, innovation, and sign), but it has not been clearly examined in a virtual world by other researchers.

This study first demonstrated online users' motivation in review-writing behaviour in the context of Facebook. It further developed measurement items that are dedicated to understanding Facebook members' motivation factors through statistical analysis. The strength

of the developed measurement items is that they can measure between various factors using 'information need' theory as modified for online communities; this modified theory and the measurement items can be used in future studies.

Hence, Vogt and Fesenmaier's five motivations were modified into five new motivations in a virtual environment. Those five factors mainly influence Facebook members' review-writing behaviour. Of the five factors, sign and innovation need are the most important, and innovation need includes the other four factors in an online environment.

## 5.3 Managerial Implications

This study followed the rule of 150 [10], which states that an acceptable number of data points should be at least 150 to 300 cases, closer to 150 when there are a few highly correlated variables, as would be the case when there are collapsing highly multi-collinear variables. Thus, 175 is a reasonable number for this research. In the future, other researchers should be careful about the number of respondents, and this author suggests that they follow the same method as was used in this research.

## 5.4 Limitations and Future Research

This study has some limitations; first, social expression returned several unacceptable items as compared with other factors, perhaps because survey respondents were not honest on these items.

Second, among the 33 acceptable measurement items, four items did not satisfy both the mean score of over 3.00 and over 80 percent of dummy variable; those items only accept over 3.00 mean score, otherwise, this study obtain

those four items for measuring items.

Finally, this study developed a concept of 'emotional and imagery' in the hedonic factor, whereas the emotional concept had only two valid items. Hence, the emotional concept might be less useful, so this study combined the two under the concept of hedonic need.

## 5.5 Conclusion

This study investigated Facebook members' review-writing behaviour, focussing on their motivations. The results highlight five types of motivations: sign, sign and hedonic, innovation creativity, innovation novelty, and functional need. This modified theory shows that, online, sign and innovation needs are the most important factors; this study explains the important role of sign need from the literature and includes hedonic need in a virtual environment. In particular, the analysis of results shows that innovation need can be split into two distinct needs. The results of this research can be used by other researchers when they study 'information need' theory or online users' motivation in the future.

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