Full Length Research Paper

What motivates people to search online? Antecedences and comparisons among different buyers

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Human factors affect information -seeking behavior in online shopping. However, there are few studies that investigate the differences in product-selections on information seeking. This study adopts Baker's theory with respect to consumer decision style (1999) to identify influential antecedents and contextual factors in web pages best explain consumer information-seeking behavior in the pre-purchase stage. Four cases of different buys that generalize high versus low level of product involvements are selected for investigations. Results identify three types of shopping styles. In addition, product involvement is revealed as a significant factor in affecting shoppers' information search. Information with respect to store reputation, product functions and payment methods are perceived as the most important for web store search. Shoppers' age, occupations, income and online shopping expenses are also influential. This study generalizes human factors in adopting information seeking in the pre-purchase stage and suggests web information system designs to facilitate online shopping.

Key words: Information seeking, electronic commerce, pre-purchase search, online shopping, consumer behavior.

INTRODUCTION

Human factors affect online shopping. Consumers' personality types and the personalization of virtual stores also have effects on purchasing decisions (Barkhi and Wallace, 2007; Lian and Lin, 2008). However, online shoppers' information- seeking behavior and types have not been fully defined. Therefore, this paper investigates antecedents of and factors in consumer information-seeking behavior. It is argued that consumer information-seeking behavior depends on the products and services being sought (Liang and Lai, 2002). For online information search, there are several arguments (Engel et al., 2000; Grewal et al., 2003; Liang and Lai, 2002). This paper continues the latest finding (Lin, 2004) based

on Baker's theory (Baker, 1999) that suggests consumers' decision-making style can lead human behavior in conducting information search with an aim to discover how product involvement affect human information seeking in terms of product and web store search. The paper is organized as follows.

RESEARCH BACKGROUND

Many people rely on the Internet to obtain information and make decisions (Scheepers, 2001). The search for purchase information is an exploratory task (Lian and Lin, 2008; Scheepers, 2001). In the literature, seeking health information (Leung, 2008; Marahan-Martin, 2004), travel products (Gursoy and McCleary, 2004; Scheepers, 2001), digital scholarly journals (Park and Kim, 2009), online information retrieval (Liaw and Huang, 2006) have been

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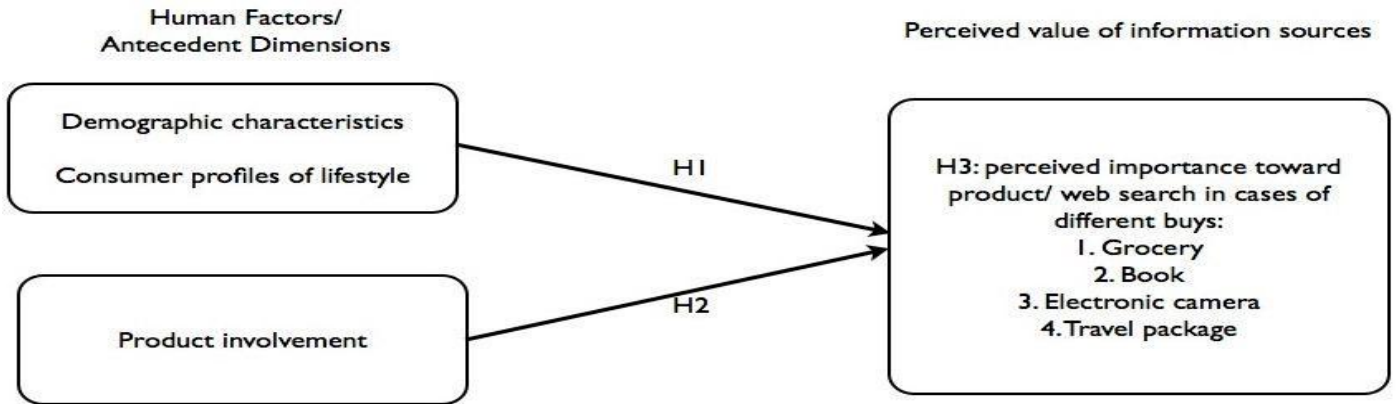
Figure 1. The research framework of shopper information search behavior.

explored. However, there are few studies that investigate how the product- selections affect consumer information seeking behavior.

Obtaining pre-purchase information is a critical step in online purchasing (Mourali et al., 2005). In general, shoppers use several types of information sources in order to make buying decisions (Gursoy and McCleary, 2004). A variety of studies on shoppers' search for information have been found in the marketing and consumer-psychology literature (Barkhi and Wallace, 2007; Lian and Lin, 2008; Lin and Wang, 2008; Tarn et al., 1999). Consumers use only a few of the sources available to them in an effort to keep the search costs low. Compared with the shoppers' selection of information sources, there has been less research on shoppers' perceived value of information content.

Furthermore, sellers employ segmentation strategies in targeting different styles of shoppers and in developing online shops (Guttman et al., 1998; Liang and Lai, 2002; Swinyard and Smith, 2003; Yoon and Hwang, 1995). In addition the segmentation approach is applicable to und-erstanding shoppers' behaviors (Yoon and Hwang, 1995). In the literature on online shopping, the importance of product involvement in consumer behavior on the online market has been highlighted (Lian and Lin, 2008). Apart from that, shoppers' information seeking behavior can be explained in the context of product and web site search (Lin and Wang, 2008).

THEORETICAL FRAMEWORK AND HYPOTHESES

Based on the discussions above, a research framework of shopper pre-purchase information seeking behavior is proposed (Figure 1). As this paper investigates the influence of product involvement on behavior, it is assumed that shopper information search behavior is linked to demographic characteristic and product involve-ment. This study adopts Baker's model of consumer

decision-style in order to generalize shoppers' information-seeking behavior. Four products are selected for examination: (1) electronics, (2) books, (3) groceries, and (4) travel packages (Figure 2). In the followings are the explanations of the research hypotheses.

Demographics and lifestyles affecting consumer behavior

The demographics and lifestyles are revealed to be influential on information-seeking behavior (Bonsnjak et al., 2007; Lin and Wang, 2008; Kim, 2009; Tarn et al., 1999) . It is noted that online shoppers can be identified in terms of their lifestyle, while demographics has influences on their online shopping behavior. The following hypotheses can be inferred from the above:

H1[a]: Consumer profiles of lifestyles are positively related to online information-seeking behavior.
H1[b]: Consumer demographics are positively related to online information-seeking behavior.

The influence of product involvement on shopper decision-making

Product involvement is influential in consumer attitudes toward online shopping (Lian and Lin, 2008; Lin and Wang, 2008). For online shopping, shopper may perceive the information sources differently. The following hypothesis can be inferred from the above:

H2: Product involvement positively affects attitudes toward online information seeking.

Product and web store information search

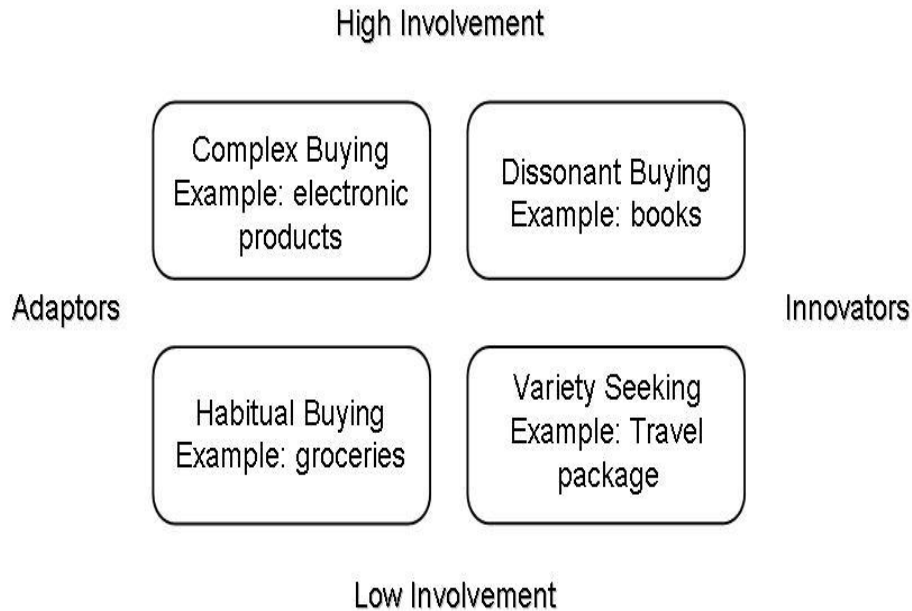Shoppers encounter product and web store search when

Figure 2. Decision styles of market initiators and the examples for each type of product (Amended from [Baker, 1999: 124]).

seeking information (Lian and Lin, 2008) . In the product information search, product attributes are frequently used to measure the differences in promoting and marketing products (Lefkoff-Hagius and Mason, 1993; Lian and Lin, 2008). For web store information search, there are no explicit guidelines on which features of web stores work and why. However, web site characteristics can affect shoppers' behavior (Liang and Huang, 1998). These characteristics include good design features, motivators and security. The following hypotheses can be inferred from the above:

H3[a]: Product involvement positively affects user attitudes toward online product information seeking.
H3[b]: Product involvement positively affects user attitudes toward online web-store information seeking.

METHODS

Data collection

Questionnaires were distributed on the university campus. The 16-page questionnaire consists of three parts. The first part comprises questions on subjects' lifestyles (Appendix A). The second part consists of questions of four types of products: groceries (Appendix B), travel packages, electronics and books. Shampoo is selected as a grocery purchase, and the digital camera is selected as an electronics purchase. One printed page of selected web stores for four types of products and the corresponding information provides reference materials for the participants. The remaining two parts are designed to test participants' lifestyle and demographic information. In total, the questionnaire takes 15 to 20 min to complete. In order

to encourage participation, every participant receives a gift worth $10.

Statistical process

Data analysis entailed four steps. First, descriptive statistics are computed. Second, segmentation of consumers based on their lifestyles is tested. Third, principal component analysis and reliability tests were used to examine the dimensions underlying the information contents in terms of product and web store. In addition, the Kaiser-Meyer- Olkin (KMO) and Bartlett's Test of Sphericity were used to measure sampling adequacy and to identify satisfactory results of factor analysis. Fourth, information search behavior is analyzed by using the one-way ANOVA. Last, results of data analyses are discussed.

Measure and pilot study

For the measurements of shoppers' lifestyle, a set of measurement standard is adopted due to the Taiwanese- background culture where those subjects involved in this research been influenced by (Lin and Wang, 2008). It concerns fashion, leisure attitudes, religious belief, city preference, life plan and price sensitivity (Wang et al., 2006). Thirteen variables regarding information sources in the context of product and web store search are derived from the literature (Table 1). It is proposed that consumer characteristics, website and product characteristics significantly impact online shopping (Chang et al., 2005; Chow, 1999; Engel et al., 2001; Liang and Lai, 2002). For product information search, variables with regard to price, specifications, brand, country of origin, manufacture date (if known), functions, style regarding product are influential in a shopping decision (Chang et al., 2005; Chow, 1999; Liang and Huang, 1998). For web store search, variables of the name of web store, reputation, payment methods, delivery method, promotion,

Table 1. Antecedents of the information search and online purchase intentions.

Independent variables	This study	Summary of the literature	Relevant literature reveal its importance in information search
	Price	Price comparison	(Liang and Lai, 2000, 2002)
	Product specifications	Fundamental attributes	(Chow, 1999)
	Brand	Well-known brand	(Chang et al., 2005)
Product	Country of Origin	Formal attributes	(Chow, 1999)
	Manufacture date	Formal attributes	(Chow, 1999)
	Functions	Fundamental attributes	(Chow, 1999)
	Product style	Formal attributes	(Chang et al., 2005)
	The name of web store	Popular web pages	(Chang et al., 2005)
	Reputation	Reputation of web sites	(Chow, 1999)
Web site	Payment methods	Multiple payment methods	(Liang and Lai, 2000, 2002)
	Delivery methods	Home delivery	(Liang and Lai, 2000, 2002)
	Promotion	Sales promotion	(Chow, 1999)
	Recommended product	Recommendations	(Liang and Lai, 2000, 2002)

recommended product are influential (Chang et al., 2005; Chow, 1999; Liang and Lai, 2002). The pilot study invited 18 postgraduate students from a management school at a university in southern Taiwan. Results reveal that all variables have high reliability and can be tested further. However, some questions have been modified in order to convey the correct message and avoid confusions. Then, the revised version of questionnaire is prepared for distribution.

RESULTS

Characteristics of the sample

Of 400 responses, 291 (72.75%) are valid. The invalid questionnaires were incomplete or had been submitted by people without online shopping experience. Invalid questionnaires may have resulted from the lengthiness of the questionnaire, a lengthiness that was unavoidable because the questionnaire was intended to investigate four types of products. A single incomplete response rendered a questionnaire invalid.

Table 2 shows that there are 153 subjects are male (52.6%) and 138 are female (47.4%). Most of the subjects are 20 - 30 years old and have attended college. More than half of the subjects (68%) shopped online at least once in the six months preceding the survey and most of them (56.7%) spend about $47 for online shopping. Groceries are the most frequently purchased item (52.8%), followed by books (40.7%), electronics (1.9%) and travel products (4.6%).

Instrument validity and reliability

Factor analysis with varimax rotation was used to assess

discriminate and convergent validity. The threshold of factor loading is 0.5; Cronbach's is used to test instrument reliability. Before the factor analysis is conducted, tests of KMO (Kaiser Meyer Olkin measure of sampling adequacy) and Bartlett (Bartlett's test of sphericity) are carried out to test the suitability of the lifestyle and information searches for different buys, respectively. KMO is applied to evaluate if variables are uniform and could be clustered as a construct.

For sampling adaptability, according to Kaiser (Kaiser, 1974), the greater the KMO, the more adaptive to factor analysis it will be. The value of KMO should be greater than 0.7. The value of adaptability of KMO with respect to the factor of lifestyle and four types of buys are all greater than 0.7 (p < 0.000). According to (Kaiser, 1974), it is reflected measurements both for lifestyle and perceived importance regarding information sources have good adaptability and have common factors in correlating matrices. These indicate that it is justified to apply factor analysis to examine consumers' lifestyles and those information sources with regard to product and web store information in the study. For the lifestyle measurement, results of the varimax reveal that by segmenting the collected subjects into six groups that explains 62.25% variance (Table 3) . As well, the Cronbach's alpha is 0.83, which indicates a high reliability of this set of data. The factors that differentiate shoppers' lifestyles in the literature are fashion-consciousness, quality, celibate-intended, religion and faith, career planning, self-confidence (Table 4).

For the perceived importance of information sources, results of the factor analysis with varimax rotation illustrates that the most of the constructs have acceptable instrument validity (> 0.5) while all the values are

Table 2. Respondents' demographic characteristics.

Variables	n	Frequency	(%)
Gender	291		
Female		153	52.6
Male		138	47.4
Education background	291		
High School		8	2.7
College		3	1
University		232	79.7
Postgraduate or above		48	16.5
Online shopping experience in the last half year	291		
One time		93	32
One to three times		114	39.2
Three to six times		49	16.8
More than six times		34	11.7
Total expenses in online shopping	287		
Below $17		98	33.7
$17 to $60		165	56.7
$60 to $167		19	6.5
Above $60		5	1.7
Purchased products	283		
Grocery		150	52.8
Books		115	40.6
Electronics		5	1.8
Travel products		13	4.6

Table 3. Factor analysis.

Factor no.	Eigen values	Variance explained (%)	Cumulative eigen values	Cumulative variance explained (%)
1	5.22	26.11	5.22	26.11
2	2.03	10.16	7.25	36.27
3	1.70	8.48	8.95	44.75
4	1.26	6.30	10.21	51.06
5	1.22	6.12	11.44	17.17
6	1.01	5.08	12.45	62.25

Table 4. The validity of lifestyle measurement.

Factors	Question No.	Crobach's alpha
Fashion-conscious	1 ~ 8	0.87
Quality	9 ~ 11	0.50
Celibacy	12 ~ 13	0.70
Religion and faith	14 ~ 16	0.73
Career planning	17 ~ 18	0.59
Self-abasement	19 ~ 20	0.60
Total		0.83

reasonably acceptable with regard to instrument reliability (> 0.7) (Table 5).

Table 5. Principal components factor analysis for information content.

Variable	Grocery	Travel product	Electronics	Book
Price	0.63	0.60	0.62	0.51
Product specifications	0.47	0.75	0.70	0.52
Brand	0.34	0.69	0.68	0.53
Country of origin	0.45	0.68	0.57	0.53
Manufacture date	0.55	0.63	0.63	0.43
Functions	0.40	0.61	0.70	0.57
Product style	0.70	0.67	0.394	0.48
The name of web store	0.46	0.53	0.52	0.54
Reputation	0.25	0.71	0.76	0.59
Payment methods	0.47	0.69	0.73	0.63
Delivery methods	0.40	0.71	0.72	0.57
Promotion	0.56	0.57	0.62	0.60
Recommended product	0.43	0.65	0.57	0.50
Eigenvalues	3.042	5.59	5.31	3.80
Cumulative variance explained	41.55%	60.08%	55.94%	58.66%
Reliability coefficients	0.66	0.88	0.84	0.77

Table 6. ANOVA and the Scheffe's test.

Factor Group	Factor 1 Fashion conscious	Factor 2 Religion and faith	Factor 3 Self-abasement	Factor 4 Career planning	Factor 5 Celibacy	Factor 6 Quality
Fashionable and self-disciplined shopper	0.810	0.085	0.602	0.323	-0.031	0.133
General shopper	-0.546	0.684	-0.016	-0.462	-0.331	-0.436
Pragmatic shopper	-0.305	-0.696	-0.576	0.096	0.327	0.260
F-value	81.40*	70.18*	47.58*	17.82*	11.68*	14.75*

*$p < 0.05$.

Cluster analysis for types of shoppers

K-Means analysis is used to perform cluster analyses as it fits the observation values of greater samples. In our case, there are 291 (n > 150) valid data sets and it is suitable to apply this K-means test to analyze subjects'' differentiated styles. Followings are the details.

The number of differentiated clusters

Fisher's linear discriminate analysis is applied from two to six clusters. The accuracy of the forecast of two and three clusters is the same (100%). Then, Wilk's Lambda values were calculated; they indicated that when the number of clusters is reduced from three to two, the Wilk's Lambda values are significantly increased (from 0.17064 to 0.31766). Therefore, groups of three differentiated clusters are selected.

The segmented groups

Referring to the ratios of group sample distribution of lifestyle as shown in Table 6, the numbers of samples of the three groups are as follows: Group 1: 99, 34.1%; Group 2: 91, 31.1%; Group 3: 101, 34.8%. These three groups are nearly equal in size.

The ANOVA analysis and Scheffe post hoc comparison methods were applied to test the three differentiated groups (latter the three groups are named as fashionable and self- discipline shopper, general shopper and pragmatic shopper). Table 6 illustrates the results that all p-values of the three groups corresponding to individual lifestyle reach the standard of significance of 0.05. Those indicate significant differences among these three groups. Due to different numbers of components in each group, the Scheffe post hoc test method is adopted to compare the average score values in factors of lifestyle in order to reveal the differentiated characteristics for each group.

Table 7. Descriptive statistics (n = 291).

Variables	Average	Grocery	Travel packages	Electronics	Books
1. Price	4.05	3.97 (0.75)	4.32 (0.64)	4.22 (0.70)	3.80 (0.86)
2. Product specifications	3.96	3.57 (0.85)	4.51 (0.673)	4.43 (0.65)	3.31 (0.77)
3. Brand	3.93	3.84 (0.81)	4.27 (0.66)	4.35(0.80)	3.27(0.83)
4. Country of origin	3.96	3.35 (2.14)	4.39 (0.68)	4.08 (0.86)	4.01 (0.78)
5. Manufacture date	3.57	3.63 (0.976)	4.19 (0.74)	3.25 (0.82)	3.19 (0.88)
6. Functions	4.08	4.19 (0.763)	3.88 (0.79)	4.42 (0.67)	3.81(0.91)
7. Product style	3.79	3.40 (0.874)	4.12 (0.77)	4.20 (1.35)	3.45 (0.84)
8. The name of web store	3.56	3.14 (0.895)	3.80 (0.85)	3.74 (0.82)	3.57 (0.81)
9. Reputation	4.29	4.08 (0.79)	4.43 (0.73)	4.43 (0.74)	4.21(0.76)
10. Payment methods	4.08	4.16 (0.708)	4.05 (0.76)	4.05 (0.74)	4.06 (0.74)
11. Delivery methods	4.06	4.12 (0.708)	4.01(0.81)	4.09 (0.77)	4.03 (0.77)
12. Promotion	3.82	3.70 (0.778)	3.94 (0.79)	3.83 (0.80)	3.79 (0.85)
13. Recommended product	3.78	3.80 (0.816)	3.75 (0.85)	3.82 (0.80)	3.75 (0.90)

Note: ( ) is the value of standard deviation.

Based on that, these three groups of shoppers are identified.

Fashionable and self-disciplined shoppers view the sense fashion as an important attribute and they feel inadequate in personal ability and well- being. They plan their career in advance, taking courses or seeking exposure to a particular field. Besides, general shoppers value religion and spiritual life. They have strong faith; however, they are not ambitious or aggressive in terms of their career. They are not interested in having a high standard of living. For shoppers who are categorized as pragmatic shoppers value career planning, celibate-intended, and quality. Therefore, the H1[a] is supported.

Analyses of information-seeking behavior

Table 7 illustrates the descriptive statistics used in this study. Means and standard deviations are computed for each variable. All variables are of at least average importance (5-point Likert-type scale: 1 = not important; 3 = average; 5 = extremely important). For average perceived importance, variables of store reputation (mea = 4.29), functions of product (mean = 4.08) and available payment methods (mean = 4.08) are perceived as the highest.

To evaluate consumer demographics related to online information-seeking behavior, ANOVA was used. The dependent variables measure consumer attitudes toward perceived importance in the post-purchase stage in the context of the selected product ($\gamma 1$: groceries; $\gamma 2$: travel products; $\gamma 3$: electronics; $\gamma 4$: books). The independent variables are $\varphi 1$: gender, $\varphi 2$: age, $\varphi 3$: educational background, $\varphi 4$: monthly allowances, $\varphi 5$: marital status, $\varphi 6$: occupation, $\varphi 7$: online shopping frequency, $\varphi 8$:

online shopping expenses). Table 8 shows that the results yield significant p-values ($p < 0.000$) . Shoppers perceive the information sources for the buys of grocery, travel packages and electronic based on their demographics significantly different. But for the book buy, subjects perceive the information sources as important at the same level. Therefore, H1[b] is partially supported.

To evaluate the relevancy between product involvement and online information-seeking behavior, ANOVA was utilized. Based on Baker's theory, grocery and travel package are defined as low-involvement products; electronics and books are high-involvement products. Therefore, the paired t-test was employed twice (electronics-groceries and books-travel packages). Table 9 shows that the results yield significant p-values ($p < 0.000$).

Table 9 reveals that for categories of adopters and innovators, product involvement partly affects users' attitudes toward online information seeking. For product information seeking, product involvement positively affects users' attitudes toward variables of product price to product style. Furthermore, in the category of adopters, shoppers perceive the information sources as more important for high-involvement buy. While they are viewed as more important in the cases of low-involvement buy in the innovative category. Furthermore, shoppers perceive the name and reputation of web stores significantly differently in the context of different product involvement. Therefore, H3[a] is supported; H3[b] is partially supported.

DISCUSSION

This study adopts Baker's theory of consumer   decision

Table 8. Significant results regarding comparisons among consumer demographics and the perceived importance regarding information sources.

Types of buyers/ demographics	Age	Monthly allowances	Occupation	Online shopping expenses
Grocery			Payment methods (=4.176***) Delivery methods (=3.507***)	
Travel product		Product specifications (=2.352***) Brand (=2.181***) Delivery methods (=2.108***)	Product specification (=3.496***) Reputation (=6.188***) Payment methods (=3.58***) Delivery method (=3.941***)	Product specification (=3.664***) Delivery methods (=3.110***) Promotion(=2.155***)
Electronics	Functions (=2.816***)	Product specifications (=2.309***)	Reputation (=5.025***) Payment methods (=3.435***)	

***p < 0.000

Table 9. Analyses of the four products.

Variables	Adopters			Innovators		
	High involvement-electronics	Low involvement-groceries	F	High involvement-books	Low involvement-travel packages	F
1. Price	4.22 (0.70)	3.97 (0.75)	289***	3.80 (0.86)	4.32 (0.64)	289***
2. Product specifications	4.43 (0.65)	3.57 (0.85)	289***	3.31(0.77)	4.51 (0.673)	289**
3. Brand	4.35 (0.80)	3.84 (0.81)	289***	3.27(0.83)	4.27 (0.66)	287***
4. Country of origin	4.08(0.86)	3.35 (2.14)	288***	4.01(0.78)	4.39 (0.68)	289***
5. Manufacture date	3.25 (0.82)	3.63 (0.976)	289***	3.19 (0.88)	4.19 (0.74)	289***
6. Functions	4.42 (0.67)	4.19 (0.763)	288***	3.81 (0.91)	3.88 (0.79)	289
7. Product style	4.20 (1.35)	3.40 (0.874)	289***	3.45 (0.84)	4.12 (0.77)	287***
8. The name of web store	3.74 (0.82)	3.14 (0.895)	289***	3.57 (0.81)	3.80 (0.85)	288***
9. Reputation	4.43 (0.74)	4.08 (0.79)	289***	4.21 (0.76)	4.43 (0.73)	289***
10. Payment methods	4.05 (0.74)	4.16 (0.708)	288	4.06 (0.74)	4.05 (0.76)	288
11. Delivery methods	4.09 (0.77)	4.12 (0.708)	289	4.03 (0.77)	4.01 (0.81)	289
12. Promotion	3.83 (0.80)	3.70 (0.778)	289	3.79 (0.85)	3.94 (0.79)	288
13. Recommended product	3.82 (0.80)	3.80 (0.816)	289	3.75 (0.90)	3.75 (0.85)	288

Note: ( ) is the value of standard deviation, ***p < 0.000, ** p < 0.001.

style (Baker, 1999) to identify influential antecedents and contextual factors in online stores that stores that affect consumer information-seeking behavior in the pre-purchase stage. Four cases that generalize high versus low level of product involvements are selected for investigations: (1) groceries, (2) books, (3) electronics, and (4) travel packages. Analyses demonstrated that product involvement have significant influences on shoppers' information search behavior. Furthermore, this study found that the significant variables in the context of information sources are important in two cases with respect to product involvement. The analytical results are discussed below.

Habitual buying, frequent purchases and tangible products or services

This study adopted grocery purchasing as an example of habitual buying, frequent purchases and tangible products

or services. Function and price of the product are important for product search; store reputation and delivery methods are important for web store information search. It is suggested that groceries are a common product, so shoppers tend to have positive attitude toward purchasing groceries online regardless of their familiarity with information technology.

Variety seeking, frequent purchases and intangible products or services

Travel packages are examples of variety seeking, frequent purchases and intangible products or services. Details about travel packages, country of departure, prices and brand of travel operator are perceived as very important. For web store information search, store reputation and payment methods are perceived as important. These results resemble those of types of products or services.

Complex buying, infrequent purchases and tangible products or services

This study uses electronics as an example of infrequent purchases, tangible products/services for complex buying. Results reveal that information sources are perceived to be as important as those that have strong links with buying decisions. Product specifications, brand, price and the country of manufacturer are revealed as very important. For web store information search, reputation of web stores as well as information about delivery methods are perceived as very important.

Dissonant buying, frequent purchases and tangible products or services

This study used books as an example of frequent purchases, tangible products and dissonant buying. The research findings indicate that bookstore reputation is perceived as the most important. For product information search, the location of publishers is important because it has a link with the language of the publications. For web store search, details of the payment methods are similarly perceived as important. As books are popular products, shoppers tend to emphasize the availability of information about the product in the pre-purchase process.

Conclusion

This study examined how human factors and product involvement affect online information search behavior in the pre-purchase stage. The determinants of shoppers'

search behavior differ according to the level of product involvement. Based on investigating a limited set of products, the following findings are obtained:

(1) Human factors in terms of demographics affect how people search online. Consumers' personality types and the characteristics of information provided in virtual stores affect the buying decision.
(2) Results reveal that store reputation, payment methods and product functions are important sources of information according to shoppers.
(3) Different types of shoppers can be identified by their self-described characteristics. Therefore, the marketing segmentation strategy applies to online shoppers.
(4) Shopper information-search behavior is affected by product involvement. Price is the most influential factor that shoppers consider in information evaluations when making online purchasing decisions; store reputation is the significant factor that shoppers consider when deciding which online shop to buy from.

Based on the findings, the obtained results are consistent with previous studies, consumer demographics and profiles are linked to their behavior. However, this study found that these influences have also been affected by product involvement. The managerial implications of this study denote that while designing a marketing plan and online store, online retailers should take product involvement into consideration for meeting shoppers' information needs.

This study identifies several types of shoppers. Based on these findings, marketers can make target potential shoppers and design a segmented-marketing strategy. This study generalizes human factors in adopting information seeking in the pre-purchase stage and suggests web information system designs to facilitate online shopping. Future studies can consider different types of intangible products or services in examining consumer behavior. In addition, the link between shoppers' lifestyle with information search behavior can be explored by future empirical studies.

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Characteristics	Factors
A. Fashion conscious	a. I often try the latest hair styles.
	b. I usually have one or more outfits that are of the very latest style.
	c. When I must choose between the two I usually dress for fashion, not for comfort.
	d. I am a fashionable person in other people's eyes.
	e. I intentionally to dress for showing my own character.
	f. I notice fashion trend.
	g. I hope to have character and fashionable life style.
B. Recreational attitude	I only want to take a rest and relax in the holidays.
C. Quality	a. I like the living styles of the Western countries.
	b. I hope to live in a house with my own character.
D. Foreign conscious	a. I relatively worship successful businessman.
	b. Even if the price is a little bit expensive, I still like to buy outside domestic product.
E. Celibacy	a. The marital life is not necessarily to has the kid.
	b. If I have independence and happiness, I can live as a single person without marriage.
F. Religion and faith	a. The religion and faith is very important.
	b. I like to join religious festivals in the temple or the church.
G. City	a. There is a lot of art activities in our society.
	b. I rather live in the metropolis, and do not want to live in the suburban area.
H. Extrovert degree	a. I am active in social events.
	b. I work always resolute not hesitant.
I. Career planning	For the sake of in the future prospect, I would work hard in studying some curriculums or training.
J. Self-abasement	I did not have confidence on my own health.
K. Gender	Respect authority in our society is a very important matter.
L. Price conscious	a. I carefully compare price before buying items.
	b. I often shop more at discount periods.

Appendix B

Product information search:

(1) When I am searching the shampoo, I would care the price.
(2) When I am searching a shampoo, I would care the standards of shampoo (e.g.: weights of the bottle, etc.).
(3) When I am searching a shampoo, I would care the brand.
(4) When I am searching a shampoo, I would care the place of production (e.g.: USA, France, Japan, etc.).
(5) When I am searching a shampoo, I would care the date of the production.
(6) When I am searching a shampoo, I would care the functions of shampoo (e.g.: off with dandruff....).
(7) When I am searching a shampoo, I would care the appearance of the product (e.g.: the cover picture of the shampoo)
Web store information search.
(8) When I am searching a shampoo, I would care the web store name.
(9) When I am searching a shampoo, I would care the rating of the web store.
(10) When I am searching a shampoo, I would care the payment methods of the web store.
(11) When I am searching a shampoo, I would care the delivery methods of the web store.
(12) When I am searching a shampoo, I would care the promotions of the web store.
(13) When I am searching a shampoo, I would refer to the recommended products of the web store.