Developing an Instrument for Measurement of Attitude Toward Online Shopping

Narges Delafrooz
Ph.D candidate, Department of Resource Management and Consumer Studies
University Putra Malaysia
E-mail: ndelafrooz@yahoo.com

Laily Hj. Paim
Department of Resource Management and Consumer Studies
University Putra Malaysia
E-mail: laily@putra.upm.edu.my

Ali Khatibi
Department of MBA, Management & Science University

Abstract

To ensure the success of online business, it is important for the retailers to understand their targeted customers. The aim of this study is to develop an instrument for investigating and understanding consumer's online shopping orientations and factors that influence attitude toward online shopping and online shopping intention. A five-level Likert scale was used to determine attitude toward online shopping. A self-administered questionnaire, based on prior literature, was developed, and a total of 370 post graduate students of University Putra Malaysia were selected by random sampling and involved in the study.

Eight components, referring to online shopping orientation and online shopping perceived benefits, were found to explain 97 % of the variability in consumer's online shopping orientation. They were subsequently labeled: utilitarian online shopping orientation, hedonic online shopping orientation, fun, convenience, customer service, homepage, wider selection and price.

The reliability of data and scale was tested by computing Cronbach's Alpha. Alpha values were 0.874 for online shopping orientation, 0.921 for perceived benefits, and 0.853 for attitude.

These alpha values exceed the 0.80 recommended acceptable inter-items reliability threshold, indicating a high correlation among the variables comprising the set, and accordingly, that individual items (or sets of items) should produce results consistent with the overall instrument. In light of this, this instrument is offered to the research community as a tool that may be used in conducting future research related to online shopping behavior.

Keywords: Electronic commerce; Internet; shopping; Consumer attitude

1. Introduction

Creation of effective interactions between websites and consumers is one of the main concerns of every e-commerce company as a means of ensuring success of the online business. An understanding of

consumers' needs and factors influencing their behaviors and intentions when shopping online is a valuable tool in creating effective interactions. Consumers may interact with websites in different ways and may get different perceptions because of their distinct characteristics, which were found to affect their purchasing intentions (Cheung *et al*., 2003).

According to previous studies, consumers' characteristics and goals have been found to influence their behaviors such as purchasing, revisiting intentions, and attitudes toward a website (Wolfinbarger & Gilly, 2001; Wu, 2005).In addition, consumer characteristics are of the factors affecting their behavior. They are an innate part of their makeup, i.e., the way they describe themselves and label others. Demographic characteristics, such as gender, age, and ethnicity are examples of background characteristics (Wu, 2003). For instance, according to Mohd Suki et al., (2006) showed that internet shoppers among Malaysia are more likely to be young, affluent, highly educated and wealthy.

Consumers have different personalities, which may influence their perception and how they perceive their online shopping behaviors (Wolfinbarger & Gilly, 2001). Consumers' personalities that lead to different shopping behaviors can be classified in two main orientations, i.e., utilitarian and hedonic.

Many previous online shopping researches had focused on benefits of online stores that put forward success (Davis, 1989; Liu & Arnett, 2000; Muylle *et al*., 2004; Shih, 2004). In the context of online shopping, benefits are what consumers think an online store can offer them (Keller, 1993). Prior studies have also examined the benefits that encourage consumers to purchase through the internet. Therefore, understanding how consumers perceive benefits of online store is important in choosing and making a purchase decision.

Internet shopping in Malaysia is in its infancy. In general, Malaysians like the idea of shopping through the Internet, but only a small number of Malaysians actually buy online (Taylor Nelson Sofres Malaysia Sdn. Bhd., 2000).Generally, research indicates that 81% of those who browse Internet for goods and services do not actually make an online purchase (Gupta, 1996; Klein, 1998; Westland & Clark, 1999; Shim, et al., 2001). Therefore understanding consumer attitude toward online shopping and their intention help marketing managers to predict the online shopping rate and evaluate the future growth of online commerce (Shwu-Ing, 2003).

The rapid growth in numbers of internet users in Malaysia provides a bright prospect for e-marketers. With the impressive increase in the rate of growth in personal computer penetration estimated at 18%, Malaysia is expected to lead the internet growth in Asia where e-commerce can be developed. It was projected that by 2006 subscribers to the internet will increase by four folds from the present 1.8 million (New Straits Times, 2001). This rapid growth in the number of internet users had promoted a belief in many business circles that the web represents a huge marketing opportunity (Hoffman, 2000). The future of e-commerce seems to be very bright for Malaysia accordingly.

The main objective of this paper is to develop an instrument that can be used to determine factors (online shopping orientations and online shopping perceived benefits) influencing online shopping attitude.

2. Review of the Literature

Factors influencing online shopping intention and attitude toward online shopping have been researched and documented in the context of traditional consumer literature. A review of empirical studies in this area shows that the theories of Reasoned Action (Ajzen & Fishbein, 1975) and Acceptance Model (Davis, 1989) are among the most popular theories used to explain online shopping behavior (Limayem, 2003).Therefore the theoretical framework of this study is based on these theories.

Theory of Reasoned Action (TRA) is a theoretical approach which has been used extensively as a tool to help explain consumer actions, in both online and offline contexts Theory of Reasoned Action (TRA) proposed by Ajzan and Fishbein (1980), which accentuates an individual's behavior, is an

outcome of attitudes that is formed by perceptions or norms. The technology acceptance model (TAM) proposed by Davis (1989) was derived from the theory of Reasoned Action. While TRA is a general theory to explain general human behavior, TAM is specific to IS usage. TAM proposes that attitude toward using a new technology is influenced by perceived usefulness and ease of use.

2.1. Utilitarian and Hedonic Shopping Orientations

Consumers who are utilitarian have goal-oriented shopping behaviors. They usually shop online based on a rational necessity that is related to a specific goal (Kim & Shim, 2002). On the other hand, consumers who are hedonists have experiential shopping behaviors. The hedonists do not only gather information to shop online but also seek fun, fantasy, arousal, and enjoyable experiences (Monsuwe *et al*., 2004). In light of this, hedonic and utilitarian consumers handle and interact with websites differently because of their different personalities and motivations. Their differences are summarized in table 2.1.1.

Table 2.1.1: The differences between utilitarian and hedonic

| Utilitarian	Hedonic
Extrinsic Motivation	Intrinsic Motivation
Instrumental orientation	Ritualized orientation
Situational Involvement	Enduring involvement
Utilitarian benefits/value	Hedonic benefits/value
Directed (pre-purchase search)	Nondirected (ongoing) search; browsing
Goal-oriented choice	Navigational (experiential) choice
cognitive	affective
work	fun
Planned purchase; repurchasing	Compulsive shopping; impulse buys

Sources: Sanchez-Franco & Roldan, 2005

2.2. Online shopping Perceived benefit

Perceived benefits are advantageous results derived from attributes. The benefits can be physiological, psychological, sociological, or material in nature (Gutman, 1982). Within the online shopping context, the consumers' perceived benefits are the sum of online shopping advantages or satisfactions that meet their needs or wants (Wu, 2003).

There are many differences between a physical store and its electronic counterpart (Lohse & Spiller, 1998; Mohd Suki, 2006). Most of the previous online shopping research has focused on identifying the attributes of online stores that promote success (Davis, 1989; Liu & Arnett, 2000; Muylle *et al*., 2004; Shih, 2004). Previous studies of online shopping have established two categories of benefits; intrinsic and extrinsic. Both are important in customers' selections to patronize the online stores (Liu & Arnett, 2000; Muylle *et al*., 2004; Shih, 2004). Extrinsic benefits include features such as wide selection of products, competitive pricing, easy access to information and low search costs. Intrinsic benefits include features such as design and color (Shang *et al*., 2005).

As presented in Figure 1, consumers' shop on the Internet because they find benefits over the Internet. Therefore it is reasons why consumers shop online (Delhagen, 1997 Cited by Khatibi et al, 2006).

Figure 1: Reason why people shop online
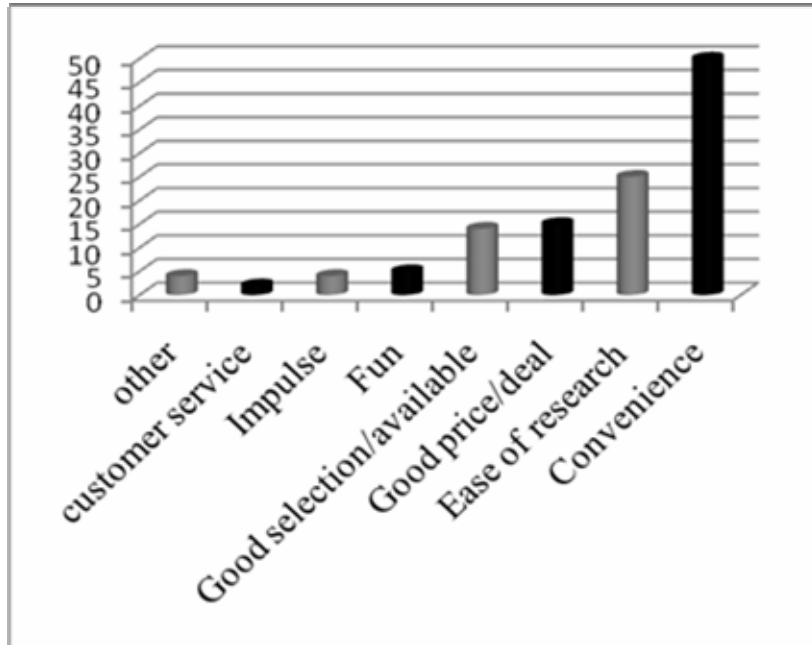
3. Methodology
3.1. Sampling Population

Participants of this study were postgraduate students at universiti putra Malaysia (UPM), during the first semester of 2008. Primary data were obtained through distributing a total number of 370 questionnaires to a random sampling of postgraduate students at UPM.

3.2. Development of the Instrument

Most of the questions in the instrument were adopted and adapted from previous research (Table 3.2.1). However, a number of questions were self-developed solely for the purpose of this research to address important concepts which were not addressed in previous studies. Table 1 below shows the sources of measures used for each variable group.

The instrument consists of questions related to factors influencing online shopping attitude and intention identified in the literature. A five-level Likert scale ranging from "strongly disagree" to "strongly agree" is used.

Table 3.2.1: Instrument Variables and References/ Sources

Factors	Variables	Definition	items	Source
Online Shopping Orientation	Utilitarian orientation	People that look for task-oriented, efficient, rational, and deliberate shopping.	5	Babin *et al.*(1994); Kim & Shim (2002)
	Hedonic orientation	People that look for interesting and entertaining experiences.	7	Babin *et al.*(1994); Kim & Shim (2002)
Online shopping perceived benefits	Convenience	Convinence reflects ease access of information about product, provision of in-depth information, ease of ordering product, potential for money saving, and timely delivery.	7	Mathieson (1991); Bruner & Hensel (1996); Turban *et al.* (2002); Hui *et al.* (2006); Gurvinder and Zhaobin (2005)
	Homepage	Homepage refers to product display, personal-choice helper and promotion.	3	Mathieson (1991)
	Wider selection	Wider selection refers to online shopping offers more options/choices of products and also access to more brands compared to traditional shopping.	2	Forsythe *et al.* (2002), Mathieson (1991)
	Customer service	Customer service refers to customer-support, product guarantees, return policy, 24-hour service, timely responses and better service compared to traditional shopping.	5	Mathieson (1991); Vijayasarathy (2002)
	Price	Reflect possibility of price comparison of products and also better price compared to traditional shopping.	2	Mathieson (1991)
	Fun	Consumers seek out consumption experiences obtainable from purchasing such as enjoyment, exciting, imaginative, entertaining and flashy.	5	Chen & Wells (1999)
	Attitude	Attitude refers to an individual's overall evaluation of online shopping as a way of shopping, which can be positive / favorable or negative / unfavorable.Three aspects used to measure attitude such as the hedonic aspect could be measured by items of fun/ frustrating, enjoyable/ not enjoyable, and interesting/ boring, while the utilitarian aspect could be measured by items such as safe/ risk, ordered/ chaotic, wise/foolish, and reliable/ unreliable and the overall aspect could be measured by items such as useful/ useless, pleasant/ unpleasant, entertaining/ weary, and nice/ awful.	11	Huang (2005)

3.3. Analysis

Reliability and validity were used to assess the internal consistency and content validity of instrument. Specifically, internal consistency reliability, i.e. how well items reflecting the same construct yield similar results. It was tested using Cronbach's alpha coefficient which is the most frequently used estimate of internal consistency. The higher the score is, the more reliable the generated scale is, meaning that its items demonstrate a high degree of inter-correlation. It has been indicated that 0.70 is an acceptable reliability coefficient (Nunnaly, 1994) but lower thresholds are sometimes used in the literature.

Validity, i.e. the degree to which the instrument measures what it claims to be measuring, was tested via content and construct validity. Content validity is demonstrated by assessing if the instrument is a representative sample of the content it was originally designed to measure and this is addressed in the development stage. Literature review aimed at identifying the broadest possible group of similar instruments used in related studies and to exploit upon the experience of other researchers

and experts. To improve the survey's content validity, these items were then reviewed two times by a group of national professionals in consumer behavior, and e-commerce and marketing to ensure its adaptability to the local cultural context. Their feed back resulted in some refinement of the instrument; additions, deletions, and rephrase of some questions.

On the other hand, to evaluate construct validity, factor analysis was used to determine the underlying constructs that explain significant portions of the variance in the instrument items. The factor loadings, i.e. the correlation coefficients between the items and factors, were examined in order to impute a label to the different factors.

4. Results

The data analyzed for this study was gathered from postgraduate students during July and August of 2008. The personal interview was used to obtain the primary data via a survey of 370 students of University Putra Malaysia. All respondents provided complete answers to all question. According to Table 4.1 the respondents were 132 males (35.7 %) and 238 females (64.3 %). The majority of the respondents were in the 20-25 age group (43.8 %) and approximately 1.1 % were 40 and above years old. Population studied comprised Masters and Ph.D students, and post-doctoral researchers with frequency distributions of 78 %, 20 %, and 2.0 %, respectively. Respondents having a monthly income ranging form RM 1000 to 2000 comprised the majority income group (37.3 %) followed by those with a monthly income within the range of RM 2000 to 3000 (9 %). From the ethnic point of view, Malays comprised 44 % of the study sample while Chinese and Indians comprised 40 % and 13 %, respectively. Goods mostly purchased by students are "Computer/Electronics/Software" and "Book/DVD/CD". Only a small proportion of purchases were "Toys".

Table 4.1: Demographic characteristics of respondents

Variables and category	*F(N=370)*	%
Gender		
Male	132	35.7
Female	238	64.3
Age(Years)		
20-25years	162	43.8
25-30	108	29.2
30-35	61	16.5
35-40	35	9.5
More than 40years	4	1.1
Level of education		
Master	290	78.4
Ph.D	72	19.5
Post-doctoral	8	2.2
Monthly Income		
Under RM1000	73	19.7
RM 1001-2000	138	37.3
RM 2001-3000	36	9.7
RM 3001-4000	82	22.2
Over RM 4000	41	11.1
Ethnicity		
Malay	165	44.6
Chinese	150	40.5
Indian	49	13.2
others	6	1.6
Product purchase		
Food & beverage	29	5.35
Clothing/Accessory/Shoes	99	18.26
Toy	23	4.24
Computer/Electronics/Software	200	36.9
Book/DVD/CD	169	31.18
Others	22	4.05

Cronbach Alpha scores for online shopping orientation, online shopping perceived benefits andattitude toward online shopping were computed (Table 4.2) to assess inter-item reliability for each of the multi-item variables (Vellido *et al.,* 2000). Cronbach's alpha coefficient is high in all scales, ranging from 0.853 to 0.965. These alpha scores exceed the .80 recommended acceptable inter-items reliability limit, indicating that the factors within each multi-item variable are, in fact, inter-related (Vellido *et al.,* 2000).

Table 4.2: Inter-Item Reliability (Cronbach's Alpha)

Variable	Alpha
Online Shopping Orientations	.874
Online shopping Perceived benefits	.921
Attitude toward online shopping	.853

The initial investigational of factor validity was assessed by performing a factor analysis on the 36 online shopping orientation and online shopping perceived benefitsitems using principal component extraction and varimax rotation. The suitability of the data for factor analysis was tested via the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, which tests the partial correlations among the items, and its value should be greater than 0.5 for a satisfactory factor analysis to proceed (Westland & Clark, 1999).KMO measure was 0.714 (Table 4.3). Next, Bartlett's test of Sphericity demonstrated that the correlation matrix was not an identity matrix, implying the appropriateness of the factor model ($p < 0.0005$).

Table 4.3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.714
Bartlett's Test of Sphericity	Approx. Chi-Square	28540.603
	Df	1770
	Sig.	0.000

The initial factor solution was obtained using principal component analysis (PCA) and varimax rotation. The rotation converged in 36 iterations identifying the eight principle components with Eigen value of at least 1. A critical decision to be made in factor analysis is the number of factors to extract and a typical approach is the Kaiser-Guttman rule which states that an eigenvalue (i.e. the variance accounted for by each factor) of greater than one is the criterion required because it wouldn't make sense to add a factor that explain less variance than is contained in one variable. By employing the method, eight factors were identified in this study. Factor analysis demonstrated eight factors cumulatively accounting for 97 % of variation in all the items. Table 4.4 represents the rotated components matrix of items loading on each of the eight factors. The squared factor loading is the percent of variance in that item explained by the factor.

Factor analysis is used to examine dominant factors that influenced consumer attitude toward online shopping. With regard to result reported in Table 4.4, the most important dominant factor of online shopping orientation is utilitarian online shopping orientation with the highest variance (25.58 % of variance) than hedonic online shopping orientation (9.33 % of variance). Therefore, with regard to result of factor analysis utilitarian online shopping orientation is main determinant of attitude toward online shopping compared to hedonic orientation. This situation is also consistent with the statement reported by Wolfinbarger and Gilly (2002), that 71 % of shoppers were utilitarian and had previously planned their most recent online shopping, and 29 % of shoppers were hedonic and had browsing when they made a purchase. It has also been found, differential between utilitarian orientations and hedonic orientations that effect on purchase behavior (Dholakia and Bagozz, 2001).Previous studies have found that consumer's goals, such as utilitarian oriented and hedonic oriented, influence their online shopping

behavior (Ha & Stoel, 2004 Schlosser, 2003). Therefore supporting consumer' goals may lead to more satisfied consumer and increase the purchase intention of the visitors (Ariely, 2000).

As presented in Table 4.4, the most dominant factor of online shopping perceived benefits are convenience (20.53 % of variance), wider selection (15.76 %of variance) and price (11.75 %of variance) with the highest variance compared to customer service and fun. The result of factor analysis consist with the statement reported by Delhagen (1997), more convenience, good price and deals, good selection, fun, customer service respectively (cited by Khatibi, 2006). Therefore, result showed convenience and wider selection and price are the main determinant of attitude toward online shopping.Consumers shop through the Internet because they perceived their choices significantly increased. So more convenience, better and greater access to products, combined with lower price for many internet shoppers may, in turn, drive positive attitude and increase in online purchasing (Margherio, 1998).

Table 4.4: Exploratory factor analysis

Measures and Factors	Loading
1. Online Shopping Orientations:	
1.1. Utilitarian Online Shopping (Coefficient α=.814)	
(25.58 % of Variance)	
Online shopping is convenience.	.866
I usually find items that I'm looking for through online shopping.	.780
I usually shop items in the less time through online.	.761
I can find most of the time what I need, online.	.628
I shop online for product that I need only.	.602
1.2. Hedonic Online Shopping (Coefficient α=.894)	
(9.33 % of Variance)	
I enjoy shop online for the purpose of finding new product not just for the times I may purchase.	909
When online shopping, I'm able to forget my problem.	844
When online shopping, I feel a sense of adventure compares to traditional shopping.	771
Online shopping is one of my favorite leisure activities.	747
I enjoy being immersed in exciting virtual experience during online shopping.	665
Online shopping is truly enjoyment.	591
During online shopping, I feel the excitement of the hunt.	589
2. Online Shopping Perceived Benefits:	
2.1. Convenience(Coefficient α=.934)	
(20.53 %of variance)	
Online shopping would provide me on time delivery.	851
Online shopping provides me with product information & other customs feedback.	832
Online shopping allows me ordering product easily.	.777
Online shopping allows me to obtain information on product easily.	.734
Online shopping would provide me with information 24-hours a day.	.711
Online shopping provides me with more value than money that spends.	.687
Online shopping provides me in-depth information.	.620

Table 4.4: (continued): Exploratory factor analysis

Measures and factors	loadings
2.2. Wider Selection(Coefficient α=.838) (15.76 % of Variance)	
Online shopping would provide me more option/choice compared to traditional shopping methods.	859
Online shopping would provide me with broader selection.	766
2.3. Price(Coefficient α=.870) (11.75 % of variance)	
Online shopping would allow me to purchase a product at a comparatively low price compared to traditional shopping.	886
Online shopping would provide me with possibility of price comparison.	692
2.4. Customer Service(Coefficient α=.875) (4.18% of Variance)	
Online shopping would provide me with returns policy.	827
Online shopping would provide me with product guarantees.	809
Online shopping would provide me with customer-support such as e-form inquiry, order status tracing, and customer comment.	799
Online shopping would provide me with a timely response to my request.	649
Online shopping would provide me on time delivery.	618
2.5. Fun(Coefficient α=.806) (3.67 % of Variance)	
Online shopping is flash.	693
Online shopping is exciting.	679
Online shopping is entertaining.	602
Online shopping is fun to browse	569
Online shopping is imaginative.	536
2.6. Homepage(Coefficient α=.891) (6.43 % of Variance)	
Online shopping would give me more convenient by both click buttons and pictures than display by either one.	790
Promotions on homepage would provide me with a good deal in my online buying	556
Online shopping would provide me with personal-choice helper.	436

5. Conclusion

This paper proposes a framework for enhancing our understanding of consumers' attitudes toward online shopping. In line with many e-marketing researches concerning the factors contributing to consumer satisfaction of online shopping experiences, this paper reports that utilitarian online shopping orientation, hedonic online shopping orientation, fun, convenience, customer service, homepage, wider selection and price are dominant factors which influence consumer's attitude toward online shopping.

This study resulted in the development of an instrument for measuring attitude toward online shopping that eventually could be used among variant consumer groups in Malaysia because the study demonstrated acceptable levels of internal consistency reliability, content validity and construct validity (factor analysis) of the instrument, according to previous studies quoted in the literature. Therefore the evidence warrants a large-scale administration of the instrument to determine consumer's attitude toward online shopping. When designing a marketing plan, online retailer must identify potential shoppers. Therefore the survey instrument specified the consumer characteristics (consumers' shopping orientations and perceived benefits) of online shoppers. In terms of these characteristics, online business would identify their target market easily and accordingly cares for prosperity of their e-business.

It is clear that consumer engaged in online shopping are affecting by different motivators than consumer engaged in traditional shopping. The extent to which internet shopping is perceived or believed to offer relative benefits over traditional face-to-face encounters is significant (Mick and Fournier, 1998; Meuter *et al.,* 2000; Dabholkar and Bagozzi, 2002; Walker *et al.,* 2002). This research provides evidence regarding to main significant perceived benefits in the area of purchasing continence. Therefore result show that the main determinants consumers' attitudes toward online shopping are convenience, wider selection and price.

In addition, consumers' shopping orientations was shown to affect their attitude toward online shopping. In fact, consumers when online purchase are more likely utilitarian rather than hedonist. Therefore understanding consumers' behavior in online apparel shopping is crucial for e-commerce.

This survey instrument will be administered to a larger population for data collection and final analysis. It is proposed for future research to apply this instrument to variant consumer groups, be them university or non-university members.

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