

## **Repurchase in Online Shopping: Contingent Effects of Utilitarian Value and Hedonic Value**

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### **Abstract**

Value judgments, such as functional, emotional, utilitarian, and hedonic values have received considerable attention in recent years. However, research on these interrelationships has been somewhat limited in online shopping, particularly in regards to the gap between website values versus consumer shopping orientations. The purpose of this research is to propose and empirically test a conceptual framework that incorporates the interrelationships of website values, shopping satisfaction, and repurchase intention into framework and validate them in a B2C online shopping context. Specifically, we examine the moderating role of consumer shopping orientations in the impact of website values on shopping satisfaction.

Our results suggest that the impact of website values on shopping satisfaction is negatively moderated by consumer shopping orientations. Therefore, functional and emotional values are probably necessary but are an insufficient precondition for cultivating shopping satisfaction. Moreover, consumer hedonic orientation plays a slightly higher influence on shopping satisfaction than utilitarian orientation. Understanding these factors can provide direction for planning website features as well as consumer desired values that will increase shopping satisfaction and repurchase intention.

**Keywords:** Value judgment, satisfaction, repurchases intention, moderating effect

## 1. Introduction

It goes without saying that patronage has a critical impact on company's survivability and is considered an important source of revenue by most companies. The question is why not all customers are loyal. To response to this question, many studies ([7][14][39]) switch its focus to the antecedents of purchase behavior. Potential determinants include: service quality, customer satisfaction, purchase intention, and customer value. While prior studies have focused on these antecedents in physical contexts, they are important in virtual contexts as well. Venkatesh and Agarwal [42] argued that usability of the website could predict consumer purchase behavior. Mathwick et al. [32] even asserted that service quality will have a direct and positive effect upon intention and usage for online shopping. Yoon [49] suggested that consumers with satisfied website experiences were more likely to form their positive intention—that is, online purchase intention should increase after website satisfaction passes a certain threshold.

Although these concepts have received considerable attention in recent years, research on these interrelationships has been somewhat limited in online shopping, particularly in regards to the gap between website values (evaluated after purchase) versus consumer shopping orientations or personal shopping preference (evaluated inherently to purchase). Song and Zahedi [38] argued that effective website design plays an important role in maintaining long-term consumer relationship, however, what are online consumers really desire could be underestimated if we put too much attention on web-design elements. Moreover, Cowles et al. [15] recommended that business to customer (B2C) studies have better to consider not only the website value but also the shopping orientation behind consumer use of the medium. This is because consumers will go back to retailers only when they received their desired values [48] and e-marketers should deliver a value proposition that is most concerning for online consumers [33].

Task-Technology Fit (TTF) theory is deemed most relevant for the theoretical foundation of the proposed model. The rationales for applying TTF to online shopping context are three folds: (1) According to the definition of TTF, an information technology will have a positive impact on user performance if it provides a good fit with the task it supports [24]. Similarly, online shopping activities may be related to how well the consumer feels website values fit their shopping tasks. (2) In contrast to job-oriented workers in an organizational setting, shopping tasks performed by consumers vary from broad information searching to specific commercial transactions [28]. For example, shopping tasks can be directed by consumer's goal-directed or experiential shopping orientations [47]. (3) Since TTF evaluations are very context-specific [23], it is necessary to apply the TTF concept to a specific task domain (e.g. online shopping). Given the use of TTF as theoretical foundation, it is reasonable to expect that understanding how consumers interact with the website will be a key prerequisite for practitioners competing with competitors.

Overall, the purpose of this research is to propose and empirically test a conceptual framework that incorporates the interrelationships of website values, shopping satisfaction, and repurchase intention into framework and validate them in a B2C online shopping context. Specifically, we examine the moderating role of consumer shopping orientations in the impact of website values on shopping activities. We suspect that consumer shopping orientations are likely to serve as a moderator of the influence of website values upon shopping satisfaction. That is, the form of relationship between them may not be linear. Understanding these overlooked issues from past research to the present study could help e-marketers assess how well the two-way value fits each other.

The remaining sections are organized as follows. First, we review the relevant literature and discuss our research method, including data collection and measurement. We then present our results and draw conclusions from the data. Finally, we discuss some managerial implications of this work and suggest future directions for both academia and industry.

## **2. Theory and proposed model**

### 2.1 The differences between website values and shopping orientations

Value judgment has been widely discussed at an individual level (e.g. consumer desired values), particularly in the marketing literature and can easily be confused with values provided by retailers. However, these two concepts are quite different. The prior one is about one's personal preferences. The later one is about the values provided by the website or perceived by consumers from shopping in the website. This means consumer shopping orientations could be generated by consumers before or during making a purchase decision, while received website values is commonly agreed to be an after-purchase evaluation. Although the definition of customer value proposed by Woodruff [48] has received considerable attention over past decades which asserts that consumers typically involve a tradeoff between what they get and what they sacrifice in order to acquire a product or a service, such definition seems to be debatable in regards to the consumer shopping process because there are fundamental differences between initial-purchase and post-purchase value assessment [22]. For example, in the initial-purchase stage, the consumer may evaluate their value orientations by weighing the anticipated sacrifices of a product or a service against its anticipated benefits and decide to buy if the latter outperform the former. In the post-purchase stage, the consumer may reevaluate their received values from the website by comparing the ratio between the actual sacrifices and the actual benefits and be intended to repurchase if the latter outweigh the former. Obviously, the value dimensions which the consumer tradeoff in the post-purchase stage is not necessarily the same as those considered in the initial-purchase stage [35]. Analogous to online shopping, if consumers encounter

ill-fitting values, they leave the website for the time being. The consumers will probably search for another website and continue the shopping processes until they find the required one. Therefore, it is necessary to separate the concept of value orientations from the experience with the received website values, value orientations here can be formed without the website being used, while received website values only depends on experience of having used the website.

## 2.2 Consumer received website values

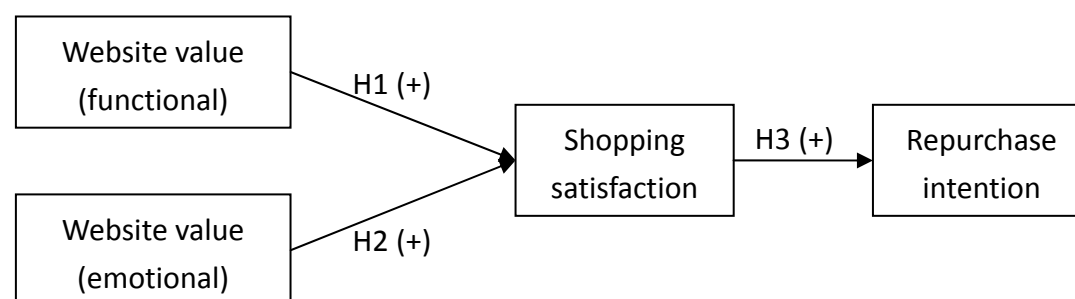
Since online shopping is our research setting, it is necessary to discuss the transmission of values from a provider through a website to a consumer. In the marketing literature, consumer received website value can be divided into two types: (1) functional value and (2) emotional value. Functional value is the utility derived from the perceived quality and expected performance of the product [40]. For example, when consumers want to know what they have searched last time, they may satisfy their functional values by using web cookies. Specifically, when consumers purchase online, they can return later and the chosen products are still in their shopping carts. These are beneficial to consumers because they do not need to perform “search for alternatives” again. On the other hand, emotional value is defined as the utility derived from the feelings or affective states that the product generates [40]. For instance, when consumers can have fun while negotiating for the price by using a collective bargaining service from the website, they fulfill their emotional values. However, it is important to note that the term “utility” here represents a subjective measure of the usefulness or desire satisfaction that results from consumption [50]. Functional value and emotional value should occur only when consumers actually experience what they have received. We therefore define functional and emotional values as technical benefits that consumers can obtain by using the shopping website and mental benefits that consumers can obtain by visiting the shopping website, respectively. These two value dimensions seem to be most universal to represent the concept of consumer received website values.

## 2.3 Website values, shopping satisfaction, and repurchase intention

In this section, we propose a theoretical view of the antecedents and consequence of shopping satisfaction and discuss how they are related. We assume that exogenous constructs (i.e. functional and emotional value) influence shopping satisfaction, which in turn determine the endogenous construct (repurchase intention). Theoretical foundation for this assertion can be attributed to a well-established framework in attitude literature [2]. This framework posits that cognitive beliefs are the major determinant of affection, which in turn predicts conation (or behavior). Cognitive component of the framework consists of consumers’ perception about a product, such as its attributes and benefits. Affection is a consumer’s feeling or emotions about using a product. The conation of the framework encompasses a consumer’s intention to do

something in some way regarding a product. Contrasting this framework to our research context (as illustrated in figure 1), we can identify: (1) Functional and emotional values reflect consumers' trade-off between the actual sacrifices and the actual benefits of using a website and thus are regarded as cognition component. (2) Shopping satisfaction plays the mediating role in the relationship between cognition and conation. (3) Repurchase intention concerns a disposition to behave positively toward a website. This framework provides us with a strong theoretical basis for measuring that shopping satisfaction mediates the effect of website values on their repurchase intention. Accordingly, consumers would reconsider their shopping experience of using the website during the repeat purchase stage and decide whether to revisit it or not if they receive both functional and emotional values from that website. We propose the following hypotheses:

- H1. Consumers are more satisfied with shopping websites of higher received functional value.
- H2. Consumers are more satisfied with shopping websites of higher received emotional value.
- H3. Higher levels of shopping satisfaction result in higher levels of intended repurchase.



**Figure 1. The conceptual model (reduced model)**

#### 2.4 Consumer shopping orientations

Although the concept of consumer received website values (or consumer value delivery) have been highlighted in current business practices and academic literature for over few decades, only a small number of studies have investigated the concept of consumer shopping orientations. What online consumers really desire and why they are shopping online in first place remain unclear. Value is a two-way concept, as we mentioned, consumers will compare their perceptions of the value received with the value desired. Understanding what consumers value and how the solutions a firm provides meet those values are key to developing an effective marketing strategy. In order to advance the practice of management toward consumer desired values, researchers (e.g. [6][16]) argued that consumers should shop differently depending on whether their shopping orientations are primarily *goal-focused* or *recreational*. We now explicitly describe these two categories specifically for an online shopping environment.

Consumers who are interested in *goal-focused* shopping are concerned with buying products or services in an efficient and deliberate manner to accomplish their goals with a minimum of distraction [10]. For example, online consumers may feel that the website facilitates with their utilitarian need as search efforts for product information are significantly reduced. Consumer focus group research [47] also depicted that “*What I want from online shopping is the opposite of browsing, just show me what I want fast and get me on my way.*” These represent that consumers do not necessarily think of shopping online as shopping, rather, they treat of it as task-oriented transaction. Thus goal-focused consumers engage in shopping out of necessity to obtain desired products or services with little entertainment derived from shopping activity itself [29]. The construct of utilitarian shopping value proposed by Babin et al. [3] seems to be the best representative of goal-focused consumer because they defined that utilitarian value is derived from task completion, the achievement of a desired outcome that the consumer is pursuing out of necessity. To assist in the operationalization of the latent concept of goal-focused shopping, we therefore refer to goal-focused shopping as the “utilitarian shopping value orientation.”

Despite the advocate of goal-focused shopping, there is evident that some online consumers engage in recreational shopping [36]. *Recreational shopping orientation* describes consumers engaging in shopping to derive inherent enjoyment from the shopping activities itself [29]. Unlike goal-oriented consumers desire to commit to their goal, in this case, the shopping activities are performed without purpose, and there is no need to engage in it. An obvious example is that consumers may purposelessly access shopping website from one end to the other and that takes their leisure time a lot because so many potential surprises out there and they gradually get immersed in it. As we mentioned above, recreational shopping is also a latent concept which is difficult to measure. We therefore treat recreational shopping as “hedonic shopping value orientation” so that the latent concept becomes measurable. In sum, online consumers are not passive recipients of value delivery but are instead active players who obtain desired values in the online shopping. However, nearly all studies investigating such concepts have been in the context of physical storefront, very few of them have concerned whether the two-way value concept discovered in the in-store marketing literature is equally applicable to the context of online shopping. The remainder section of this research attempts to address this issue.

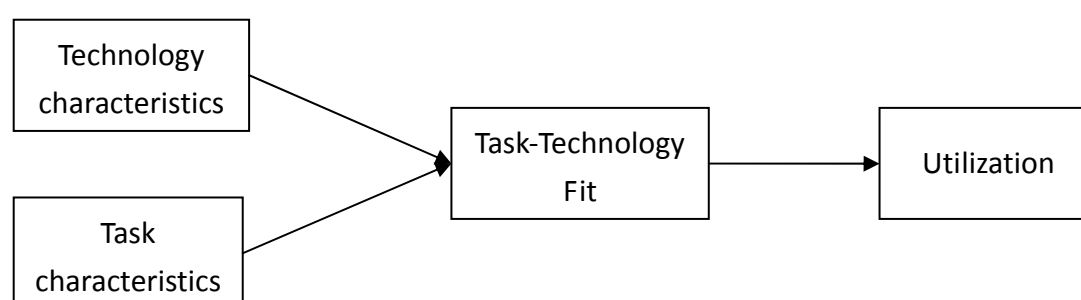
## 2.5 Task-Technology Fit theory

A majority of the conceptualizations of information technology (IT) adoption have drawn on robust theories from the MIS literature, especially the technology acceptance model (TAM), diffusion of innovation (DOI), and task-technology fit (TTF). TAM was developed to explain and predict work place technology adoption. Two major antecedents of behavioral intention were introduced—perceived ease of use and perceived usefulness. Perceived ease of use is “the degree to which an individual believes that using a specific system would be free of effort,” and

perceived usefulness is the “degree to which an individual believes that using a specific system would increase her/his job performance. Although TAM has been empirically tested, and has also contributed to the explanatory power of IT adoption models, it has been criticized for its parsimonious structure [9]. A major weakness of TAM for studying IT adoption is its lack of task focus [17]. The lack of task consideration in investigating IT usage or its performance leads to the controversial results in IT evaluation [24].

The second model, diffusion of innovation addresses that innovation adoption is a process of uncertainty reduction. Individuals gather and synthesize information about a new IT from the social system within which they are situated [37]. This information processing results in the formation of beliefs about using a particular IT. Empirical studies of DOI in the discipline of MIS have largely supported the predict power of the theory ([12][19][20]). However, DOI has its unavoidable limitations: (1) DOI explains the formation of a favorable attitude toward a particular innovation; however, it does not provide further analysis of the attitude evolving into the adoption behavior [9]. (2) A central notion in DOI is that new technologies possessing favorable attributes tend to be more useful and easier to adopt and thus tend to diffuse more quickly than those with less favorable attributes [37]. However, many consumers are now shopping online; buying products or services from websites is not a new technology to them. Thus, DOI appears to be inappropriate when the research focus is online shopping, specifically in repurchase intention or behavior.

The last model, task-technology fit is the major theory concerned in our research. TTF is defined as the correspondence between task requirement, individual abilities, and the functionality of the technology [24]. That is a technology will be adopted if it provides a good fit with task it supports. This fit concept has also been utilized in MIS research such as system implementation [34], and system maintenance [17]. In contrast to TAM and DOI, TTF provides a greater insight into the topic of technology repeat usage in that experienced user will choose tools or methods that help them to complete the task with the maximum benefits. In other words, information technology that does not provide enough advantage will not be used. Given the descriptions of TTF, it is necessary to identify TTF elements (i.e. technology characteristic, task characteristic, and individual ability) used in this research (as illustrated in figure 2).



**Figure 2. Task-technology fit model [24]**

### *Technology characteristics*

Technology characteristics are defined as system features employed by users in carrying out their intended tasks [24]. In the context of online shopping, technology characteristics refer to functional and emotional aspects provided by the website to assist consumers in their shopping task.

### *Task characteristics*

Task is widely defined as the action or behavior requirements carried out by system users in turning inputs to outputs ([24][51]). Because required behaviors can vary from one task to another, it is argued that behavior requirements can reasonably be viewed as characteristics of tasks [25]. According to the description proposed by Goodhue and Thompson [24], “*task characteristics of interest include those that might move a user to rely more heavily on certain aspects of the information system.*” In regard to our research setting, the desire to obtain utilitarian and hedonic values about shopping online would move a consumer to depend more heavily upon the technology characteristics (i.e. functional and emotional values) provided by the website. Thus, utilitarian and hedonic values are desires of a consumer’s use of a website, rather than of the website per se.

### *Individual abilities*

Individuals (e.g. marketing manager, system analyst, computer end-user) may adopt technologies to assist them in the performance of their intended task. However, before they actually use the system, some abilities need to be preliminarily carried. In the test of TTF, individual abilities have been operationalized as computer knowledge or experience with particular IT [23]. These abilities could affect how easily and well the users will adopt the system [17]. However, since our research focus is repurchase intention, consumers familiar with online shopping should be able to find what they want, therefore, individual abilities are reasonably excluded.

### *Task-technology fit*

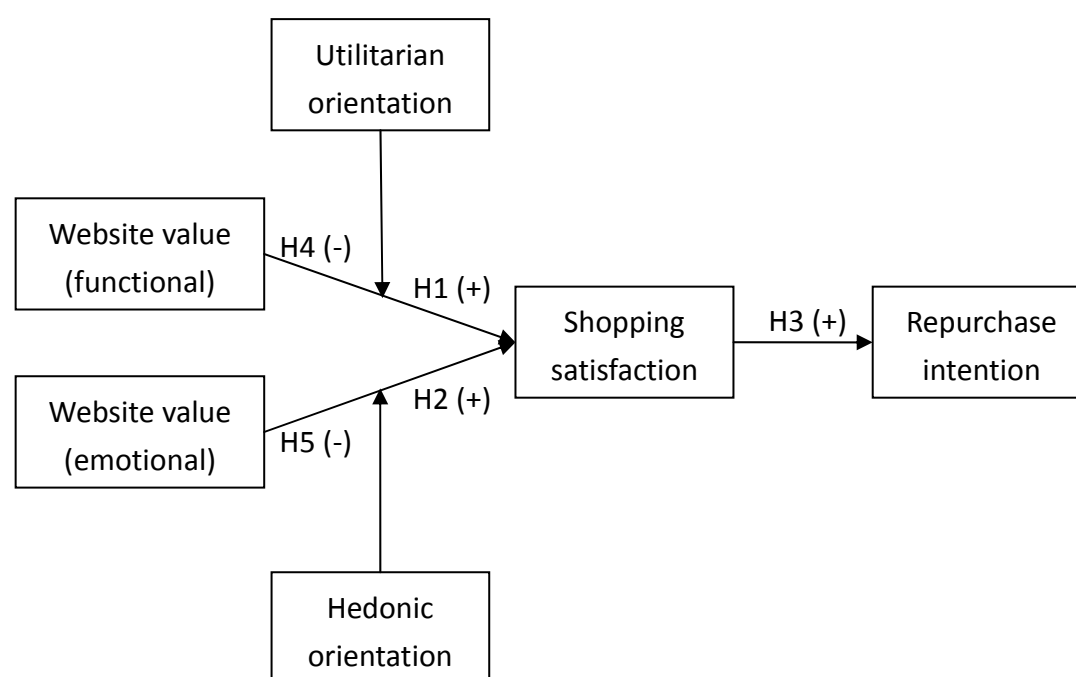
TTF is a key but underestimated concept in understanding the impact of technology on consumer behavior. TTF is defined as the degree to which a technology assists an individual in performing her/his intended tasks [24]. Obviously, the fit between task requirements and technology characteristics is of important prerequisite that determines subsequent performance. Thus, in addition to the question of how well the website features (i.e. functional and emotional values) affect consumers’ shopping satisfaction (hypotheses 1 and 2), there is also the question how well



these features provided by the website fit shopping requirements (i.e. goal-focused and recreational) For example, consider a shopping website. One technology characteristic is the extent to which the product information on the website is well-integrated (i.e. with consistently integrated product information across all the web pages). Integrated information would be useful if there is a shopping requirement for efficiently comparing price information across products, but probably not if the need is for single product information. Not to come singly but in pairs, avatar design could be another technology characteristic provided by the website. Avatars are virtual characters that can be served as website guides. In this case, avatar has the potential to fit the consumer's desires not only for usefulness but also for entertainment [45]. Therefore, e-marketers should expect that any given characteristic of web technology will have different impacts on consumer behavior, depending upon the shopping requirements. Based on the preceding discussion, we posit that consumer shopping orientations moderate the effect of consumer received value on shopping satisfaction (as illustrated in figure 3) and propose the following hypotheses:

H4. Utilitarian orientation moderates the relationship between functional value and shopping satisfaction.

H5. Hedonic orientation moderates the relationship between emotional value and shopping satisfaction.



**Figure 3. The conceptual model (full model)**

The rationality of fit as moderation could be supported by Venkatraman [43]. His research demonstrated that the interactive effects of strategy and managerial characteristics have

implications for performance. Therefore, in regards to our research, the effect consumer received website values have on shopping satisfaction is depending on their value orientations. In our knowledge, research of online shopping has not been previously modeled using task-technology fit concept, except for the research conducted by Klopping and Mckinney [30]. Although the subject of our research is similar to them, we illuminate distinct concept (two-way value) influencing online shopping behavior.

### 3. Research methods

#### 3.1 Data collection

The data for our study were collected through a web-based questionnaire. We set up an online survey website that was advertised on online forums with very heavy traffic, such as the biggest portal (Yahoo! Kimo; [www.yahoo.com.tw](http://www.yahoo.com.tw)), the top shopping store (PChome; [www.pchome.com.tw](http://www.pchome.com.tw)) and the largest BBS ([www.ptt.cc/index.html](http://www.ptt.cc/index.html)). Tan and Teo [41] have suggested that online surveys have some advantages over traditional paper-based surveys, including lower cost, rapid response and lack of geographical limitations. The primary units of analysis in this study are individual consumers with experience in online shopping. As an incentive, we offered prizes to respondents who answered all the questions.

The survey yielded 188 usable responses. About 62.2% of the respondents were female, 37.8% were male, and at least 34.5% of them were students. Most of the respondents were in their twenties or thirties, and all the respondents are an experienced user of shopping websites. Table 1 summarizes the attributes of the respondents. According to the Market Intelligence Centre [31], a well-known consulting firm under Taiwan Institute for Information Industry (III), about 56% of people between 20 and 30 years old are frequent online shoppers. Although most our respondents were students, keep in mind that this group will become a primary segment of the online consumer population in the near future.

**Table 1. Profile of respondents**

Measure	Items	Frequency	Percentage
Gender	Male	71	37.8
	Female	117	62.2
Age	Below 18	3	1.60
	18-25	78	41.49
	26-35	92	48.94
	36-45	15	7.98
Education	Junior school or less	2	1.06
	High school	11	5.85
	Bachelor's degree	130	69.15
	Graduate degree	45	23.94
Occupation	Public service	30	15.96

	Commercial employee	35	18.62
	Information industry	41	21.81
	Medical industry	6	3.19
	Student	65	34.57
	Others	11	5.85
	Less than 20,000	81	43.09
	20,001~40,000	71	37.77
Income	40,001~60,000	28	14.89
	60,001~80,000	3	1.60
	80,001~100,000	3	1.60
	Over 100,000	2	1.06

### 3.2 Measurement development

The questionnaires were developed using test statements taken from the literature. Functional value and emotional value were measured using 3 items; both categories were adapted from Overby and Lee [33]. Shopping satisfaction and repurchase intention were each measured by 3 items adapted from Harris and Goode [27]. Utilitarian and hedonic orientations were each measured by 3 items adapted from Babin et al. [3]. Respondents were asked to rate each item on a seven-point Likert scale, where 1 meant ‘strongly disagree’ and 7 meant ‘strongly agree’. A pre-test and a pilot test were conducted to validate our instrument. The pre-test involved 5 participants (two MIS professors, one website engineers and two online shoppers) who were familiar with online shopping. They were asked to provide comments with an eye towards eliminating repetition and items not oriented towards the consumer. In the pilot test, we invited 30 respondents from the population of online shoppers to participate. The actual items used to measure each construct are listed in Table 2.

## 4. Data analysis and results

### 4.1 Data analysis

The analysis of the data was done in a holistic manner using partial least squares (PLS). The PLS procedure [46] allows the researchers to both specify the relationship among the conceptual factors of interest and the measures underlying each construct. The result of such procedure is a simultaneous validation of “how well the measures exhibit an acceptable level of convergent and discriminate validity” and “whether the hypothesized casual relationships at the theoretical level are empirically confirmed”. Moreover, due to non-normality of our research data<sup>1</sup>, structural equation modeling is not appropriate [11]. PLS, on the other hand, is considered as a better method because it does not require multivariate normal distributions [21]. Compare to SEM, PLS

<sup>1</sup> The collected data were tested for normal distribution by using the Kolmogorov-Smirnov test. The null hypothesis is that the data set is similar to the normal distribution. The results shown sufficiently small P-values ( $P < 0.001$ ) indicating non-normal distribution.

is more emphasis on explanatory power by maximizing the variance explained in constructs rather than model fitness [5]. With the prediction needs of our research purpose, PLS is reasonably considered for this research.

In testing the interaction effect of consumer desired values on the relationship between consumer received values and shopping satisfaction, we followed a hierarchical process similar to multiple regressions proposed by Chin et al. [11] in which one compares the results of two models (one with and one without the interaction construct). The significance of moderating effects was tested and interpreted according to the formula proposed by Carte and Russell [8] which monitors the difference between the squared multiple correlations ( $R^2$ ). Cohen [13] suggested that the overall effect size ( $\Delta R^2$ ) for the interaction could be small (0.02), moderate (0.15), and large (0.35).

#### 4.2 Measurement model validation

The measurement model in PLS is investigated in terms of factor loadings, composite reliability, and discriminant validity. Hair et al. [26] recommended an acceptance level of 0.7 for both factor loadings and composite reliability. All of the constructs in our model meet this criterion (see Table 2).

**Table 2. Summary of measurement scales**

<b>Construct</b>	<b>Measure</b>	<b>Factor loading</b>
Functional value (FV) <i>composite reliability = 0.89</i>		
FV1	The price of the produce and/or services I purchased from this Internet Retailer are at the right level, given the quality	0.83
FV2	The products and/or service I purchased from this Internet retailer were a good buy	0.88
FV3	This Internet retailer offers a good economic value	0.84
Emotional value (EV) <i>composite reliability = 0.90</i>		
EV1	This Internet retailer does not just sell products or services, it entertains me	0.86
EV2	Making a purchase from this Internet retailer site gets me away from it all	0.88
EV3	Making a purchase from this Internet site truly feels like "an escape"	0.86
Shopping satisfaction (SA) <i>composite reliability = 0.90</i>		
SA1	I am very satisfied with the value I receive from the shopping website	0.79
SA2	I have a positive attitude toward shopping website surfing	0.94
SA3	My interaction with the shopping website is very satisfying	0.88
Repurchase intention (RT) <i>composite reliability = 0.87</i>		
RT1	I intend to using the shopping website again rather than discontinue its use	0.83
RT2	I will regularly use the shopping website in the future	0.84
RT3	I will continue using the shopping website in the future	0.84
Hedonic orientation (HO) <i>composite reliability = 0.89</i>		
HV1	Spending time shopping is truly enjoyable	0.88
HV2	When shopping, I feel a sense of adventure	0.88
HV3	Shopping truly feels like an escape	0.81

Utilitarian orientation (UO)		
<i>composite reliability = 0.84</i>		
UV1	When shopping, I usually accomplish just what I want to buy	0.94
UV2	When shopping, I usually find items I am looking for	0.94
UV3	When shopping, I usually complete the trip quickly	0.83

In addition, note that for all constructs the extracted variance exceeds the expected variance (0.5) due to measurement errors alone. These results demonstrate the convergent validity of our measurement items. As a standard of discriminant validity, Hair et al. [26] suggest that the average variance extracted for each construct should be greater than the shared correlation between itself and any other construct. The results indicated that the shared correlation between each pair of constructs was less than the square root of average variances extracted, demonstrating a certain level of discriminant validity (see Table 3).

**Table 3. The latent construct correlation matrix**

Construct	FV	EV	SA	RT	HO	UO
<b>FV</b>	<b>0.85</b>					
<b>EV</b>	0.43	<b>0.87</b>				
<b>SA</b>	0.65	0.36	<b>0.87</b>			
<b>RT</b>	0.62	0.34	0.79	<b>0.84</b>		
<b>HO</b>	0.36	0.41	0.41	0.35	<b>0.86</b>	
<b>UO</b>	0.02	0.07	0.06	0.04	0.06	<b>0.81</b>

**Notes:** FV = Functional value, EV = Emotional value, SA = Shopping satisfaction, RT = Repurchase intention, HO = Hedonic orientation, UO = Utilitarian orientation. Diagonal elements represent square root of average variances extracted (AVE), while off-diagonal entries represent correlation coefficients.

#### 4.3 Estimation of the structural model

Hypotheses and moderating effects are tested by examining the standardized beta coefficients (std.  $\beta$ ). In addition to path analysis, explained variance ( $R^2$ ) in the dependent constructs is assessed as an implication of the overall predictive power of the proposed model. Table 4 shows the results of the PLS analysis of two models. The standardized beta coefficients are given along with their t-values. Model 1 shows that all paths are significant indicating support for all the proposed hypotheses. Both functional value ( $\beta=0.60$ ,  $P<0.01$ ) and emotional value ( $\beta=0.11$ ,  $P<0.05$ ) have significant positive effects on shopping satisfaction, confirming H1 and H2. As our anticipation, shopping satisfaction also has a significant positive effect on consumer repurchase intention ( $\beta=0.79$ ,  $P<0.01$ ), confirming H3. These findings generally confirm the attitude literature as we mentioned earlier and indicate that behavioral intentions is driven by individual's attitude toward the behavior where attitude is a function of an individual's beliefs.

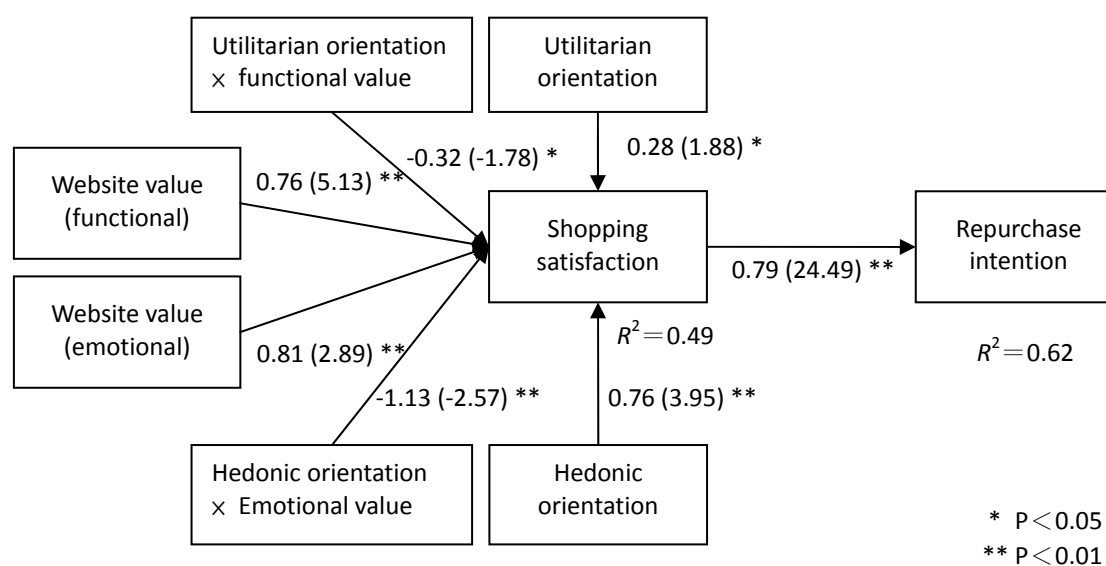
**Table 4. Results of path analysis**

	Reduce mode (model 1)	Full model (model 2)
FV $\rightarrow$ SA	0.60 (7.66) **	0.76 (5.13) **
EV $\rightarrow$ SA	0.11 (1.86) *	0.81 (2.89) **

SA → RT	0.79 (28.86) **	0.79 (24.49) **	
UO → SA	—	0.28 (1.88) *	
HO → SA	—	0.76 (3.95) **	
UO×FV → SA	—	-0.32 (-1.78) *	
HO×FV → SA	—	-1.13 (-2.57) **	
R-square in SA	0.43	0.49	
Change in R-square	—	0.06	* P < 0.05
Effect size	—	0.11	** P < 0.01

Coefficients are presented with t-values in parentheses.  
Effect size can be calculated by the formula  $[(R^2_{full} - R^2_{reduce}) / (1 - R^2_{full})]$   
FV = Functional value, EV = Emotional value, SA = Shopping satisfaction, RT = Repurchase intention, HO = Hedonic orientation, UO = Utilitarian orientation.

The results of full model (model 2) give a standardized beta coefficient of 0.76 from functional value to shopping satisfaction, 0.81 from emotional value to shopping satisfaction, main effect of 0.28 from utilitarian orientation to shopping satisfaction, main effect of 0.76 from hedonic orientation to shopping satisfaction, and interaction effects of -0.32 and -1.13, respectively. These results show strong support for moderating effects of consumer shopping orientations. That is, one standard deviation increase in utilitarian orientation will not only impact shopping satisfaction directly by 0.28, but it would decrease the impact of functional value from 0.76 to 0.44. Similarly, as hedonic orientation increased, the relationship between emotional value and shopping satisfaction will go down. As hypothesized we proposed, the moderating effects of consumer value orientations (effect size=0.11) have a significant change in  $\Delta R^2$  ( $F=6.07$ ,  $P < 0.05$ )<sup>2</sup>, and thus confirming H4 and H5 (as illustrated in figure 4). It is important to note that a small to moderate effect size (0.02~0.15) does not necessarily imply an unimportant influence. This is because the full model resulted in largely higher standardized beta coefficients in comparison with the reduced model.



**Figure 4. Results of path analysis (full model)**

<sup>2</sup> We use the formula proposed by Carte and Russell (2003) for calculating the significance of the change in the  $R^2$ .  $F = [\Delta R^2 / (df_{full} - df_{reduced})] \div [(1 - R^2_{full}) \div (N - df_{full} - 1)]$

Insight of these changes are three folds: (1) With the concept of task-technology fit which task characteristics (goal-focused or recreational shopping) play a critical role in attenuating the strength of consumer received website values—shopping satisfaction relationship, unless the website features (functional and emotional aspects) do well-fit consumer shopping requirements. (2) Theories of contingent strategy characteristics—firm performance relationships are being more commonly accepted with empirical findings (e.g. [43]). It is therefore reasonable to conclude that consumer received website values—shopping satisfaction relationships may also be susceptible to exogenous contingent constructs as well. Given the current study findings, the impact of functional and emotional values on shopping satisfaction is negatively moderated by consumer value orientations. Interestingly, the  $R^2$  of shopping satisfaction controversially increased if we add these two moderators together to the conceptual model. One possible explanation is that the greater the shopping orientation the consumer perceives the higher variation in received website values the shopper will tolerate before changing affects and intentions. Indeed, consumers' expectations are usually unstable and unlimited whereas companies resources are conversely scarce and insufficient. When these affordable resources surmounted by consumers, the value advantages originated in the website will be eliminated. (3) Despite the fact that online shoppers tend to be goal-focused (reduced model), recreational shopping orientation is also desirable as it is associated with more emotional aspects. In our case, hedonic orientation is a reflection of consumers who have experienced a certain level of emotional worth from the shopping website. This finding is consistent with the assertion proposed by Wakefield and Baker [44] that consumers who receive positive emotions from the website in fitting their hedonic needs are thought to form strong commitments (such as word of mouth and loyalty). Therefore, it is reasonable to conclude that emotional value/hedonic orientation interaction plays a stronger driver of shopping satisfaction than functional value/utilitarian orientation interaction. In sum, e-markets should take these considerations into account.

## **5. Discussion**

No doubt that e-commerce is continuing to have a profound impact on MIS discipline. To date, only a few studies that used task-technology fit concept to investigate online shopping behavior. However, use may be related to how well the consumer feels website features fit the shopping tasks. Unlike previous research which has emphasis primarily on determinants of shopping satisfaction, we extend this perspective by finding support for significant interactions between technology characteristics and shopping requirements. Specifically, we found that the congruence between a technology and a task can be interpreted as the extent to which a shopping task can be performed extrinsically and intrinsically with particular website features. This research also makes an important contribution to the MIS literature by providing a theoretical

validation of how online shoppers functionally and emotionally process shopping activities with their inherent expectations.

For practical implications, our findings suggest that practitioners should not only tenaciously consider the consumer received website values but also put more emphasis on their value orientations. Consumer received functional and emotional values are probably necessary but are an insufficient precondition for cultivating shopping satisfaction. Therefore, e-marketers should develop a value delivery strategy that is most concerning for their customers. In regards to consumer value orientations, both utilitarian and hedonic anticipations should also simultaneously take into consideration. In fact, some websites simultaneously offer both goal-focused and recreational benefits to their customers. For example, the virtual reality feature of Honda Car website ([www.honda.com](http://www.honda.com)) that allows prospectors to appreciate the car from every angle alleviate goal-focused visitors' needs about the car information, while engaging recreational visitors with passionate music or self-painted exterior color of the car. Furthermore, hedonic orientation plays a slightly higher influence on shopping satisfaction than utilitarian orientation. Online shoppers will consider whether the emotional features provided by the website would fulfill their recreational needs. When a shopping experience is exceptionally desirable, consumers are more intent to share their feelings with others and encourage friends to patronize that website [4]. If this is true, marketing strategy may be effective in keeping costs down.

## **6. Limitation and future research**

Despite our study findings have important implications for shopping websites, some limitations of the research must be acknowledged. First, most of our respondents were students, however, as younger students who have grown up on the website become full-fledged shoppers, recreational aspects are likely to become desirable, even if they do not have too much money to buy something. We thus encourage future research to identify additional segment in the context of online shopping. Second, TTF originally applies to IT usage behaviors that are under managerial fiat. While mandating technology use can provide the impetus to overcome initial inertia associated with a technology [1], such effects may not be suitable for online shopping. Since online shopping behaviors are always under the volitional control of consumers. Third, although we used the same respondents for evaluating research constructs, the moderating effects of the research model minimizes potential common method bias. According to Evans [18] argument, if the moderating effects have significantly been found, will provide a strong implication of the lack of common method bias. This is because all the respondents are hardly anticipating the items' non-linear relationships and answer accordingly.



## References

1. Agarwal, R. & Prasad, J. "The role of innovation characteristics and perceived voluntariness in the acceptance of information technologies," *Decision Sciences*, 1997, 28(3), 557-582.
2. Ajzen, I. and Fishbein, M. *Understanding Attitudes and Predicting Social Behavior*, Englewood Cliffs, New Jersey, Prentice-Hall, 1980.
3. Babin, B.J., Darden, W.R. & Griffin, M. "Work and/or fun: measuring hedonic and utilitarian shopping value," *Journal of Consumer Research*, 1994, 20, 644-656.
4. Babin, B.J., Kim, L.Y. & Griffin, M. "Modeling consumer satisfaction and word-of-mouth: restaurant patronage in Korea," *Journal of Service Marketing*, 2005, 19( 3), 133-139.
5. Barclay, D.C., Higgins, C. & Thompson, R. "The partial least squares approach to causal modeling: personal computer adoption and use as an illustration," *Technology Studies*, 1995, 2(2), 285-308.
6. Bellenger, D.N. & Korgaonkar P.K. "Profiling the recreational shopper," *Journal of Retailing*, 1980, 56, 77-92.
7. Bigné, J.E., Sánchez, M.I. & Sánchez, J. "Tourism image, evaluation variables and after purchase behavior: inter-relationship," *Tourism Management*, 2001, 22(6), 607-616.
8. Carte, T.L. & Russell, C.J. "In pursuit of moderation: nine common errors and their solutions," *MIS Quarterly*, 2003, 27(3), 479-501.
9. Chen, L.D., Gillenson, M.L. & Sherrell, D.L. "Enticing online consumers: an extended technology acceptance perspective," *Information & Management*, 2002, 39, 705-719.
10. Childers, T.L., Carr, C.L., Peck, J. & Carson, S. "Hedonic and utilitarian motivations for online retail shopping behavior," *Journal of Retailing*, 2001, 77(4), 511-535.
11. Chin, W.W., Marcolin, B.L. & Newsted, P. R. "A partial squares latent variable modeling approach for measuring interaction effects: results from a monte carlo simulation study and a electronic-mail emotion/adoption study," *Information Systems Research*, 2003, 14( 2), 189-217.
12. Chircu, A.M., & Kauffman, R.J. "Limits to value in electronic commerce-related IT investments," *Journal of Management Information Systems*, 2000, 17(2), 59-80.
13. Cohen, J. *Statistical power analysis for the behavioral sciences*, 2<sup>nd</sup> ed. Lawrence Erlbaum, Hillsdale, NJ, 1988.
14. Cooil, B., Keiningham, T.L., Aksoy, L. & Hsu, M. "A longitudinal analysis of customer satisfaction and share of wallet: investigating the moderating effect of customer characteristics," *Journal of marketing*, 2007, 71(1), 67-83.
15. Cowles, D.L., Kiecker, P. & Little, M.W. "Using key informant insights as a foundation for e-tailing theory development," *Journal of Business Research*, 2002, 55(8), 629-636.
16. Dawson, S., Bloch, P.H. & Ridgway, N.M. "Shopping motives, emotional states, and retail outcomes," *Journal of Retailing*, 1990, 66, 408-427.
17. Dishaw, M.T. & Strong, D.M. "Extending the technology acceptance model with

- task-technology fit constructs,” *Information & Management*, 1999, 36, 9-21.
18. Evans, M.G. “A mote carol study of the effects of correlated method variance in moderated multiple regression analysis,” *Organizational Behavior and Human Decision Process*, 1985, 36(3), 305-323.
  19. Fichman, R.G. “The role of aggregation in the measurement of it-related organizational innovation,” *MIS Quarterly*, 2001, 25(4), 427-455.
  20. Fichman, R.G. & Kemerer, C.F. “The illusory diffusion of innovation: An examination of assimilation gaps,” *Information Systems Research*, 1999, 10(3), 255-275.
  21. Fornell, C. & Bookstein, F.L. “Two structural equation models: LISREL and PLS applied to consumer exit-voice theory,” *Journal of Marketing Research*, 1982, 19(3), 440-452.
  22. Gardial, S.F., Clemons, D.S., Woodruff, R.B., Schumann, D.W. & Burns, M.J. “Comparing consumers' recall of pre-purchase and postpurchase product evaluation experiences,” *Journal of Consumer Research*, 1994, 20, 548-560.
  23. Goodhue, D.L. “Understanding user evaluations of information systems,” *Management Science*, 1995, 41(12), 1827-1844.
  24. Goodhue, D.L. & Thompson, R.L. “Task-technology fit and individual performance,” *MIS Quarterly*, 1995, 19(2), 213-236.
  25. Hackman, J.R. “Toward understanding the role of tasks in behavioral research,” *Acta Psychologica*, 1969, 31(2), 97-128.
  26. Hair, J.F., Black, B., Babin, B., Anderson, R.E. & Tatham, R.L. *Multivariate Data Analysis* 6<sup>th</sup> edn, Prentice-Hall, 2006.
  27. Harris, L.C. & Goode, M.M.H. “The four levels of loyalty and the pivotal role of trust: a study of online service dynamics,” *Journal of Retailing*, 2004, 80(2), 139-159.
  28. Jarvenpaa, S.L. & Todd, P.A. “Consumer reactions to electronic shopping on the world wide web,” *International Journal of Electronic Commerce*, 1997, 1(2), 59-88.
  29. Kaltcheva, V.D. & Weitz, B.A. “When Should a Retailer Create an Exciting Store Environment?,” *Journal of Marketing*, 2006, 70(1), 107-118.
  30. Klopping, I.M. & Mckinney, E. “Extending the technology acceptance model and the task-technology fit model to consumer e-commerce,” *Information Technology, Learning, and Performance Journal*, 2004, 22(1), 35-48.
  31. Market Intelligence Centre, 2007, The trend of B2C behavior 2007. Available at <http://mic.iii.org.tw/intelligence>
  32. Mathwick, C., Malhotra, N. & Rigdon, E. “Experiential value: conceptualization, measurement and application in the catalog and internet shopping environment,” *Journal of Retailing*, 2001, 77, 39-56.
  33. Overby, J.W. & Lee, E.J. “The effects of utilitarian and hedonic online shopping value on consumer preference and intentions,” *Journal of Business Research*, 2006, 59, 1160-1166.
  34. Palvia, S.C. & Chervany, N.L. “An experimental investigation of factors influencing predicted success in DSS implementation,” *Information & Management*, 1995, 29(1), 43-53.

35. Parasuraman, A. "Reflections on gaining competitive advantage through customer value," *Journal of the Academy of Marketing Science*, 1997, 25(2), 154-161.
36. Reynolds, K.E. & Beatty, S.E. "Customer benefits and company consequences of customer-salesperson relationships in retailing," *Journal of Retailing*, 1999, 75(1), 11-32.
37. Rogers, E.M. *Diffusion of Innovations*. 4th ed. New York: Free Press, 1995.
38. Song, J. & Zahedi, F. "A theoretical approach to web design in e-commerce: a belief reinforcement model," *Management Science*, 2005, 51(8), 1219-1235.
39. Srinivasan, S.S., Anderson, R. & Ponnnavolu, K. "Customer loyalty in e-commerce: an exploration of its antecedents and consequences," *Journal of Retailing*, 2002, 78(1), 41-50.
40. Sweeney, J.C. & Soutar, G.N. "Consumer Perceived Value: the Development of A Multiple Item Scale," *Journal of Retailing*, 2001, 77(2), 203-220.
41. Tan, M. & Teo, T. "Factors influencing the adoption of Internet banking," *Journal of the AIS*, 2000, 1(5), 1-44.
42. Venkatesh, V. & Agarwal, R. "Turning visitors into customers: a usability-centric perspective on purchase behavior in electronic channels," *Management Science*, 2006, 52(3), 367-382.
43. Venkatraman, N. "The concept of fit in strategy research: toward verbal and statistical correspondence," *Academy of Management Review*, 1989, 14(3), 423-444.
44. Wakefield, K.L. & Baker, J. "Excitement at the mall: determinants and effects on shopping response," *Journal of Retailing*, 1998, 74, 515-539.
45. Wang, L.C., Baker, J., Wagner, J.A. & Wakefield, K. "Can a retail website be social? ," *Journal of Marketing*, 2007, 71, 143-157.
46. Wold, H. *Introduction to the second generation of multivariate analysis*, Theoretical Empiricism. Paragon House, New York, vii-xi, 1989.
47. Wolfinbarger, M. & Gilly, M. "Shopping online for freedom, control, and fun," *California Management Review*, 2001, 43(2), 34-55.
48. Woodruff, R.B. "Customer value: the next source for competitive advantage," *Journal of Academic Marketing Science*, 1997, 25, 139-153.
49. Yoon, S.J. "The antecedents and consequences of trust in online-purchase decisions," *Journal of Interactive Marketing*, 2002, 16(2), 47-63.
50. Zeithaml, V.A. "Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence," *Journal of Marketing*, 1988, 52(3), 2-22.
51. Zigurs, I. & Buckland, B.K. "A theory of task/technology fit and group support systems effectiveness," *MIS Quarterly*, 1998, 22(3), 313-334.