

# Effects of outcome, process and shopping enjoyment on online consumer behaviour

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Received 27 March 2005; received in revised form 11 October 2005; accepted 27 April 2006

Available online 12 June 2006

## Abstract

Customer value is one of the most powerful forces in today's marketplace and emerging as the strategic imperative for the 1990s. In this study, we proposed a three-component customer value model for e-commerce. Drawing upon the literature in marketing and information systems, our research model decomposed customer value into process value, outcome value, and shopping enjoyment. The results from this study showed that outcome value and process value contributed significantly to customer satisfaction and loyalty. Also, evidences confirmed that customer satisfaction affect customer loyalty. Enjoyment, however, had no significant positive impact on customer satisfaction.

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*Keywords:* Online customer value; Outcome value; Process value; Shopping enjoyment; Customer loyalty; Customer satisfaction

## 1. Introduction

Despite its newness, e-commerce is revolutionizing many aspects of the transactions between consumers and firms [1]. This revolution has resulted in a need to understand consumer behaviour online because of the enormous impact from the use of IT and its consequential impact on market success [2].

A key aspect of traditional consumer behaviour is the understanding of customer value perceptions. Customer value is one of the most powerful forces in today's marketplace [3,4] and was "emerging as the strategic imperative (p. 53)" for the 1990s [5]. From a consumer's perspective, obtaining value is a fundamental purchase goal and pivotal to all successful exchange transactions [6]. Thus, it plays an important role in predicting customer's choice and future (re)purchase intentions [7–10], increasing market share and profitability [11], and achieving competitive advantage [12].

Customer value can be equally important in e-commerce [13] because inducing people to visit a site involves some of the same marketing methods as attracting visitors to a retail outlet [2]. However, despite the importance of customer value in traditional marketing research, little has been written about the meaning of customer value as well as its roles in the e-commerce context.

Simply applying the customer value theories developed in offline environments to online contexts is fairly risky because consumers behave differently when they shop online [13]. While the offline customer value is mainly determined by product [8], in online retailing settings, not only the product, but also the online store and the Internet channel can contribute to customer value [14]. Though product value is relatively well understood in the literature, the added value from the use of Internet channel and store specific effort online is rarely studied. Moreover, the impact of different aspects of the customer value on a company's online performance is unclear.

Therefore, the current research objectives are to (1) present a clearer understanding of online customer value by examining its key components; (2) study its impact on e-commerce competition. To fulfil these aims, taking

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a consumer rather than system user perspective, we propose the concepts of process value, outcome value and enjoyment as three key customer value components for online retailing, and investigate their impact on online customer satisfaction and loyalty.

## 2. Conceptual foundations

In order to understand customer value online, we start with a review of customer value in the offline contexts. We then examine the special nature of online shopping. Based on that, we synthesize the three components of customer value online, and provide theoretical perspectives to support the three-component model.

### 2.1. Product value

One critical aspect of customer value is obtained through the product purchased. Product value is an important concept in the marketing literature, and has been conceptualized in so many different ways [15,16]. Table 1 synthesizes these definitions.

Though the above definitions vary in many aspects, the core of product value is clear. First, product value involves a trade-off between what the customer receives (e.g. quality, benefits, worth, utilities) and what she gives up to acquire the benefits (e.g. price, sacrifices) [15]. Therefore, value perception refers to the perceptions of net benefits [12,14,15,26]. Second, product value is a customer's subjective perception, as oppose to an objective one or one from the seller's perspective [15]. Even though the seller or manufacturer might "design" or "create value" in a product, the idiosyncratic use situation plays an important role in shaping value perception [15]. Finally and most importantly, the majority of above definitions in fact have a focus on product or core service [18,20,21,26], although a broader definition has been advocated by Zeithaml [8]. In a narrower sense, product value is equalized to customer value. With same essence, the term "value for the money" and "value for price" were used to describe product value [27].

A narrow definition of customer value with a focus on product value alone is not appropriate for the competitions online nowadays. First, as observed by Woodruff [15], product quality is often equivalent. If customer value were product value, the competition reduces to a price war, which is undesirable to most sellers. Furthermore, the Gvu WWW user survey by Georgia Institute of Technology ([www.gvu.gatech.edu](http://www.gvu.gatech.edu)) on more than 5000 Internet user in 1998 showed that the most popular products are software, book, hardware, and music. Such products are easy to describe, and require no personal inspection to ensure the quality of a particular piece of product. Competition on such product is less likely to be quality based, but rather price based [28,29]. Besides price competition, there is really no other choice if produce value were the only competition edge. Second, a focus on product value might over-

Table 1  
Concepts of customer value

Definition/concepts of value	Reference
Value in business markets is the worth in monetary terms of the technical, economic, service, and social benefits a customer company receives in exchange for the price it pays for a market offering	[17, p. 54]
By customer value, we mean the emotional bond established between a customer and a producer after the customer has used a salient product or service produced by that supplier and found the product to provide an added value	[18, p. 63]
The cognitive trade-off between perceptions of quality and sacrifice	[10, p. 308]
Customer value is market perceived quality adjusted for the relative price of your product	[19, p. xiv]
The value that a retailer creates for its customers depends on two factors: the utility of the retailer's products and services, and the price the customer has to pay for those goods and services. (Utility is the benefit or worth of the retailer's offering as perceived by the customer.)	[20, p. 7]
The customer-perceived value can be defined as the difference between the benefits and the sacrifices (e.g. the total costs, both monetary and non-monetary) perceived by customers in terms of their expectation, i.e. needs and wants	[12, p. 123]
The real essence of value revolves around the trade-off between the benefits a customer receives from a product and the price he or she pays for	[21, p. 100]
Buyers' perceptions of value represent a trade-off between the quality or benefits they perceive in the product relative to the sacrifice they perceive by paying the price	[22, p. 46]
Meeting or exceeding customers' expectations in product quality, service quality and valued-based prices	[23]
What buyers are willing to pay?	[24, p. 3]
The consumer's perception of the product's price compare to other brands of the same product with similar specifications	[25, p. 88]
A customer's perceived preference for and evaluation of those product attributes, attribute performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in use situations	[15, p. 142]
Value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given	[8, p. 14]

look some other important value components that customers base their decision on, for example, customer service. Recognizing this, Zeithaml [8] expanded the product value concept to what is gain for what is given, which included but not limited to the product itself. Nevertheless, value offered other than product takes only a peripheral role.

Although narrowly focused, product value is a critical variable to explain customer's product satisfaction and choice behaviours. For example, product value was found to be important to customer satisfaction and loyalty [30–32], store patronage behaviours [31,33,34], and purchase intention [10,25]. From the seller's perspective, product value is therefore an important variable in retaining customers, because it has a direct impact on customer satisfaction and loyalty, which are the two key variables in relational marketing [35].

2.2. Shopping value

While studies on produce value are ample in marketing research, investigation of shopping value is scant (Table 2 presents some relevant definitions of shopping value). There have been two streams of researches that are related to shopping value. The first stream investigates customer’s motivation on shopping. The work of Babin et al. [36] is probably the most significant piece that examines the types of shopping motivation. They proposed utilitarian and hedonic motivations as two basic types of consumer motivations. Utilitarian motivation is characterized as task-related, and rational. A shopper embraces a work mentality to shopping, and product is purchased in a deliberant and efficient manner. Hedonic motivation, in contrast, reflects the epicurean side of shopping behaviour. Increased arousal, heightened involvement, perceived freedom, fantasy fulfilment, and escapism are indicators of hedonic shopping motivation. While Babin et al. [36] gave a classification of shopping motivation at such a general level, more detailed classification has also been proposed [37–39]. As early as in 1972, Tauber [37] noticed that people’s shopping motivation was not only related to the obtaining of products, but also the benefits coming with the shopping activities. Eleven motivations were identified: people shop to fulfil a social role (e.g. housewife’s shopping), as an escape of daily work, to reward themselves, to learn new trend, to take it as an exercise, to just “watch people”, among others. Rooted in Tauber’s work, Arnold and Reynolds [39] later developed a scale for six shopping motivations, including adventure shopping, value shopping, role shopping, idea shopping, social shopping, and relaxation shopping. However, the work of Babin et al. [36] differs from that of Tauber [37] and Arnold and Reynolds [39]. The former concerns shopping motivation in a more general and abstract fashion while latter concerns more about specific purpose of shopping. It is reasonable to expect that a role fulfilment shopping trip has both utilitarian and hedonic motivations.

Table 2  
Concepts of shopping value

Definition/concepts of value	Reference
An interactive relativistic preference experience, characterizing a subject’s experience of interacting with some object	[36, p. 645]
The value realized by a customer which justifies the sacrifice made to acquire, use, and dispose of a product/service set which customers perceive as superior to all others in providing what is expected, after considering alternatives and the required sacrifice.	[26, p. 34]
A consumer’s perception of the net benefits gained in exchange for the costs incurred in obtaining the desired benefits	[13, p. 326]
An interactive relativistic preference experience	[9]
The net value of the benefits and cost of both a product and the processes of finding, ordering and receiving it	[14, p. 533]

The second stream of research on shopping value focuses on customer’s evaluation of a store, instead of shopper’s motivations. Mathwick et al. [40] proposed a framework of online shopping value. They identified four types of value that an online store can offer. Aesthetics value is the visual appeal and entertainment that a store can offer. Playfulness is the intrinsic reaction towards the shopping activities that a customer engages in. Return on investment focuses on the price and quality trade-off of product and shopping efficiency. Finally, service excellence reflects an overall evaluation of the marketing entity. Mathwick et al. [40] further divided the first three value types into two sub-dimensions. While their work is pioneering, there are a few limitations. First, the number of value dimensions proposed was large (seven in total). Sub-dimensions of Mathwick et al. [40], like entertainment, intrinsic enjoyment, and escapism were found loading on a same factor in the study by Babin et al. [36]. The author also reported the difficulty to establish discriminant validity. Second, the relationships among different value components were not analyzed. In an exploratory study, Keeney [14] summarized a list of nine value components for online shopping which was further reduced by Torkzadeh and Dhillon [41] into Internet shopping convenience, Internet ecology, Internet customer relation, and Internet product value. However, being exploratory in nature, these two studies are not theory-driven for the identified value components and are not built on the past marketing literature. Based on technology acceptance model, Childers et al. [42] identified ease of use, usefulness, and enjoyment as key antecedents of attitude to online store. However, it did not address the questions of what constituted the usefulness of a web store. Chen and Dubinsky [13] suggested that valence of experience, perceived risk, and product value can affect customer value. However, valence of experience captures only the emotional aspect of online shopping; the utilitarian aspect, as observed by other researchers [14,36,40], was missing. Finally, when the concept shopping value is used, it covers both the *shopping process* and *product value* in above studies, resulting in a confusion of concepts.

These two streams of researches, although related, differ in a critical way. While the utilitarian and hedonic shopping motivations are the psychological orientations of the shopper, hence the shopper’s attitude, shopping value is the evaluation of a shopping experience with a store [36], hence the store’s attribute. Unfortunately, the literature sees confusion between these two concepts [36]. Both the perception of a specific store and the motivation that initiates a shopping trip were regarded as conceptually exchangeable [36]. In this study, we define shopping value as consumers’ evaluations of a shopping process itself, rather than the products [36]. The object of the evaluation is a retail outlet such as individual store, shopping mall, or online store. Consequently, the unit of analysis is the retail outlet rather than the product. In this study we focus on the shopping value of stores.

In summary of the extant research on product value and shopping value, a comprehensive, yet theoretically solid framework of customer value is still missing in the literature, neither is the clarification of concepts. Furthermore, although both product value and shopping value has been identified in past studies, no study tests the relationship between them.

### 2.3. Critical differences between product value and shopping value

Shopping value and product value differ in a critical aspect. While product value takes product as the unit of analysis, shopping value looks at a retailing outlet. How can a retailer offer better shopping value in addition to the product quality and price? Studying shopping value can potentially offer differentiation strategy other than the price/quality competition. For example, based on environmental psychology, store environment has been identified as such a tactic variable to compete for customers (refer to [34] for a detailed treatment). Other means to offer shopping value includes parking convenience, location, etc. [43].

Shopping value is particularly important in the e-commerce. First, online competition is less based on product quality, because most online products are standard products. According to the GVU survey in 1998 we mentioned above, the most popular products are those easy to describe, and require no personal inspection. Competition on such product is less likely to be quality based, but rather price based [28]. To avoid excessive price competition, some other differentiation strategies, such as offering better shopping value through customization, are called for. Second, according to the GVU survey, there are more people using Internet for education and entertainment than for shopping. Educating customers on product subject, providing entertaining product related information, and building virtual communities are some ways to increase shopping value (e.g. Wine.com, HP.com and Babycenter.com).

Although product value and shopping value have been identified in marketing research, an integrated conceptualization of customer value is still missing. The literature on offline shopping (Table 1) dominantly focused on product value. In contrast, a review of online customer value reveals a bewildering mix of factors, spanning from lower level website system design factors [42,44] to product related information [14,45]. To better picture the customer value online, a parsimonious and theoretically sound framework is in need.

### 3. Research model and hypotheses

We therefore define customer value as an overarching concept that encompasses all the benefit and cost incurred in an entire purchase instance, covering both product and shopping value in the literature. Further, we propose a three-component model (Fig. 1) which breaks the customer value into *outcome value*, *process value*, and *enjoyment*

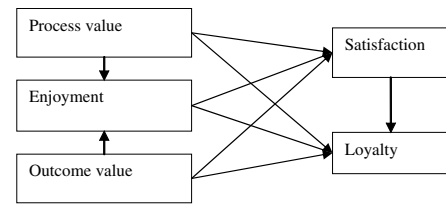


Fig. 1. Proposed research model.

*value*. The outcome value refers to the value of product/service provided by a web store to meet the customer's needs and wants [46]. To a large degree, it corresponds to the product value. However, we term it as outcome value to avoid the confusion that product value does not include service outcome. The process value is defined as the saving of time and effort associated with the process of finding, ordering, and receiving product through a specific web store. The shopping enjoyment refers to the extent to which the shopping experience with a web store is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated. However, by shopping enjoyment, we do not mean a simultaneous measure of the psychological state of a person during the shopping process, but rather the *enjoyability* of a store. Process value and enjoyment together correspond to the shopping value in the marketing literature. However, we distinguish them because they have different theoretical property and may lead to different managerial implications, as will be discussed later. Such classification notion is based an extensive review of marketing and IS researches.

Early in the product marketing literature, customer value was equated to product value. Product value was defined as what a consumer gets for what she pays for a product [8]. Zeithaml's definition of product value had a focus on physical product. Although Zeithaml's product value had a focus on quality and price, the related customer services offered by the manufacture or seller was also considered in its broadest concept. Arguably, the core product value represented what the customer receives as outcome, while the related services were part of the process which we term process value. In the service marketing studies, Swan and Combs [47] suggested perceived performance of service comprised two components, instrumental and expressive performance with one refers to the ultimate service received and the other refers to how the service is delivered. Similarly, Gronroos [48] argued that service performance should be conceptualized as comprising technical ("what is delivered") and functional quality ("how" the service is delivered during the service encounter). Extant literature on service quality provides ample empirical support that there are two major components of service quality: outcome (what the customer receive in an exchange), process (the way in which outcome is transferred to customers) [7,49]. Moreover, in relationship marketing studies, Fontenot and Wilson [50] distinguished two independent sources of value involved in a purchase: acquisition value and exchange value. In the same sense, Wehrli and Juttner

[51] referred to the difference between value related to the exchange object and value related to the exchange process. Integrating the service and relationship marketing literature, we use the term outcome value to cover both the core product value and core service value.

A process and outcome classification was also suggested by IS literature. In studies of user satisfaction towards information systems, Woodroof and Kasper [52] posited that IS satisfaction comprises two dimensions, the outcome satisfaction (what the end user receive in using the system) and process satisfaction (the manner which the outcome is realized). In the context of e-commerce, system quality such as ease of use [53], responsiveness [54] as well as information quality such as content, accuracy and timeliness [55] were observed to be important to user experience.

### 3.1. Relationship among different value components

Utilitarian values can affect the hedonic value. Based on cognitive balance theory, Ahtola [56] predicted that hedonic and utilitarian aspects are normally positively correlated. Put it plainly, one cannot be happy with something that is useless. In addition, from means-end perspective, affective consequences were believed to be in the higher abstract level than functional consequences, because the affective consequences were more strongly related to consumers' end needs, goals and value [57]. Such relationship between utilitarian and hedonic value has also been reported in IS literature; functional qualities are perceived to have a positive effect on enjoyment, since they represent sources of information relevant to feelings of self-efficacy, competence, and self-determination, which are theorized to influence the intrinsic motivation [44]. In the study of people's experience in hypermedia, enjoyment, as a measure of flow, was the result of website's functional characteristics [58]. Hence, we hypothesize that:

H-1a: Shopping process value is positively related to shopping enjoyment.

H-1b: Shopping outcome value is positively related to shopping enjoyment.

### 3.2. Customer satisfaction

From a system user's perspective, satisfaction with a system has been considered as one of the most important measures of IS success [59–61]. From a consumer's perspective, Bailey and Pearson [62] stated that "satisfaction in a given situation is the sum of one's feelings or attitudes toward a variety of factors affecting that situation" (p. 531). In marketing research, "few things are as fundamental to the marketing concept as the notion of satisfying the needs and desires of the consumers (p. 15)" [63]. Satisfaction is thus an important measures of online customer overall feelings and attitudes.

The relation between process and satisfaction is supported by equity theory [52]. Equity is the result of an

individual's evaluation of her inputs and rewards in comparison to another's inputs and rewards [64]. In online shopping context, if a store requires more effort to find and order a product than other stores, then it would be perceived as unnecessarily difficult to use, and hence low process value. Such perception fails the expectation of online shopping convenience and reduces satisfaction. Similarly, failure to offer comparable product/service value will lead to dissatisfaction with the online shopping experience.

In addition, satisfaction is affected by the belief that one has exhaustively searched the set of acceptable alternatives such that there is no regret regarding a missed opportunity [65]. Online shopping provides the potential for a more extensive search than that which customers could accomplish in a store [66]. We therefore hypothesize:

H-2a: Shopping process value is positively related to customer satisfaction.

H-2b: Shopping outcome value is positively related to customer satisfaction.

H-2c: Shopping enjoyment is positively related to customer satisfaction.

### 3.3. Customer loyalty

The high cost to attract new customers on the Internet and the difficulty in retaining them make customer loyalty an essential asset for many online vendors [67]. Engel and Blackwell [68] defined brand loyalty as "the preferential, attitudinal and behavioural response toward one or more brands in a product category expressed over a period of time by a consumer". Assael [69] defined brand loyalty is "a favourable attitude toward a brand resulting in consistent purchase of the brand over time (p.87)". Applying brand loyalty concept to store loyalty, Zeithaml and Bitner [70] suggested that loyalty implied customer's intention to do more business with the seller and to recommend the seller to other customers. In online shopping context, Srinivasan et al. [71] defined e-loyalty as "a customer's favourable attitude toward the e-retailer that results in repeat buying behaviour".

Classic strategic thinking [24] advocated rising switching costs to retain customers. In online store, there are at least two approaches to using technology to induce switching costs. First, a website can remember facts about the customer that reduce the effort of future transactions. Second, a site can learn about the customer so that future interactions are tailored to the customer's needs, which is likely to create higher switching costs [2]. In both cases, better process value is provided to the customer. Better product quality and lower price are surely among the traditional strategies to retain customers, as they provide better outcome value.

Past studies have indicated that customer value (outcome, process, and enjoyment) can be an important deter-

minant of online customer loyalty [71–73]. Therefore we hypothesize that:

H-3a: Shopping process value is positively related to customer loyalty.

H-3b: Shopping outcome value is positively related to customer loyalty.

H-3c: Shopping enjoyment is positively related to customer loyalty.

### 3.4. Customer satisfaction and loyalty

Customers are loyal because they are satisfied and thus want to continue the relationship [30,32]. In marketing domain, Yi [74] reviewed past customer satisfaction literature and concluded that customer satisfaction influences purchase intentions as well as post-purchase attitude. Although it is not our focal interest, following the marketing literature, we hypothesize that:

H-4: customer satisfaction is positively related to customer loyalty.

## 4. Research methods

In order to test the proposed model, a survey research was conducted. Instrument to measure the three value components was developed by adopting and adapting existing validated scales whenever possible. Minor revisions were made when appropriate. We adopt the construct of satisfaction from Oliver and Swan [75]. We adapt the scale of outcome value and process value from Childers et al. [42] and Davis [76], respectively. To measure enjoyment, we adopt Babin et al.'s scale [36] of hedonic customer value. The scale of loyalty was adopted from Gefen [67]. The sources of the items, as well as the items reliability, were indicated in Table 4.

Two Information System (IS) researchers review the instrument and check the face validity. As a pre-test, four focus group interviews were conducted. Altogether 16 post-graduate students in IS were recruited and participated in the focus groups. In all focus groups, a different set of participants were used. In each of the focus groups, an item-sorting process following the procedures suggested by Moore and Benbasat [77] were first carried out, participants were asked to sort the items independently; after that, an instruments discussion process was introduced, participants were asked to comment on the content, question ambiguity, as well as the wordings of the items. Inter-judge agreements, including raw agreement and Cohen's Kappa were calculated. The Cohen's Kappa scores were 0.79, 0.88, 0.66, and 0.93, respectively. Those scores were greater than 0.65, suggesting acceptable results [77]. Minor revisions were made based on feedback from focus groups.

We employed a survey method to test the proposed model. Both graduate students and working people were

invited to participate in the survey. Eighty-six valid questionnaires were returned by subjects who had prior online purchase experience. They were asked to list up to three online stores that they have purchased before. Out of the stores they enumerated, one is chosen randomly as the target company, and a survey questionnaire is filled out. The whole process is done through a survey website in a self-administered way. Subjects were given SD\$10 as a reward.

## 5. Data analysis and results

The data analysis was carried out in accordance with a two-stage methodology [78] using SPSS 12.0 and LISREL 8.5. The first step of the data analysis was to test the measurement model by establishing the convergent validity and discriminant validity of the constructs. In the second step, the structural model was examined to test the hypotheses as well as the model fits.

### 5.1. General statistics

The demographics of the subjects are reported in Table 3. The respondents are relatively young (mean = 26.6, SD = 2.3). In terms of Internet experience, the respondents are quite experienced, with almost 70% of respondents having between five and seven years of Internet experience (potential customers: mean = 6.17, SD = 1.465). The online stores and products in this survey are presented in Table 4. The respondents bought from 33 online stores. About one quarter of the respondents bought books from online stores (24.42%). The results are consistent with Lynch et al.'s findings that most of the leading product categories in Internet shopping, such as tickets and music CDs, involve "low touch" and "no-touch" services [79]. Overall, our subjects were typical online shoppers who were well educated and with sufficient Internet experience.

### 5.2. Instrument validity

Exploratory factor analysis (EFA) was conducted to test the instrument's convergent and discriminant validity. Table 5 reports the EFA results with principal component analysis and varimax rotation using SPSS. We found a five-factor structure with eigenvalues greater than 1.0. The internal consistency reliability was measured by Cronbach's alpha with a 0.7 guideline value suggested by Nunnally and Bernstein [80]. The alphas for each constructs were reported in Table 4. In summary, based on the data presented in two

Table 3  
General statistics

Gender	Male: 44 (51%)	Female: 42 (49%)
Age	Mean: 26.6	SD: 2.3
Internet experience	Mean: 6.17	SD: 1.465
Education	Bachelor: 34.5	Master: 65.1
Frequency of online shopping within one year	Mean: 2.59	SD: 1.375

Table 4  
Profile of online stores and products

	Number	Percent
<i>Online stores</i>		
8848	1	1.16
Air Asia	1	1.16
Amazon	6	6.98
Berry Bros and Rudd	1	1.16
Bol	3	3.49
CardShop	6	6.98
CD hall	2	2.33
Cncard	1	1.16
Cnforyou	2	2.33
Ctrip	1	1.16
Dang dang	8	9.30
Dell	1	1.16
e-Gadgets	1	1.16
Eachnet	10	11.63
Ebay	2	2.33
Emart	1	1.16
Igo5	1	1.16
Joyo	6	6.98
Movie online	1	1.16
Netease	1	1.16
Octopustravel	1	1.16
Phonecardcity	7	8.14
Priceline	2	2.33
Shalala	1	1.16
Shanghai hotline	1	1.16
Sina	6	6.98
Singaporecard	1	1.16
Singcard	3	3.49
Sistic	1	1.16
Sohu	4	4.65
Tesco	1	1.16
Tigercool	1	1.16
World Challenge Inc	1	1.16
Total	86	100.00
<i>Products</i>		
Accessories	13	15.12
Air Ticket	3	3.49
Book	21	24.42
CD	2	2.33
Computer	1	1.16
Electronics	15	17.44
Flowers	2	2.33
Movie Ticket	1	1.16
Phone Card	18	20.93
Software	6	6.98
Travel Package	3	3.49
Wine	1	1.16
Total	86	100.00

tables, we conclude that the scales of our study show adequate validity and reliability.

### 5.3. Hypotheses testing

The results of hypothesis testing are reported in Table 6 and Fig. 2. Process value and outcome value were found to be significant to satisfaction, explaining 51% of satisfaction variance. In addition, process value and satisfaction were found to be significant to loyalty, explaining 58% of loyalty

variance. However, contrary to our predictions, the hypothesized linkages between outcome value and enjoyment, enjoyment and satisfaction, enjoyment and loyalty, as well as outcome value and loyalty were found to be insignificant.

### 5.4. Model fitting

Using structural equation modelling, we tested the hypotheses in LISREL 8.5. Five indices used to estimate the model fit were higher than the standards recommended by the literature ( $\chi^2 = 119.32$ ,  $p = 0.00$ ,  $\chi^2/DF = 1.49$ ,  $NFI = 0.91$ ,  $NNFI = 0.96$ ,  $CFI = 0.9$ ,  $RMSEA = 0.76$ ). Another two indices,  $GFI = 0.84$  and  $AGFI = 0.77$ , were also close to the recommended standard, though a bit low. Considering the sample size, our model is reasonably acceptable to assess the results.

## 6. Discussions and implications

In this study, a three-component online customer value model was proposed. Their impacts on customer satisfaction and loyalty were tested. Based on our conceptual model of the linkages between the constructs, our results generally support the model and confirm the hypotheses. The proposed research model explains 0.51 of the variance in customer satisfaction and 0.58 of variance in customer loyalty, respectively. Thus, our empirical test provides evidence for the appropriateness of the decomposition of online customer value. The relationships among value (value components), satisfaction, and loyalty are demonstrated. Hence the results represent an important step forward in unravelling the intricate relationship between these three key constructs.

These findings lend support to the assumptions that customer value includes both outcome and process components in e-commerce contexts. While a number of studies have examined the dimensions of customer value in consumer behaviour literature [9], this study is one of the few attempts to delineate the dimensions of customer value in online shopping contexts. The results provide evidences that while the outcome component is traditionally recognized as the most significant dimension in explaining customer satisfaction, the process component also has a significant impact on satisfaction, and therefore should not be ignored in marketing strategy development. Further, our results demonstrate that process value had an almost equally significant impact on satisfaction compared to outcome value, and is even more prominent in shaping customer loyalty in online shopping contexts. Thus the delineation of these outcome and process dimensions has both academic and managerial significance.

Next, the relationships among value-satisfaction-loyalty were supported in this study, which confirm earlier conceptual work of Liljander [81], and Spreng et al. [63]. We originally assumed that outcome value and process value would simultaneously affect satisfaction and loyalty. However, the results seem inconsistent with our hypotheses. The

Table 5  
Factor analyses for construct validity

Variables, reference, and $\alpha$	Measures	Factor loading				
		LOY	ENJ	SAT	PRO	OUT
Satisfaction [76] (0.923)	Unhappy–happy	0.259	0.216	0.768	0.347	0.037
	Contented–disgusted	0.222	0.102	0.879	0.168	0.254
	Dissatisfied–satisfied	0.321	0.215	0.817	0.144	0.294
Outcome [43] (0.940)	Find a good deal	0.257	0.145	0.248	0.145	0.876
	Save money	0.166	0.045	0.173	0.139	0.930
Process [77] (0.923)	Make my shopping less troublesome	0.300	0.152	0.193	0.863	0.109
	Make my shopping process more effective	0.337	0.148	0.194	0.850	0.080
	Make my shopping more efficient	0.238	0.349	0.284	0.696	0.287
Enjoyment [37] (0.872)	Time spent on this web site was truly enjoyable	0.105	0.769	0.171	0.304	0.073
	Shopping on this web site was a very nice time out	–0.010	0.885	0.116	0.194	0.077
	This web site immersed me in exciting products it offers	0.164	0.877	0.033	0.149	–0.088
	I enjoyed this web site for its own sake, not just for the items I may have purchased	0.206	0.746	0.186	0.108	0.249
Loyalty [68] (0.841)	Do most of my future travel arrangement with this website	0.887	0.100	0.197	0.204	0.151
	Recommend this store to friends, neighbours, and relatives	0.793	0.176	0.127	0.289	0.122
	Use this store the very next time you need to shop	0.881	0.100	0.219	0.217	0.111
	Arrange more than 50% of my shopping with this web site	0.822	0.128	0.303	0.182	0.248

Table 6  
Hypotheses testing results

Hypothesis	Coefficient	T-value	P-value	Result
H1-a: Process → enjoyment (+)	0.45	3.72	0.000	Supported
H1-b: Outcome → enjoyment (+)	0.19	1.82	0.072	Rejected
H2-a: Process → satisfaction (+)	0.32	2.94	0.004	Supported
H2-b: Outcome → satisfaction (+)	0.39	3.88	0.000	Supported
H2-c: Enjoyment → satisfaction (+)	0.18	1.72	0.089	Rejected
H3-a: Process → loyalty (+)	0.44	3.99	0.000	Supported
H3-b: Outcome → loyalty (+)	0.17	1.83	0.071	Rejected
H3-c: Enjoyment → loyalty (+)	0.064	0.63	0.530	Rejected
H4: Satisfaction → loyalty (+)	0.33	2.88	0.005	Supported

linkage between outcome value and loyalty was fully mediated by satisfaction, while process not. These results reveal that although satisfaction significantly predicts loyalty, it is not the only determinant of loyalty. Customer value may also affect loyalty directly. Inclusion of the value construct in such models provides a richer portrayal of the dynamics surrounding satisfaction evaluations and intentions. Further, contrary to our prediction, outcome value did not affect loyalty significantly. One reason could be that most of our subjects' products are standard and small ticket

products. It is therefore reasonable to measure outcome value in terms of monetary savings (price). However, price alone does not seem to be a good mechanism to build online loyalty if we assume customers are price seeker when buying standard product. Consequently, the outcome value does not seem to affect the loyalty. However, we acknowledge that including other products in the test may produce different results.

Further, the results regarding the roles of shopping enjoyment seem inconsistent with our hypotheses. More specifically, the hypothesized linkage between outcome value and enjoyment was not supported, and enjoyment did not lead to customer satisfaction and loyalty. One possible explanation might again due to the products involved in the purchase. We find a large portion of our subjects bought less “hedonic” products, such as phone card. It is less likely to expect consumers to enjoy the shopping process and “immersed” in the environments when they shop for these “utilitarian” products. However, further research is needed to better explore the role of enjoyment in other scenarios.

Some serious limitations must be admitted before we discuss the implications. First, we have only a small sample. The generalizability of the result is questionable. Sec-

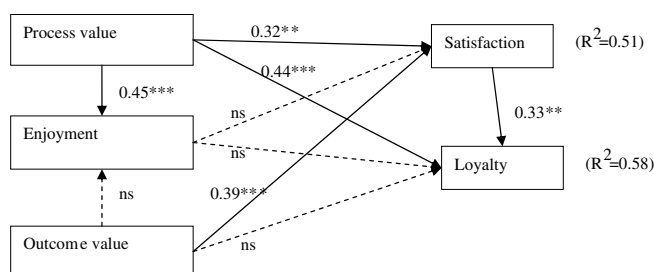


Fig. 2. Hypotheses testing results. Note. ns, insignificant at the 0.05 level; \*\* $P < 0.01$ ; \*\*\* $P < 0.001$ .

ond, the products our subjects bought were standard products to a large degree. A richer variety, or conversely, a strictly controlled product, will surely offer more reliable picture. Our study, therefore, should be treated as an exploratory one on this topic.

With these limitations in mind, to the research community, this study (1) provides support for a parsimonious conceptualization of customer value, (2) verifies the theoretical viability of the three-component model, and (3) demonstrates the usefulness of the customer value on the bottom-line of e-commerce performance, and (4) opens a window for future research to find tacit mechanisms to improve customer values. To the practitioners, this study shows that offering process value to customers can be a sharp competition tool. In contrast, mere price competition might win customer's satisfaction, but not loyalty. However, placing stress on which components of customer value may be contingent on the product type. A wise combination of the values can be an effective online differentiation and competition strategy.

## 7. Future research

The mixed results regarding the roles of value components on satisfaction and loyalty lead us to believe that placing stress on which components customer value may be contingent on the product type, product brand, etc. For instance, we did not find significant relationship between outcome value and customer loyalty. However, this relationship may likely to be true in other scenarios, such as buying a digital camera with different brands. Therefore, the impact of customer value on customer satisfaction and loyalty may be product and brand specific. How are these factors interplay with the value components and affect online consumer behaviour might be an interesting issue in future research. Also, systematic analysis of online customer value in different industries may provide a complete and fundamental picture of online consumer behaviour.

## References

- [1] D.L. Hoffman, The revolution will not be televised: introduction to the special issue on marketing science and the Internet, *Marketing Science* 19 (1) (2000) 1–3.
- [2] D.W. Straub, R.T. Watson, Research commentary: transformational issues in researching IS and Net-Enabled Organizations, *Information Systems Research* 12 (4) (2001) 337–345.
- [3] K. Albrecht, *The Only Thing that Matters: Bringing the Power of the Customer into the Center of Your Business*, Harper Business, New York, NY, 1992.
- [4] R.D. Buzzell, B.T. Gale, *The PIMS Principles*, The Free Press, New York, 1987.
- [5] H. Vantrappen, Creating customer value by streamlining business processes, *Long Range Planning* 25 (1) (1992) 53–62.
- [6] M.B. Holbrook, The nature of customer value, in: R.T. Rust, R.L. Oliver (Eds.), *Service Quality, New Directions in Theory and Practice*, Sage Publications, London, 1994, pp. 21–71.
- [7] A. Parasuraman, V.A. Zeithaml, L.L. Berry, A conceptual model of service quality and its implications for future research, *Journal of Marketing* 49 (4) (1985) 41–50.
- [8] V.A. Zeithaml, Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence, *Journal of Marketing* 52 (3) (1988) 2–22.
- [9] M.B. Holbrook, Introduction to consumer value, in: M.B. Holbrook (Ed.), *Consumer Value*, Rutledge, London, 1999, pp. 1–28.
- [10] W.B. Dodds, K.B. Monroe, D. Grewal, The effects of price, brand, and store information on buyers' product evaluations, *Journal of Marketing Research* 28 (3) (1991) 307–319.
- [11] P.G. Patterson, R.A. Spreng, Modeling relationship between service performance, perceived value, satisfaction and repurchase intentions: an empirical examination, *International Journal of Service Industry Management* 8 (5) (1997) 414–434.
- [12] J. Lapierre, Customer perceived value in industrial contexts, *Journal of Business and Industrial Marketing* 15 (2/3) (2000) 122–140.
- [13] Z. Chen, A.J. Dubinsky, A conceptual model of perceived customer value in e-commerce: a preliminary investigation, *Psychology and Marketing* 20 (4) (2003) 323–347.
- [14] R.L. Keeney, The value of internet commerce to the customer, *Management Science* 45 (1999) 533–542.
- [15] R.B. Woodruff, Customer value: the next source for competitive advantage, *Journal of the Academy of Marketing Science* 25 (2) (1997) 139–153.
- [16] G.A. Wyner, The many faces of customer value, *Marketing Research* 10 (1) (1998) 34–35.
- [17] J.C. Anderson, J.A. Narus, Business marketing: understand what customers value, *Harvard Business Review* 76 (November–December) (1998) 53–65.
- [18] H.E. Butz, L.D. Goodstein, Measuring customer value: gaining the strategic advantage, *Organizational Dynamics* 24 (3) (1996) 63–77.
- [19] B.T. Gale, *Managing Customer Value*, Free Press, New York, 1994.
- [20] A. Ghosh, *Retail Management*, Dryden Press, Orlando, 1994.
- [21] R. Leszinski, M.V. Marn, Setting value, not price, *McKinsey Quarterly* 1997 (1) (1997) 98–115.
- [22] K.B. Monroe, *Pricing: Making Profitable Decisions*, McGraw-Hill, NY, 1990.
- [23] E. Naumann, *Creating Customer Value*, Thompson Executive Press, Cincinnati, OH, 1995.
- [24] M.E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York, 1985.
- [25] J.C. Sweeney, G.N. Soutar, L.W. Johnson, The role of perceived risk in the quality-value relationship, *Journal of Retailing* 75 (1) (1999) 77–105.
- [26] G.H. Carothers, M. Adams, Competitive advantage through customer value: the role of value-based strategies, in: M. Stahl, G.M. Bounds (Eds.), *Competing Globally through Customer Value*, Quorum Books, New York, 1991, pp. 32–66.
- [27] G.D. Hutcheson, L. Moutinho, Measuring preferred store satisfaction using consumer choice criteria as a mediating factor, *Journal of Marketing Management* 14 (7) (1998) 705–720.
- [28] T.W. Malone, J. Yates, R.I. Benjamin, Electronic markets and electronic hierarchies, *Communications of the ACM* 30 (6) (1987) 484–497.
- [29] J.Y. Bakos, Reducing buyer search costs: implications for electronic marketplaces, *Management Science* 43 (12) (1997) 1676–1692.
- [30] T.W. Andreassen, B. Lindenstad, The effect of corporate image in the formation of customer loyalty, *Journal of Service Research* 1 (1) (1998) 82–92.
- [31] J.J. Cronin, M.K. Brady, G.T. Hult, Assessing the effect of quality, value, and customer satisfaction on consumer behavioral intentions in service environments, *Journal of Retailing* 76 (2) (2000) 193–218.
- [32] C. Fornell, M.D. Johnson, E.W. Anderson, J. Cha, B.E. Bryant, The American customer satisfaction index: nature, purpose, and findings, *Journal of Marketing* 60 (4) (1996) 7–18.
- [33] R.N. Bolton, J.H. Drew, A multistage model of customers' assessments of service quality and value, *Journal of Consumer Research* 17 (4) (1991) 375–384.

- [34] J. Baker, A. Parasuraman, D. Grewal, G.B. Voss, The influence of multiple store environment cues on perceived merchandise value and patronage intentions, *Journal of Marketing* 66 (2) (2002) 120–141.
- [35] R.M. Morgan, S.D. Hunt, The commitment-trust theory of relationship marketing, *Journal of Marketing* 58 (3) (1994) 20–38.
- [36] B.J. Babin, W.R. Darden, M. Griffin, Work and/or fun: measuring hedonic and utilitarian shopping value, *Journal of Consumer Research* 20 (4) (1994) 644–656.
- [37] E.M. Tauber, Marketing notes and communications: Why do people shop? *Journal of Marketing* 36 (4) (1972) 46–59.
- [38] R.A. Westbrook, W.C. Black, A motivation-based shopper typology, *Journal of Retailing* 61 (1) (1985) 78–103.
- [39] M.J. Arnold, K.E. Reynolds, Hedonic shopping motivations, *Journal of Retailing* 79 (2) (2003) 77–95.
- [40] C. Mathwick, N. Malhotra, E. Rigdon, Experiential value: conceptualization, measurement and application in the catalog and internet shopping, *Journal of Retailing* 77 (1) (2000) 39–56.
- [41] G. Torkzadeh, G. Dhillon, Measuring factors that influence the success of internet commerce, *Information Systems Research* 13 (2) (2002) 187–204.
- [42] T.L. Childers, C.L. Carr, J. Peck, S. Carson, Hedonic and utilitarian motivations for online retail shopping behavior, *Journal of Retailing* 77 (4) (2001) 511–535.
- [43] S.J. Arnold, T.H. Oum, D.J. Tigert, Determinant attributes in retail patronage: seasonal, temporal, regional, and international comparisons, *Journal of Marketing Research* 20 (2) (1983) 149–157.
- [44] F.D. Davis, R.P. Bagozzi, P.R. Warshaw, Extrinsic and intrinsic motivation to use computers in the workplace, *Journal of Applied Psychology* 22 (14) (1992) 1111–1132.
- [45] J.P. Shim, Y.B. Shin, L. Nottingham, Retailer web site influence on customer shopping: an exploratory study on key factors of customer satisfaction, *Journal of the Association for Information Systems* 3 (2) (2002) 53–76.
- [46] J.N. Sheth, B. Mittal, B.I. Newman, *Customer Behavior: Consumer Behavior and Beyond*, Dryden Press, Fort Worth, TX, 1999.
- [47] J.E. Swan, J.C. Linda, Product performance and consumer satisfaction: a new concept, *Journal of Marketing* 40 (2) (1976) 25–33.
- [48] C. Gronroos, A service quality model and its marketing implications, *Journal of Marketing* 18 (4) (1984) 36–44.
- [49] L.A. Mohr, M.J. Bitner, The role of employee effort in satisfaction with service transitions, *Journal of Business Research* 32 (3) (1995) 239–252.
- [50] R.J. Fontenot, E.J. Wilson, Relational exchange: a review of selected models for a prediction matrix of relationship activities, *Journal of Business Research* 39 (1) (1997) 5–12.
- [51] H.P. Wehrli, U. Juttner, Relationship marketing from a value system perspective, *International Journal of Service Industry Management* 5 (5) (1994) 54–73.
- [52] J. Woodroof, G.M. Kasper, A conceptual development of process and outcome user satisfaction, in: E.J. Garrity, G.L. Sanders (Eds.), *Information Systems Success Measurement*, Idea Group Publishing, Hershey, PA, 1998, pp. 122–132.
- [53] R. Agarwal, V. Venkatesh, Assessing a firm's web presence: a heuristic evaluation procedure for the measurement of usability, *Information Systems Research* 13 (2) (2002) 168–186.
- [54] J.W. Palmer, Web site usability, design, and performance metrics, *Information Systems Research* 13 (2) (2002) 151–167.
- [55] V. McKinney, Y. Kanghyun, F. Zahedi, The measurement of web-customer satisfaction: an expectation and disconfirmation approach, *Information Systems Research* 13 (3) (2002) 296–315.
- [56] O.T. Ahtola, Hedonic and utilitarian aspects of consumer behavior: an attitudinal perspective, *Advances in Consumer Research* 12 (1) (1985) 7–10.
- [57] C. Claeys, A. Swinnen, P.V. Abeeel, Consumers' means-end chains for 'think' and 'feel' products, *International Journal of Research in Marketing* 12 (3) (1995) 193–208.
- [58] D.L. Hoffman, T.P. Novak, Marketing in hypermedia computer-mediated environments: conceptual foundations, *Journal of Marketing* 60 (3) (1996) 50–68.
- [59] W.H. DeLone, E.R. McLean, Information systems success: the quest for the dependent variable, *Information Systems Research* 3 (1) (1992) 60–95.
- [60] P.B. Seddon, A respecification and extension of the DeLone and McLean model of IS success, *Information Systems Research* 8 (3) (1997) 240–253.
- [61] A. Rai, S.S. Lang, R.B. Welker, Assessing the validity of is success models: an empirical test and theoretical analysis, *Information Systems Research* 13 (1) (2002) 50–69.
- [62] J.E. Bailey, S.W. Pearson, Development of a tool for measuring and analyzing computer user satisfaction, *Management Science* 29 (5) (1983) 530–545.
- [63] R.A. Spreng, S.B. MacKenzie, R.W. Olshavsky, A reexamination of the determinants of consumer satisfaction, *Journal of Marketing* 60 (3) (1996) 15–32.
- [64] E.A. Locke, G.P. Latham, Work motivation and satisfaction: light at the end of the tunnel, *Psychological Science* 1 (4) (1990) 240–246.
- [65] T. Gilovich, H.M. Victoria, The experience of regret: What, when, and why? *Psychological Review* 102 (2) (1995) 379–395.
- [66] J. Alba, J. Lynch, B. Weitz, C. Janiszewski, R. Lutz, A. Sawyer, S. Wood, Interactive home shopping: consumer, retailer, and manufacturer incentives to participate in electronic marketplaces, *Journal of Marketing* 61 (3) (1997) 38–53.
- [67] D. Gefen, Customer loyalty in e-commerce, *Journal of the Association for Information Systems* 3 (2) (2002) 27–51.
- [68] J.F. Engel, R.D. Blackwell, *Consumer Behavior*, The Dryden Press, New York, NY, 1982.
- [69] H. Assael, *Consumer Behavior and Marketing Action*, PWS-KENT Publishing Company, Boston, 1992.
- [70] V.A. Zeithaml, M.J. Bitner, *Services Marketing*, McGraw-Hill, New York, 1996.
- [71] S.S. Srinivasan, R. Anderson, K. Ponnavaolu, Customer loyalty in e-commerce: an exploration of its antecedents and consequences, *Journal of Retailing* 78 (1) (2002) 41–50.
- [72] J. Eighmey, L. McCord, Adding value in the information age: uses and gratifications of sites on the world wide web, *Journal of Business Research* 41 (3) (1998) 187–194.
- [73] M. Koufaris, Applying the technology acceptance model and flow theory to online consumer behavior, *Information Systems Research* 13 (2) (2002) 205–223.
- [74] Y. Yi, A critical review of consumer satisfaction, in: V. Zeithaml (Ed.), *Review of Marketing*, American Marketing Association, Chicago, 1990, pp. 68–123.
- [75] R.L. Oliver, J.E. Swan, Equity and disconfirmation perceptions as influences on merchant and product satisfaction, *Journal of Consumer Research* 16 (3) (1989) 372–383.
- [76] F.D. Davis, User acceptance of computer technology: a comparison of two theoretical models, *Management Science* 35 (8) (1989) 982–1003.
- [77] G.C. Moore, I. Benbasat, Development of an instrument to measure the perceptions of adopting an information technology innovation, *Information Systems Research* 2 (3) (1991) 192–222.
- [78] J.C. Anderson, D.W. Gerbing, Structural equation modeling in practice: a review and recommended two-step approach, *Psychological Bulletin* 103 (3) (1988) 311–324.
- [79] P.D. Lynch, R.J. Kent, S. Srinivasan, The global internet shopper: evidence from shopping tasks in twelve countries, *Journal of Advertising Research* 41 (3) (2001) 15–23.
- [80] J. Nunnally, I. Bernstein, *Psychometric Theory*, McGraw-Hill, New York, 1994.
- [81] V. Liljander, Comparison Standards in Perceived Service Quality, vol. 63, *The Swedish School of Economics and Business Administration*, 1995.