

## **0BThe Role of Product Involvement in E-Service Evaluations**

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# **The Role of Product Involvement in E-Service Evaluations**

## **Abstract**

This paper provides conceptual and empirical insights into consumers' evaluations of online services and their consequent behavioural intentions. We show that behavioural intentions in online contexts are driven primarily by two factors, namely online service satisfaction and perceived service quality. Perceived sacrifice and service quality are found to have an indirect effect on online service satisfaction through their influences on perceived value associated with the online service. In addition, we examine the moderating effects of product involvement and discuss the implications of our research findings.

**Keywords:** online services; behavioural intentions; empirical modelling; product involvement

# **The Role of Product Involvement in E-Service Evaluations**

## **1. Introduction**

To manage online retailing effectively, it is essential for managers to understand how customers evaluate the online consumption experience and what drives behavioural intentions such as the intent to use the online retailing service again in the future. Compared to the provision of traditional offline services, online service offerings are often less successful (Yang and Lester, 2004). The challenge of involving buyers in the online shopping process, when they would typically be experiencing high involvement in offline shopping contexts, contributes to this lack of success (Kumar and Benbasat, 2002). Both the shoppers' involvement with the online medium and their involvement with the product purchased may influence their evaluations of the online retailing service (Eroglu et al., 2003; McColl-Kennedy and Fetter, 2001; Koufaris et al., 2001). For instance, involvement with the product moderates the effects of stimuli on service expectations that form basis for service quality judgements in offline situations (Oliver and Bearden, 1983; Wirtz, 2003; Shao et al., 2004). What is not known is the role, if any, that involvement with the product plays in explaining how customers evaluate the online consumption experience and their associated behavioural intentions. The focus of this paper is to address this issue and to provide conceptual and empirical insights about the role of product involvement in online consumptions situations.

The remaining sections of this paper are organised as follows. Based on a synthesis of relevant literature, we propose a conceptual model explaining the antecedents of behavioural intentions and the impact of product involvement in online services. This is followed by the presentation of our research hypotheses. We then briefly discuss the data collection and the research method. Next, we present and interpret the analysis results. We conclude this paper by discussing the research findings and avenues for future research.

## **2. Literature Review and Synthesis**

### **2.1 Service Evaluations and Behavioural Intentions**

Our general understanding of offline services and models that have been developed to explain behavioural intentions applies similarly to online setting (Anderson and Srinivasan, 2003; Curran et al., 2003; Dillon and Reif, 2006; Gummerus et al., 2004; Janda et al., 2002). Behavioural intentions in services contexts have been widely studied (e.g., Andreassen and Lindestad, 1998; Bobbitt and Dabholkar, 2001; Dabholkar, 1996; Das et al., 2006) and they have been linked to a large number of different concepts, including service quality (Zeithaml et al., 1996), service value (Cronin et al., 1997), satisfaction (Andreassen and Lindestad, 1998), involvement (Gotlieb et al., 1994), trust (Gefen and Straub, 2003), corporate image (Andreassen and Lindestad, 1998), shopping experience (Dillon and Reif, 2006), and attitudes (Curran et al., 2003; Dabholkar, 1996). The antecedents to consumers' behavioural intentions towards a product or service that have received the majority of attention from academic researchers and business practice are service quality, satisfaction and service value.

Different conceptualisations have been presented in the literature to explain consumers' behavioural intentions. These conceptualisations often have divergent rationales underlying the cause and effect relationships between service value, service quality and satisfaction. For instance, some authors focus on satisfaction as the core antecedent to consumers' behavioural intentions (e.g., Anderson and Fornell, 1994); others argue that the satisfaction-intention relationship is mediated by service quality (e.g., Bolton and Drew, 1991). Different conceptualisations present different networks of constructs. For example, Patterson and Spreng (1997) hypothesise a direct effect of service value on behavioural intentions; Cronin and co-authors (2000) take a more comprehensive view and suggest that service quality affects perceived service value which in turn influences satisfaction. A summary of these approaches found in the literature is presented in Table 1.

*(Insert Table 1 about here)*

An examination of the role of consumers' involvement with the product on their evaluations of online consumption experiences and consequent behavioural intentions requires the development of a comprehensive nomological framework in which the various concepts and the relationships amongst them are included. Accordingly, conceptualisations that include a set of antecedents to consumers' behavioural intentions (e.g., Andreassen and Lindestad, 1998; Anderson and Fornell, 1994; Bolton and Lemon, 1999; Cronin et al., 2000; Fornell et al., 1996; Spreng et al., 1996) would be appropriate. Of these, the work of Cronin and co-authors (2000) is most inclusive and provides a set of appropriate antecedent concepts and effects that we want to study. Consequently, we argue that consumers' behavioural intentions in online contexts are driven by their satisfaction with, and perceived quality of, the online service provided. Satisfaction is influenced by the value that consumers associate with the online service. This, in turn, is affected by the consumers' perceptions of the sacrifice they have made and the online service quality experienced.

We have chosen this conceptualisation mainly for the following two reasons. Firstly, the conceptualisation by Cronin and co-authors (2000) distinguishes between service quality, consumer sacrifice and service value. They conceptualise service quality and consumer sacrifice as distinct constructs, both antecedent to service value. Many other conceptualisations of service value, do not differentiate between consumer sacrifice and service quality (e.g., Andreassen and Lindestad, 1998). By adopting the conceptualisation of Cronin and co-authors (2000), it becomes possible to examine empirically whether service value is driven primarily by low costs in the online service context (Das et al., 2006), or the quality of the service, or a combination of both. Secondly, Cronin and co-authors (2000) present a nomological framework which includes a broader range of relationships between the concepts discussed in the wider literature, and consequently presents a basis for testing more

thoroughly the antecedents to consumers' behavioural intentions in online purchasing contexts, and the role of product involvement in particular.

## **2.2 Online Service Evaluations**

Previous research has presented adaptations of traditional offline services marketing concepts and models to the online contexts. For example, Chen and Dubinsky (2003) investigated the relationship between service value and consumers' behavioural intentions in the online context. Anderson and Srinivasan (2003) studied the effect of online satisfaction on consumers' behavioural intentions. Janda and co-authors (2002) examined the link between online service quality and consumers' behavioural intentions. Dillon and Reif (2006) examined the effects of perceived customer service, shopping experience, consumer risk, and product perception such as price and quality on consumer Internet purchase frequency. Studies like these have presented concepts such as *online service quality* and *online service value* to fit the online service environments, and context specific, online relevant, measurement scales are emerging. The concept of service quality in online contexts has received most attention from academic researchers and business practitioners, with a variety of authors examining the concept (e.g., Collier and Bienstock, 2006; Parasuraman et al., 2005; Tsikriktsis, 2002; Trocchia and Janda, 2003; Yang and Fang, 2004; Gianni and Franceschini, 2003; Janda et al., 2002).

In the process of adapting concepts that have been identified as antecedents to consumers' behavioural intentions in the offline service contexts to the online environment, differences in these constructs are emerging. For instance, Janda, Trocchia and Gwinner (2002) stated that security, ease of use and navigation, quality and quantity of information were all specific to online service quality. More recently, Trocchia and Janda (2003) identified access and information as dimensions of online service quality unique to the Internet. Other researchers in this field (e.g., Long and McMellon, 2004; Sheehan and Hoy,

2000) are also reporting the need to adapt offline constructs to the online context.

Importantly, these researchers distinguish the online environment on characteristics like the absence of normal audio and visual cues (Long and McMellon, 2004), the different communication methods available (Li et al., 2002) and increased privacy and security concerns of consumers (Sheehan and Hoy, 2000), and suggest that it is these differences that necessitate the adaptation of the concepts developed for the offline environment to the emerging online purchase environment.

Distinctions in the measurement of concepts such as service quality in the offline and online environments (e.g., Janda et al., 2002; Trocchia and Janda, 2003; Long and McMellon, 2004; Parasuraman et al., 2005) and uncertainty regarding the dimensionality of service quality, and relationships between service related constructs, in the offline and online service encounter contexts, suggest the need for further empirical research into the relationships between service related constructs and the antecedents to consumers' behavioural intentions in the online setting (Bitner et al., 2000; Parasuraman and Grewal, 2000). Despite calls in the literature for such studies (Shankar et al., 2003), there is a paucity of studies that examine a wide set of antecedents to consumers' behavioural intentions and relationships amongst these constructs in the online setting. However, a comprehensive assessment of this nomological network is important for managers to understand the processes by which customers evaluate their online consumption experience and the drivers of consumers' behavioural intentions towards online retailing services.

### **2.3 Product Involvement in Online Service Consumption Contexts**

Product involvement has received much attention in offline consumption studies. For example, Houston and Rothschild (1978) suggest that involvement occurs when a product is related to important values or needs of the consumer. According to Rothschild (1984), there are three associated levels of involvement. The first, situational involvement is defined by

Rothschild as the degree of involvement invoked by a particular situation, such as a purchase. Situational involvement is dependent on product attributes such as product complexity (Zaichkowsky, 1985). The second, enduring involvement, has been defined as the ongoing concern with a product. Here, prior experience is an important factor to the consumer (Payne et al., 1988). The last type of involvement is response involvement. This has been defined as encompassing the consequences of the inner state of being involved (Rothschild, 1984). Response involvement has been widely applied to the study of consumers' product involvement.

Zaichkowsky (1985) argues that for any particular product class, levels of involvement will differ across consumers. This implies that highly involved individuals engage in more complex decision-making than do low involvement consumers (Houston and Rothschild, 1978). Other authors such as Beatty and Smith (1987) suggest that consumer involvement is driven primarily by the product category rather than differences between individual consumers. They argue that as different product categories move from low involvement through to high involvement, the more effort is required by the consumer to reach a satisfactory outcome. Here the level of involvement of the consumer is dependent on the product category being purchased. Other applications of involvement have encompassed involvement with purchases (e.g., Clarke and Belk, 1979). In this study we adopt the perspective of Zaichkowsky (1985) and conceptualise consumers' product involvement as an individual characteristic, rather than as a product characteristic.

While consumers' involvement with the particular online shopping experience has been studied within the context of online retailing services (Eroglu et al., 2003; McColl-Kennedy and Fetter, 2001; Koufaris et al., 2001), involvement with the actual product underlying the use of online retailing services and resultant effects on evaluations has not yet been comprehensively studied in online retailing contexts. Within the offline service context,



product involvement is posited to moderate the effects of product stimuli on consumers' service expectations; the basis for service quality judgements (Oliver and Bearden, 1983; Wirtz, 2003; Shao et al., 2004). Drawing on attitude accessibility and stability theories, Suh and Yi (2006) investigate the moderating role of product involvement in the customer satisfaction-loyalty dyad. Similarly, Yang and co-authors (2006) suggest that trust formation in online shopping contexts is moderated by product involvement.

## **2.4 Moderating Role of Product Involvement**

Using an adapted version of the work of Cronin and co-authors (2000), we argue that behavioural intentions in online contexts are driven by the satisfaction with, and perceived quality of, the online service provided. Satisfaction is influenced by the value associated with the online service; this in turn, is affected by the consumers' perceptions of the sacrifice that they have made and the quality of online service that they have experienced.

In addition, we synthesise the works of Oliver and Bearden (1983), Wirtz (2003), Shao et al. (2004), and Suh and Yi (2006) on the moderating role of product involvement and argue that:

- a) The relationship between online service satisfaction and behavioural intentions is influenced by the level of product involvement.
- b) The effects of perceived online service quality on online service value and behavioural intentions are influenced by the level of product involvement, and
- c) The relationship between perceived online service quality and perceived online service value is influenced by the level of product involvement.

Our proposed conceptual model and the hypothesised relationships are illustrated in Figure 1. In the next section, we discuss the research hypotheses in detail.

*(Insert Figure 1 about here)*

### 3. Research Hypotheses

Based on our proposed model and existing research (e.g., Anderson and Sullivan, 1993; Bolton and Drew, 1991; Cronin et al., 2000; Gale, 1994; Patterson and Spreng, 1997; Taylor and Baker, 1994), a number of research hypotheses can be formulated regarding the relationships in online services context. For some of these hypotheses, empirical support in the context of online services already exists, others have yet to be empirically tested in the context of online services.

Sacrifice has been conceptualised in both a simple form as the price of a service (Monroe, 1979), and a more complex form as the time, money and effort expended to obtain the service (Zeithaml, 1988). In both conceptualisations, sacrifice has a negative effect on service value (e.g., Andreassen and Lindestad, 1998; Bolton and Drew, 1991; Cronin et al., 1997, 2000). Applying this logic to online purchasing situations, we hypothesise that sacrifice has a negative effect on online service value.

**H1:** Sacrifice has a negative effect on online service value.

As discussed earlier, there remains debate amongst researchers regarding the nature of service quality and service value; some researchers view service value as a specialised form of service quality (Gale, 1994), others conceptualise it as separate from service quality (Bolton and Drew, 1991; Cronin et al., 2000). In order to obtain a more comprehensive understanding of customers' overall evaluation of services within the online context, we conceptualise service quality and service value as distinct concepts and hypothesise that online service quality has a positive effect on online service value.

**H2:** Online service quality has a positive effect on online service value.

The positive relationship between service quality and behavioural intentions is well established in the services literature (Cronin et al., 2000; Cronin and Taylor, 1992; Parasuraman et al., 1988; Taylor and Baker, 1994; Zeithaml et al., 1996). Service quality

perceptions occur in similar ways in both the offline and online purchasing situations.

Accordingly, we hypothesise that online service quality has a positive effect on consumers' positive behavioural intentions towards the online purchasing service being evaluated.

**H3:** Online service quality has a positive effect on behavioural intentions.

Service value has been examined in several forms. A narrow view in which service value is composed of price and quality (Hauser and Urban, 1986), and a broader view in which service value is conceptualised as anything given up and anything received (Zeithaml, 1988) dominate the literature. In both conceptualisations service value is theorised as having a positive influence on satisfaction (Andreassen and Lindestad, 1998; Cronin et al., 2000; Patterson and Spreng, 1997). Therefore, online service value is hypothesised to have a positive impact on online service satisfaction.

**H4:** Online service value has a positive effect on online service satisfaction.

Satisfaction with services has a positive influence on behavioural intentions (Anderson and Fornell, 1994; Bolton and Lemon, 1999; Cronin et al., 2000; Cronin and Taylor, 1992; Gotlieb et al., 1994; Patterson and Spreng, 1997). In the online context, the influence of consumers' satisfaction on consumers' behavioural intentions has been empirically tested (e.g., Anderson and Srinivasan, 2003; Bansal et al., 2004; Gummerus et al., 2004). In particular, consumer satisfaction has been shown to positively influence service loyalty, positive word of mouth and repurchase. Therefore, we hypothesise that online service satisfaction has a positive impact on consumers' intentions to behave positively with respect to the online purchasing service being evaluated.

**H5:** Online service satisfaction has a positive effect on behavioural intentions.

Purchasing services online requires an individual to consider the procurement of products; a process which can vary depending on one's involvement with the product. As

outlined previously, online service evaluations involve quality, value and satisfaction judgements. These judgements are commonly operationalised in services contexts as processes of disconfirmation (e.g., Parasuraman et al., 1988; Trocchia and Janda, 2003; Webster, 1991) in which expectations are formed about the service and then either confirmed or disconfirmed. Involvement acts as a moderator of the stimuli on which expectations are formed (Eroglu et al., 2003) and therefore can be expected to have an influence on perceptions of online service quality, online service value and online satisfaction judgements. However, the size and nature of the effect that consumers' product involvement will have on these judgements remain unclear at this stage.

Some insights are provided by authors such as Shao et al. (2004), who suggest that the higher levels of cognition resulting from high involvement situations, affect consumers in a way that requires them to focus on the central features of a purchasing context and to pay less attention to peripheral features, like services. Accordingly, we argue that the positive impact of service quality on service value will be reduced in high involvement online purchases compared to low involvement purchases. Similarly, involvement with the product being purchased in the online context will influence the strength of the relationship between online service value and online service satisfaction; in high involvement situations where consumers focus on product features more than service features, the impact of online service value on online service satisfaction will be less than in low involvement situations. Finally, we also suggest that involvement with the product being purchased in the online context will influence the strength of the impact of both online service satisfaction and online service quality on consumers' behavioural intentions; in high involvement situations, online service satisfaction or quality will have less impact on consumers' behavioural intentions than in low involvement situations.

More formally stated; the following hypotheses encapsulate these moderating effects.

- H6a:** The greater the level of product involvement, the weaker the positive effect of online service quality on online service value.
- H6b:** The greater the level of product involvement, the weaker the positive effect of online service value on online service satisfaction.
- H6c:** The greater the level of product involvement, the weaker the positive effect of online service quality on behavioural intentions.
- H6d:** The greater the level of product involvement, the weaker the positive effect of online service satisfaction on behavioural intentions.

In conclusion, we have presented several research hypotheses that specify the expected relationships between a set of consumers online service evaluations and consequent behavioural intentions associated with the online purchasing context. The antecedent factors include online service value, online service quality, and online service satisfaction. In addition, we have justified and proposed several hypotheses regarding the moderating effects of product involvement on these relationships.

## **4. Methodology**

To empirically test our research hypotheses, we employed a survey method for data collection and estimated both measurement model and structural model using a covariance based structural equations modelling approach via LISREL 8 (Jöreskog and Sörbom, 1993). In this section, we first describe our sample and then our measures.

### **4.1 Sample Description**

The target population for testing our theoretical model consisted of individuals who have purchased online. Using snowballing technique (Bove and Johnson, 2006; Zinkhan et al., 1983; Frankwick et al., 1994) we distributed 500 survey packages. The survey packages included the questionnaire that was presented as an attractive booklet with a suitable design to generate some interest and to reduce automatic disposal of the survey. The individuals that we contacted were asked to distribute the survey packages to a range of people with different age, gender, income, professions and education levels. In total, of the 500 surveys that were

distributed, 260 were returned, reflecting a response rate of 52%. Of these 260 surveys, 15 or 5.8% could not be included because they were filled in incorrectly. This left 245 usable surveys or 49% of the original 500 surveys sent out for distribution. Of the 245 usable surveys, 171 or 69.8% had purchased something online, giving a final sample size of 171 for data analysis.

The 245 usable surveys were compared to general population data from the 2001 national census. The returned surveys matched the general public on gender, however, there were some minor differences in regards to levels of income, education and Internet use and number of places the Internet is used compared to the general public; all of which have been associated with online shoppers (Swinyard and Smith, 2003; Monsuwé et al., 2004). The higher level of Internet use in the sample along with the overrepresentation of younger age groups than in the general public is likely to explain why 69.98% or 171 of the 245 respondents had purchased online. The 245 respondents are therefore not strictly representative of the general population; however, they are representative of the section of the general public who might purchase online. As the sample includes a wide variety of products and services, the 171 respondents that had purchased online can therefore be said to be representative of the general public who shop online.

## **4.2 Operational Measures**

Adapted mostly from previous research (e.g., Oliver, 1997; Rust and Oliver, 1994; Zeithaml, 1988; Zeithaml et al., 1996), the theoretical definitions and the sources of measurement scales used for the six constructs in our proposed model, as shown in Figure 1, are as follows (see also Appendix 1):

*Product Involvement* is defined as the personal relevance of a product based on inherent needs, values, and interests (Zaichkowsky, 1985). *Online Service Satisfaction* is defined as “the consumer’s fulfilment response. It is a judgement that an online service

feature, or the online service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including levels of under- or over-fulfilment” (Oliver, 1997, p. 13). *Online Service Value* is defined as a form of economic utility in which customers derive utility from quality, but suffer disutility from price (Rust and Oliver, 1994). *Sacrifice* is defined as consumers’ received disutility from money spent and other resources expended, such as time and effort (Zeithaml, 1988). *Online Service Quality* is defined as the consumer’s judgement about an online service’s overall excellence or superiority (Zeithaml, 1988). Finally, *Behavioural Intentions* refer to favourable behavioural intentions, which are defined as “behaviours that indicate that consumers are bonding with the company” (Zeithaml et al., 1996, p. 34).

A seven-point Likert type interval scale ranging from 1 being “strong disagree” to 7 being “strongly agree” was used to measure all items for the six constructs in our proposed model. Table 2 provides the 19 measurement items that were included in the survey to measure the six constructs in our proposed model. It also reports reliability and validity statistics. In the next section, we discuss the measurement model results in detail.

*(Insert Table 2 about here)*

## **5. Results**

### **5.1 Results of the Measurement Model**

Following standard psychometric scale assessment procedures (Anderson and Gerbing 1988), we conducted confirmatory factor analyses via LISREL 8 (Jöreskog and Sörbom, 1993) to evaluate the psychometric properties of our measures. Table 2 presents the standardized factor loadings and overall fit statistics of the six-factor confirmatory factor analysis. The adequacy of the measurement model is evaluated on the criteria of overall fit with the data, reliability and validity of the measures used in the model. As shown in Table 2, the overall fit of the measurement model is within acceptable levels. The Tucker-Lewis

(1973) index (TLI) and comparative-fit index (CFI, Bentler 1990) were either close to or larger than the recommended cut-off value of 0.90. The value of the root mean square error of approximation (RMSEA) was below the recommended cut-off value of 0.08 (Bollen and Long, 1993). Taken together, the results suggest that the six-factor measurement model fits reasonably well with the data.

It can be seen from Table 2 that the Composite Reliability (CR) values ranged from 0.67 for Sacrifice to 0.84 for Online Service Quality, thus indicating acceptable reliability of the measures (Bollen and Long, 1993). All the standardized factor loadings were greater than 0.4 and their t-values were all greater than 2.576, the critical value at 0.01 level, thus suggesting that measures used in the study appeared to have adequate convergent validity. As shown in Table 2, the Average Variance Extracted (AVE) values ranged from 0.34 for Sacrifice to 0.63 for Online Service Quality, all of them were greater than 0.257, the highest shared variance. These results suggest that the measures possessed adequate discriminant validity. The pairwise correlations of all six constructs in our model are provided in Appendix 2.

Having establishing sound psychometric properties for the measures used in this study, we can now proceed to test the structural relationships outlined in our conceptual model shown in Figure 1.

## **5.2 Results of the Structural Model**

Since the conceptual model, as shown in Figure 1, involves interaction effects (H6a to H6d) as well as main effects (H1 to H5) among the five exogenous latent variables, we need a structural equation modelling approach that can estimate interaction effects between latent variables. Ping (1995; 1996) provided such an approach which involves a single indicant per latent variable. Because it takes measurement errors into account, it is a more sophisticated way of estimating interactions than the more traditional approach of using multiple regression



(Aiken and West, 1991). Ping (1995) proposed a parsimonious estimation technique based on the seminal work of Kenny and Judd (1984) concerning latent variable interactions. We implemented Ping's (1995) approach using LISREL 8 (Jöreskog and Sörbom, 1993) software. The results of the structural model are summarized in Table 3.

*(Insert Table 3 about here)*

As shown in Table 3, the overall fit of the structural model is within acceptable levels (Chi-square = 330.82, df = 168,  $p = 0.000$ ; TLI = 0.83; CFI = 0.86; RMSEA = 0.08) given that the model contains four latent variable interactions. Hypotheses 1 to 5 pertain to main effects and their test results are as follows: Hypothesis 1 is supported at 0.05 level ( $p < 0.05$ ), Hypotheses 2, 3, & 4 are strongly supported at 0.01 level ( $p < 0.01$ ), and Hypothesis 5 is marginally supported at 0.1 level ( $p < 0.1$ ). Of the four interaction effects that were hypothesized, H6a is strongly supported at 0.01 level ( $p < 0.01$ ) and H6b is supported at 0.05 level ( $p < 0.05$ ). The remaining two hypotheses (H6b & H6c) are not supported ( $p > 0.05$ ), although the interaction effects got the right signs.

We also carried out additional analyses to further examine the two significant interaction effects (H6a & H6d). Based on the latent variable scores estimated using LISREL 8 software, we can graphically represent the two interaction effects. Figure 2 is a graphic representation of H6a. It can be seen from Figure 2 that product involvement moderates the relationship between online service quality and online service value. When product involvement is low, the effect of online service quality on online service value is larger with a steeper line. When product involvement is high, the effect of online service quality on online service value is smaller with a flatter line.

*(Insert Figure 2 about here)*

Similarly, Figure 3 displays the moderating role of product involvement in the relationship between online service satisfaction and behavioural intentions. It can be seen

from Figure 3 that when product involvement is low, the impact of online service satisfaction on behavioural intentions is larger with a steeper line. When product involvement is high, the effect of online service satisfaction on behavioural intentions is smaller with a relatively flatter line.

*(Insert Figure 3 about here)*

## **6. Discussion and Conclusions**

### **6.1 Contribution to Theory**

Despite the increasingly important role of the Internet in services marketing, little empirical research has been done to comprehensively examine various determinants of behavioural intention in online service settings. We attempted to bridge this research gap by assessing the effects of four antecedent factors to behavioural intention in an online service context. They included online service satisfaction, online service value, online service quality, and perceived service sacrifice. In addition, we made theoretical contribution by examining the moderating effect of product involvement on the relationships between online service evaluations and behavioural intention.

This study extended and tested a behavioural intention model originally proposed by Cronin et al. (2000) for offline service settings. The model was found to be applicable in an online service context. This is consistent with previous findings which suggest that traditional behavioural intention models can be made to apply similarly to online setting (Anderson and Srinivasan, 2003; Curran et al., 2003; Dillon and Reif, 2006; Gummerus et al., 2004; Janda et al., 2002). Unlike many previous studies which did not differentiate between consumer sacrifice and service quality (e.g., Andreassen and Lindestad, 1998), we viewed service quality and consumer sacrifice as distinct constructs. This conceptualisation allowed us to examine empirically whether service value is driven primarily by low costs in the online service context (Das et al., 2006), or the quality of the service (Zeithaml et al., 1996), or a

combination of both. The results of our study suggest that it is a combination of both factors that influences customer service value perceptions.

Previous research has presented some adaptations of traditional offline services marketing models to the online context. For example, Chen and Dubinsky (2003) investigated the relationship between service value and behavioural intentions in the online context. Anderson and Srinivasan (2003) studied the effect of online service satisfaction on consumers' behavioural intentions. Janda and co-authors (2002) examined the link between online service quality and consumers' behavioural intentions. This study synthesised these previous research findings and developed an integrated conceptual model in which online service satisfaction fully mediates the relationship between service value and behavioural intentions.

Furthermore, we synthesised the works of Oliver and Bearden (1983), Wirtz (2003), Shao et al. (2004), and Suh and Yi (2006) on the moderating role of product involvement and found that product involvement significantly moderates both the effect of online service quality on service value and the effect of online service satisfaction on behavioural intentions.

## **6.2 Managerial Implications**

This paper provided conceptual and empirical insights into consumers' evaluations of online services and their consequent behavioural intentions. Several implications for management flow from our research findings. First, traditional services marketing concepts and models, including behavioural intention and its antecedent factors, can be applied to online services settings, provided that appropriate scale modification or adaptation is conducted. This means that online service providers do not need to reinvent their business models for the online service context.

Second, this study showed that behavioural intentions in online contexts are driven primarily by two factors, namely online service satisfaction and perceived service quality.

Our findings suggest that the key to the success of online services marketing is for managers to focus on customer satisfaction and service quality. Specifically, online service providers should do everything possible to ensure that their customers receive prompt and excellent service. Their web site should be designed in such a way that it is easy to navigate and guarantees the financial security of online transactions. It should also provide a variety of products at competitive price levels and offer sufficient vendor warranty and return policy to minimise consumer perceived sacrifice associated with online purchasing.

Finally, product involvement was found in our study to significantly moderate both the effect of service quality on online service value and the effect of online service satisfaction on behavioural intentions. This finding suggests that online service providers can compensate for low customer service quality and satisfaction judgements by raising the product involvement level of their online customers. To increase the level of product involvement, appropriate advertising and other communication strategies should be designed and implemented with messages that make online shopping an exciting and fun thing to do. Another implication for business practice that can be drawn from our research findings is to segment online customers based on their level of product involvement and then design different marketing strategies for each segment. Higher level of online service quality and satisfaction should be provided in the low involvement segment as they are more important to this segment than to the high involvement segment.

### **6.3 Avenues for Future Research**

There are some limitations associated with this study and they represent opportunities for future research in this area. First, the current study focused on behavioural intention and did not measure actual consumer choice. Future research should incorporate behavioural measures of actual consumer choices into our conceptual model and test for external validity of the framework. Second, the 55-64 and 65+ age categories were under-represented in our

sample. In order to enhance the generalisation of the findings, it is useful for future research to test our conceptual model using more representative samples. Other avenues for future research include incorporating other relevant constructs into our conceptual model such as trust and loyalty as well as developing more reliable measures of sacrifice and online service satisfaction.

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## Appendix

### **Appendix 1 – Constructs and Definitions**

Construct	Definition	Source
Product Involvement	The product relevance of an object based on inherent needs, values, and interests	Zaichkowsky (1985)
Online Service Value	A form of economic utility in which customers derive utility from quality, but suffer disutility from price.	Oliver (1994)
Sacrifice	As consumers' received disutility from money and other resources such as time and effort.	Zeithaml (1988)
Online Service Satisfaction	The consumer's fulfilment response. It is a judgement that an online service feature, or the online service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including levels of under- or over-fulfilment.	Oliver (1997)
Online Service Quality	The consumer's judgement about an online service's overall excellence or superiority.	Zeithaml (1988)
Behavioural Intentions (Refers to favourable behavioural intentions)	When customers praise the firm, express preference for the company over others, increase the volume of their purchases, or agreeably pay a price premium, they are indicating behaviourally that they are bonding with the company.	Zeithaml (1996)

### **Appendix 2 – Construct Intercorrelation Matrix**

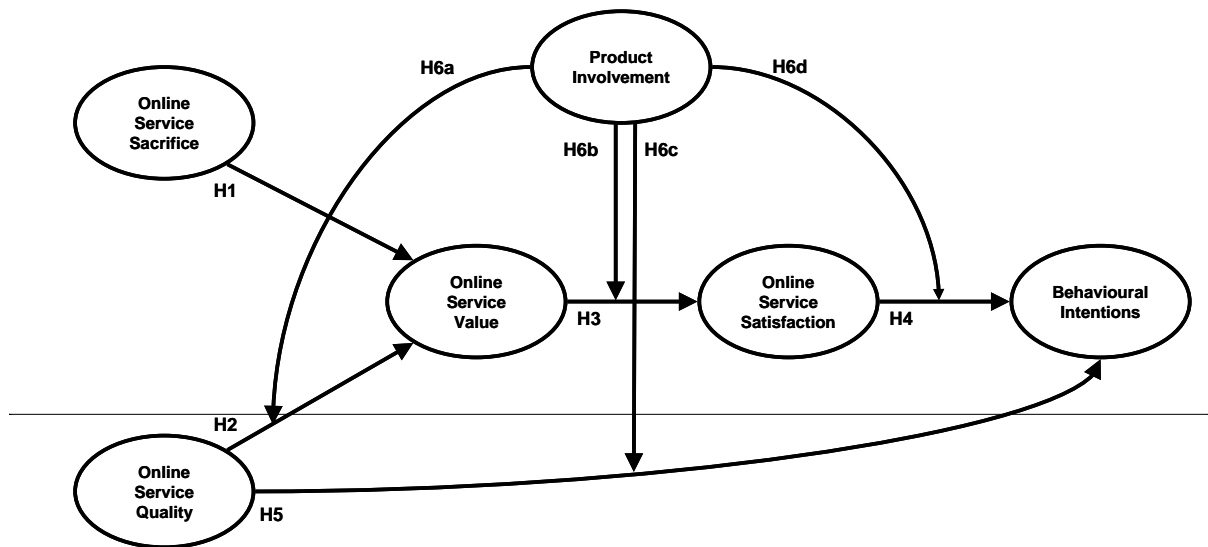
Construct	1	2	3	4	5	6
1. Sacrifice	1.000					
2. Online Service Quality	-0.273	1.000				
3. Product Involvement	-0.047	0.007	1.000			
4. Online Service Value	-0.331	0.414	0.202	1.000		
5. Online Service Satisfaction	-0.186	0.229	0.206	0.378	1.000	
6. Behavioural Intentions	-0.252	0.315	0.168	0.352	0.507	1.000

**Table 1 Divergent views of the antecedents of consumers' behavioural intentions**

Sat → BI	Anderson and Fornell (1994); Bolton and Lemon (1999); Cronin et al. (2000); Gotlieb et al. (1994); Patterson and Spreng (1997); Anderson and Srinivasan (2003); Bansal et al. (2004); Gummerus et al. (2004)
Sat → SQ → BI	Bitner (1990); Bolton and Drew (1991)
SV → BI	Bolton and Drew (1991); Cronin et al. (1997); Cronin et al. (2000); Patterson and Spreng (1997); Zeithaml (1988)
SV → Sat → BI	Andreassen and Lindestad (1998); Cronin et al. (2000); Patterson and Spreng (1997)
Sac → SV → BI	Andreassen and Lindestad (1998); Bolton and Drew (1991); Cronin et al. (1997); Cronin et al. (2000); Heskett et al. (1990); Zeithaml (1988)
Sac → SV → Sat → BI	Cronin et al. (2000)
SQ → BI	Cronin et al. (2000); Cronin and Taylor (1992); Parasuraman et al. (1988); Taylor and Baker (1994); Zeithaml et al. (1996)
SQ → SV → BI	Bolton and Drew (1991); Cronin et al. (2000)
SQ → Sat → BI	Anderson and Sullivan (1993); Cronin et al. (2000)
SQ → SV → Sat → BI	Cronin et al. (2000)

BI = Behavioural Intentions, SQ = Service Quality, Sat = Satisfaction, SV = Service Value, Sac = Sacrifice

**Figure 1: Proposed Model and Hypothesised Relationships**



**Table 2      Operational measures, reliability and validity assessment <sup>a</sup>**

Measurement Item	Standardized Loading	T-Value
<b>1. Sacrifice:</b> (CR = 0.67, AVE = 0.34) <sup>b</sup>		
(1) The price charged to purchase using the website was high.	0.409	4.68
(2) The time required to use the website was long.	0.578	6.79
(3) The financial risk associated with the website was high.	0.616	7.25
(4) The risk of receiving poor product or service performance from using the website was high.	0.687	8.10
<b>2. Online Service Quality:</b> (CR = 0.84, AVE = 0.63)		
(1) The business I purchased from provided excellent overall service.	0.744	10.51
(2) When the business I purchased from promises to do something by a certain time, they will do so.	0.776	11.10
(3) The business I purchased from gave me prompt service.	0.856	12.58
<b>3. Product Involvement:</b> (CR = 0.82, AVE = 0.54)		
(1) Exciting	0.895	13.57
(2) Interesting	0.844	12.54
(3) Not fun (R) <sup>c</sup>	0.610	8.33
(4) Unappealing (R)	0.511	6.73
<b>4. Online Service Value:</b> (CR = 0.90, AVE = 0.90)		
(1) Overall, the value offered by the purchase experience was very high.	0.949	16.60
<b>5. Online Service Satisfaction:</b> (CR = 0.68, AVE = 0.35)		
(1) Convenience is much better than I would receive from similar online businesses.	0.707	8.92
(2) Number of offerings is much better than I would receive from similar online businesses.	0.553	6.77
(3) Financial security of the transaction is much better than I would receive from similar online businesses.	0.527	6.40
(4) The speed of presenting information is much better than I would receive from similar online businesses.	0.547	6.68
<b>6. Behavioural Intentions:</b> (CR = 0.80, AVE = 0.57)		
(1) I am highly likely to recommend the business I purchased from to someone who seeks my advice.	0.790	11.17
(2) I am highly likely to consider the business I purchased from my first choice if I were to require this product again.	0.823	11.76
(3) I am highly likely to continue to use the business I purchased from if prices increase somewhat	0.642	8.61

- a. Goodness-of-fit statistics of the measurement model of 19 indicators for six constructs are as follows: Chi-square = 297.04, df = 138, p-value = 0.00; GFI = 0.86, CFI = 0.91, TLI = 0.88, RMSEA = 0.07.
- b. CR = Composite Reliability, AVE = Average Variance Extracted.
- c. (R) = Reverse-coded.

**Table 3      Structural model test results <sup>a</sup>**

<b>Hypothesized Relationship</b>		<b>Estimate <sup>b</sup></b>	<b>T-Value</b>	<b>Conclusion</b>
<b>Main Effects</b>				
H1	Sacrifice → Online Service Value (-) <sup>c</sup>	-0.216	-2.26	Supported
H2	Online Service Quality → Online Service Value (+)	+0.422	+4.75	Supported
H3	Online Service Value → Online Service Satisfaction (+)	+0.423	+4.31	Supported
H4	Online Service Satisfaction → Behavioural Intentions (+)	+0.504	+4.61	Supported
H5	Online Service Quality → Behavioural Intentions (+)	+0.163	+1.75	Marginal Support
<b>Interaction Effects</b>				
H6a	Product Involvement moderates the relationship between Online Service Quality and Online Service Value (-)	-0.248	-2.77	Supported
H6b	Product Involvement moderates the relationship between Online Service Value and Online Service Satisfaction (-)	-0.039	-0.38	Not supported
H6c	Product Involvement moderates the relationship between Online Service Quality and Behavioural Intentions (-)	-0.012	-0.12	Not supported
H6d	Product Involvement moderates the relationship between Online Service Satisfaction and Behavioural Intentions (-)	-0.204	-2.08	Supported

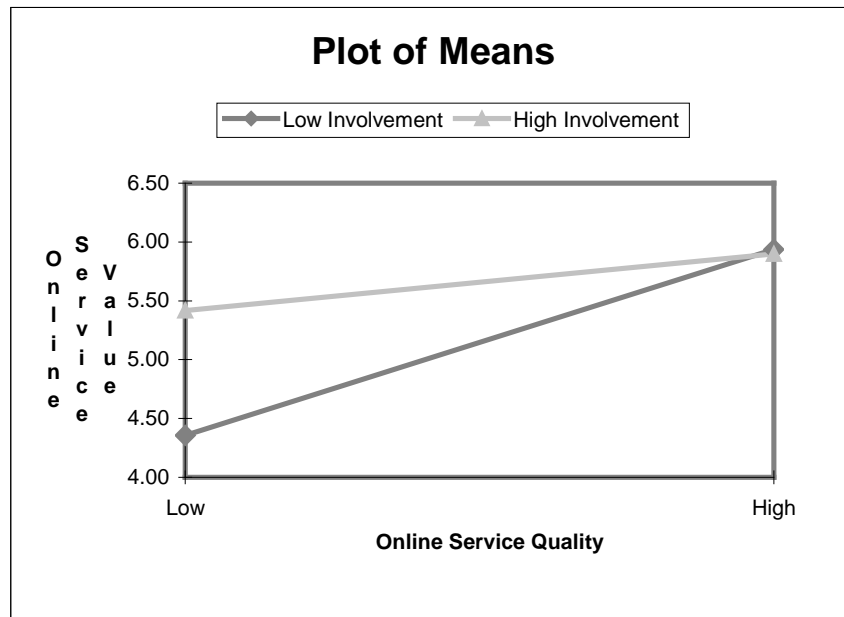
a. Goodness-of-fit statistics of the structural model are as follows: Chi-square = 330.82, df = 168, p-value = 0.00; GFI = 0.85, CFI = 0.86, TLI = 0.83, RMSEA = 0.08.

b. Completely standardized path coefficient estimates.

c. Hypothesized direction of effect.

Notes: df = Degrees of freedom; GFI = Goodness Fit Index; CFI = Comparative-Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation.

**Figure 2** Moderating effect of product involvement on the online service quality – value relationship



**Figure 3** Moderating effect of product involvement on the online satisfaction-behavioural intention relationship

