

## **Online Service Evaluation and Behavioural Intentions**

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### **Abstract**

*While behavioural intentions have been studied in the services marketing literature, we lack empirical research that examines the relevance of previous studies in the online service context. In this paper we have build upon the Cronin, Brady and Hult model (2000) to study online services, developed and tested relevant measurement scales, and examined the adapted model empirically using a survey methodology employing PLS for model estimation. The results suggest that behavioural intentions within the online service context are influenced by online service quality, online service value and online service satisfaction. Online service satisfaction, in turn, is affected by online service value and quality; whereas online service value is determined by the online service quality and related sacrifice.*

Keywords: Online services, behavioural intentions, empirical modelling

### **Introduction**

Behavioural intentions have received significant academic interest in the services marketing literature due to their link with consumers' actual behaviour (e.g., Dabholkar, 1996; Zeithaml, Berry, and Parasuraman, 1996). Recently this interest has increased with the suggestion that services marketing models, which include behavioural intentions, could be used to explain consumer behaviour in the online purchasing context (Anderson and Srinivasan, 2003; Curran, Meuter, and Surprenant, 2003). However, rigorous empirical research into online purchasing behaviour remains inadequate. For instance, Bitner, Brown, and Meuter (2000) state that further empirical investigation is required to determine if the same conceptual factors established in interpersonal service encounter research are relevant in a technologically based environment.

To our knowledge, no research has been done to examine whether services marketing models utilising behavioural intentions and its antecedents can be applied to the online service context. In this paper, we will thus explore the relevance of the findings generated in the services marketing literature for explaining behavioural intentions in the online service context. The remaining sections of this paper are organised as follows. We will first review relevant literature and propose a conceptual model for examining the antecedents of behavioural intentions for online services. We will then briefly discuss the research methodology. We conclude this paper by presenting the results from our data analysis and discussing the findings.

### **Review of Literature**

Research addressing behavioural intentions within services contexts is ample; with some theoretical conceptualisations of them having recently been adapted to online contexts. For example, Janda, Trocchia and Grwinner (2002) examined the link between service quality and

intentions; Anderson and Srinivasan (2003) studied the effect of satisfaction on behavioural intentions; and Chen and Dubinsky (2003) investigated the relationship between service value and intentions. Studies like these have developed concepts such as *online service quality* and *online service value* to fit their contexts and started developing relevant measurement scales. For instance, Janda, Trocchia and Grwinner (2002) stated that security, ease of use and navigation, quality and quantity of information were all specific to the context of purchasing online.

However, the exact nature of these dimensions with regard to concepts such as *online service value* and *online service quality* has not been fully explored and as such most of these scales require additional development and testing to achieve adequate validity and reliability for theory testing. Also, while some links are being tested between behavioural intentions and its antecedents, they have not been examined comprehensively. Thus, what remains unclear is if it is appropriate to apply relevant theoretical models discussed in the services marketing literature to online service contexts.

### **Proposed Model**

To examine behavioural intentions in an online services context, we will build upon the model of Cronin, Brady, and Hult (2000) which comprehensively links *service value*, *service quality* and *satisfaction* in explaining *behavioural intentions*. We have chosen this model from the very few empirically tested models in the services marketing literature that include behavioural intentions and the three antecedents. In addition, this model has a more parsimonious structure than that of Bolton and Drew (1991).

Adapted mostly from previous research, the definitions used for each construct in our proposed model are defined as follows. *Online Service Quality* is defined as the consumer's judgement about an online service's overall excellence or superiority. *Online Service Value* is characterized as a form of economic utility in which customers derive utility from quality, but suffer disutility from price. *Sacrifice* is conceptualised as consumers received disutility from money and other resources such as time and effort. *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). Finally, *Behavioural Intentions* refer to favourable behavioural intentions, which are defined as "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, Berry, and Parasuraman, 1996, p. 34).

Based on previous literature (e.g., Anderson and Sullivan, 1993; Bolton and Drew, 1991; Cronin, Brady, and Hult, 2000; Gale, 1994; Patterson and Spreng, 1997; Taylor and Baker, 1994), seven hypotheses can be articulated for the online services context:

- H1: *Sacrifice has a negative effect on online service value.*
- H2: *Online service quality has a positive effect on online service value.*
- H3: *Online service quality has a positive effect on behavioural intentions.*
- H4: *Online service quality has a positive effect on online service satisfaction.*
- H5: *Online service value has a positive effect on online service satisfaction.*

H6: *There is a positive relationship between online service value and behavioural intentions.*

H7: *Online service satisfaction has a positive effect on behavioural intentions.*

## **Method**

To empirically test the above research hypotheses, we employed a survey methodology and estimated the model using partial least squares (PLS). We first discuss our sample, then our measures, followed by the method of estimation.

*Sample*—The population for testing our theoretical model consisted of Australians who have purchased online. The survey was distributed nationally in each state and territory of Australia. A snowballing technique has been used as a distribution method (Zinkhan, Burton and Wallendorf, 1983; Frankwick et al. 1994). One or more people in each state and territory were contacted and asked to distribute the survey to a range of people with different age, gender, income, professions and education levels. In total, of the 500 surveys that were distributed in the different states/territories 260 were returned reflecting a response rate of 52%. Of these 260 surveys, 15 or 5.8% had to be not 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 the Australian population data from the 2001 Australian national census. The returned surveys were found to largely match the general public on gender and the state or territory of residency, 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, Dellaert and de Ruyter, 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 Australian general public, however they are representative of the section of the Australian general public who purchases online. As the sample includes a wide variety of products and services the 171 surveys that had purchased online can therefore be said to be representative of the Australian general public who shop online.

*Measures*—For each of these constructs we have, where possible, employed and, if required, adapted multi-item measurement scales that had been empirically tested in the online purchasing context. All scales were reworded to better suit the online service context and have been evaluated during pre-test. The measurement scales include reflective and formative ones.

*Method*—The data are analysed using partial least squares (PLS), a well-established technique for estimating path coefficients in causal models. The conceptual core of PLS is an iterative combination of principal components analysis relating measures to constructs, and path analysis permitting the construction of a system of constructs. The major advantages of PLS are that it (1) accepts small sample sizes, (2) can deal with complex causal models, (3) does not require multivariate normality, (4) produces consistent parameter estimates, and (5) allows to use formative and reflective measurement scales.

## Measurement Scale Assessment

Prior to model estimation, we have evaluated the measurement scales. For reflective scales we have assessed skewness and kurtosis values, unidimensionality, convergent and discriminant validity and reliability (i.e., factor loadings, Cronbach alpha, etc.). For formative scales, using factor analysis we have identified one single item for each of the dimensions captured in a single formative scale. Tables 1 and 2 summarise final test statistics. The results suggest that the scales are adequate for measuring our constructs.

**Table 1: Loadings and Bootstrap T-Statistics for Reflective Scale**

Construct & Items	Loading	Bootstrap T-Statistic
Online Service Quality		
OSQA	.8685	26.1131
OSQD	.8380	23.4865
OSQG	.8836	35.7703

**Table 2: Weights and Bootstrap T-Statistics for Formative Scales**

Construct & Items	Weights	Bootstrap T-Statistic
Online Service Value		
SV	1.0000	.0000
Sacrifice		
SACA	.1794	.7101
SACC	.7546	5.1014
SACD	.0048	.0194
SACE	.3315	1.3718
Online Service Satisfaction		
OSSATB	.3753	1.9911
OSSATE	.1214	.8508
OSSATH	.6501	4.6809
OSSATK	.1962	1.4751
Behavioural Intentions		
BIB	.4563	2.9737
BID	.4916	2.5943
BIF	.2159	1.2214

## Results

The results of the PLS estimation of the structural model are summarised in Table 3. They provide good support for the seven hypotheses. All effects are significant and the standardised paths are above .2 for 4 of the seven relationships and none of the paths are below .1 suggesting in all cases that there is a theoretically interesting effect (Chin, 1998). The structural model includes three types of effects direct, indirect and total effects and it is important to consider all types (Mueller, 1996). As shown in Table 4, it is interesting in looking at the total effect of online service quality on behavioural intentions that the standardised total effect is + .3252 larger than the direct effect of + .1710, online service value also has a larger total effect + .3059 than its direct effect + .1350. Additionally, while the direct effect of online service quality on online service satisfaction is small at + .1370 the total effect is nearly twice the size at + .2566. In fact the total effects, except from sacrifice on online service satisfaction, exceed .2, with 5 paths exceeding .3. These findings suggest that online service satisfaction is potentially the main antecedent of behavioural intentions with

the largest direct effect on behavioural intentions + .4260. The R<sup>2</sup> of the endogenous constructs ranged from .19 for online service satisfaction to .34 for behavioural intentions, suggesting that our model explains significant amount of variance in the dependent constructs.

**Table 3: Path Coefficients and Bootstrap T-Statistics**

Hypotheses	Standardised Coefficients	Bootstrap T-Statistic	Significant Levels
Sacrifice → Online Service Value	– .2730	3.7175	***
Online Service Quality → Online Service Value	+ .3330	3.7727	***
Online Service Quality → Behavioural Intentions	+ .1710	2.6881	***
Online Service Quality → Online Service Satisfaction	+ .1370	1.5553	*
Online Service Value → Online Service Satisfaction	+ .3590	4.4376	***
Online Service Value → Behavioural Intentions	+ .1350	2.3119	**
Online Service Satisfaction → Behavioural Intentions	+ .4260	4.5337	***

\* Significant at p < 0.10, \*\* Significant at p < 0.05, \*\*\* Significant at p < 0.01

**Table 4: Direct, Indirect and Total Effects on Behavioural Intentions**

Effects	Standardised Coefficients		
	Direct	Indirect	Total
Online Service Quality → Behavioural Intentions	+ .1710	+ .1542	+ .3252
Online Service Value → Behavioural Intentions	+ .1350	+ .1529	+ .3059
Sacrifice → Behavioural Intentions		– .0786	– .0786
Online Service Satisfaction → Behavioural Intentions	+ .4260		+ .4260
Online Service Quality → Online Service Satisfaction	+ .1370	+ .1196	+ .2566
Online Service Value → Online Service Satisfaction	+ .3590		+ .3590
Sacrifice → Online Service Satisfaction		– .0980	– .0980
Online Service Quality → Online Service Value	+ .3330		+ .3330
Sacrifice → Online Service Value	– .2730		– .2730

## Conclusions

The findings of this study suggest that our proposed model is capable of explaining variations in behavioural intentions within an online service context. This is a contribution to the services marketing literature as to date; there have been no other empirical studies that comprehensively examine the effects of relevant antecedents of behavioural intentions in the online services context. In addition, the study provides insights for practicing managers by specifying those factors that are actionable and matter in managing behavioural intentions within an online service context. While our study provides a step forward in testing theory (i.e., explain consumer behaviour in relation online services), we acknowledge that analysing data from additional sample will provide additional evidence. Also, future studies can build upon the findings presented in this paper by (1) examining competing models involving the antecedents of behavioural intentions and (2) exploring the effect of the nature of the particular online service.

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