

1-1-2007

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### **Recommended Citation**

Yanamandram, Venkata K. and White, Lesley: An empirical study of the antecedents and consequence of calculative commitment in B2B services 2007, 1-9.  
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### **Abstract**

This research proposes and empirically analyses a model that considers switching costs and attractiveness of alternative service providers as antecedents to calculative commitment, and repurchase intentions as one of its consequences. Given that calculatively committed customers are important in fading relationships, we test these constructs amongst dissatisfied business services customers because research on the continuation of troubled business relationships is scarce. Data was collected online from 416 businesses using a key informant approach. Results support the contention that the antecedents of calculative commitment are attractiveness of alternative service providers and switching costs, specifically, benefit-loss costs, customer-service provider relationships costs and post-switching costs. Repurchase intentions was found to be a consequence of calculative commitment.

### **Keywords**

Empirical, Study, Antecedents, Consequence, Calculative, Commitment, B2B, Services

### **Disciplines**

Business | Social and Behavioral Sciences

### **Publication Details**

Yanamandram, V. & White, L. (2007). An empirical study of the antecedents and consequence of calculative commitment in B2B services. In M. Thyne, K. R. Deans & J. Gnoth (Eds.), Australia and New Zealand Marketing Academy Conference (pp. 1-9). Dunedin, New Zealand: Australian and New Zealand Marketing Academy.

# **An Empirical Study of the Antecedents and Consequence of Calculative Commitment in B2B Services**

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## **Abstract**

This research proposes and empirically analyses a model that considers switching costs and attractiveness of alternative service providers as antecedents to calculative commitment, and repurchase intentions as one of its consequences. Given that calculatively committed customers are important in fading relationships, we test these constructs amongst dissatisfied business services customers because research on the continuation of troubled business relationships is scarce. Data was collected online from 416 businesses using a key informant approach. Results support the contention that the antecedents of calculative commitment are attractiveness of alternative service providers and switching costs, specifically, benefit-loss costs, customer-service provider relationships costs and post-switching costs. Repurchase intentions was found to be a consequence of calculative commitment.

## **Background of the Research**

Commitment is an essential appraisal mechanism by which a customer determines whether and why to have a long term relationship with a brand or firm (Beatty and Kahle, 1988). Given the role of commitment for successful relationship marketing (Gundlach, Achrol and Mentzer, 1995), the literature on relationship marketing reports extensively on commitment. Morgan and Hunt (1994) define commitment as the belief of an exchange partner that the ongoing relationship with another is so important as to deserve maximum efforts at maintaining it indefinitely. Different motivations can underlie this belief, thus leading to two different types of commitment – one that is more emotional in nature, labelled affective commitment, and another that is more economic in structure, labelled calculative commitment (Mathieu and Zajac, 1990). While the recognition of two different types of commitment has resulted in empirical studies that investigate the antecedents and/or consequences of each type of commitment, at least two important concerns with prior research limit our understanding. Firstly, prior research has identified and found empirical support for the antecedents of affective commitment (Gounaris, 2005; Venetis and Ghauri, 2004; Wetzels, Ruyter and Birgelen, 1998), but there has been limited empirical support for the antecedents of calculative commitment, namely switching costs and availability of alternative service providers. Even then, the limited empirical studies that have investigated the antecedents of calculative commitment either study or provide support for only one antecedent (Venetis and Ghauri, 2004), or investigate both the antecedents but in a business-to-consumer (B2C) context (Bansal, Irving and Taylor, 2004). Other researchers (e.g. Bendapudi and Berry, 1997; Gustafsson, Johnson and Roos, 2005) who have investigated commitment merely note that the antecedents of calculative commitment and do not support them by empirical research. Secondly, prior research that studies the effects of switching costs on calculative commitment has measured switching costs as a global construct (Bansal, Irving and Taylor, 2004; de Ruyter, Moorman and Lemmink, 2001) despite suggestions that multiple dimensions exist (Guiltinan, 1989), or has measured the effects of few switching cost dimensions on calculative commitment (Venetis and Ghauri, 2004). This limits our understanding because

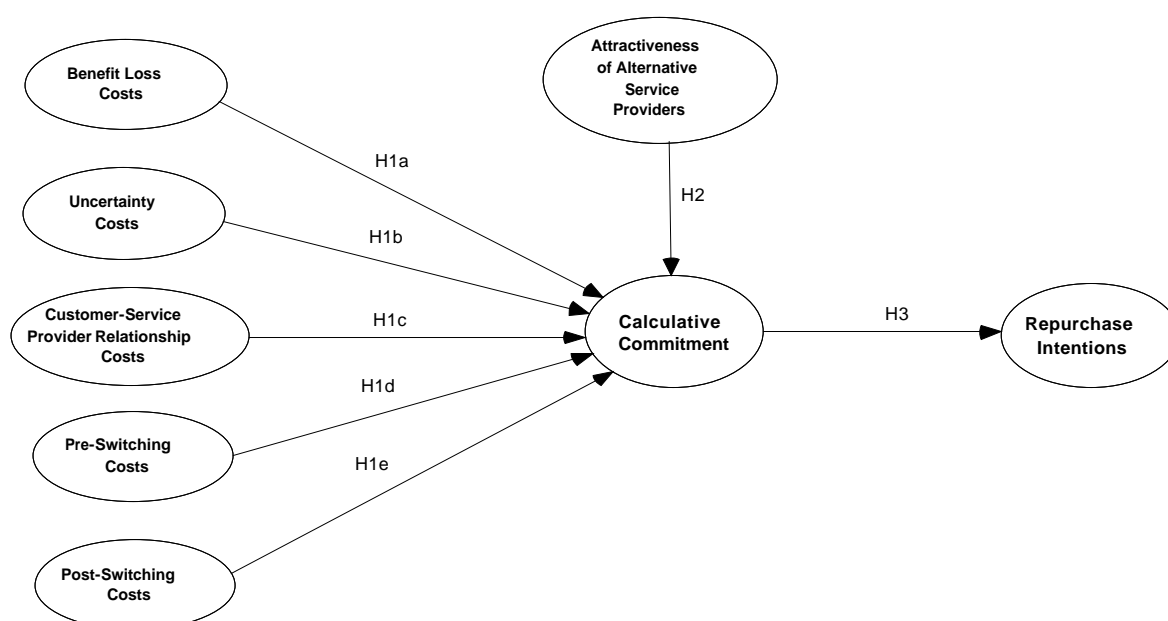
different dimensions of switching costs are likely to have different effects on calculative commitment in ways that are both theoretically and practically important. While Yanamandram and White (2006) developed a multidimensional scale in a B2B context, there has been no effort devoted to determining the effects of the various switching cost dimensions on calculative commitment.

The objective of the paper is to address these important concerns with prior research and extend the knowledge on calculative commitment. Calculative commitment has received limited attention in previous studies, and is included in this study because it captures the competitiveness of the value proposition, thus reflecting the viability of competitive offerings (Gustafsson, Johnson and Roos, 2005). Our study proposes and empirically analyses a research model that considers switching costs and the attractiveness of alternative service providers as direct antecedents to calculative commitment, and repurchase intention as one of the consequences of calculative commitment. We test the research model in a context of a fading relationship – a process of a temporal or a permanent weakening in the relationship strength (Tuominen and Kettunen, 2003) owing to dissatisfaction with services received. While the process of fading relationships render possibilities to prevent relationship termination (Akerlund, 2000), research on the continuation of troubled business relationships is scarce (Tahtinen and Vaaland, 2006). Furthermore, the importance of undertaking expanded studies on calculative commitment is shown by Liu (2006) who suggests that future research should explore the impact of dissatisfaction on the effects of ‘buyer entrapment’ in a business service context. The rest of the paper is organised as follows. First, the hypotheses of the study are developed based on relevant literature. Then, the methodology that guided the research effort is discussed. Next, the analysis used to test the hypothesis is presented followed by the interpretation of the findings and suggestions for future research.

## Research Model and Hypothesis

Figure 1 illustrates the various constructs and their linkages in the proposed research model.

**Figure 1: Research Model**



‘Switching costs’ are the buyer’s perceived costs of switching from the existing to a new supplier (Heide and Weiss, 1995). The term ‘switching costs’ is used in the research model to indicate: (i) benefit-loss costs; (ii) uncertainty costs; (iii) customer-service provider relationship (sunk) costs; (iv) pre-switching costs; and (v) post-switching costs. Relationships based on ‘calculative commitment’ entail a cost/benefit analysis of whether the costs associated with leaving the relationship are greater than the expected benefits of switching. Furthermore, if a dispassionate cognitive assessment of the costs and penalties associated with switching to an alternative business relationship leads to a cognitive commitment to continue the present relationship, a form of ‘negative cognitive commitment’ (Sharma, Young and Wilkinson, 2006) is manifested. Ping (1993) and Morgan and Hunt (1994) have also suggested that switching cost is a direct antecedent of commitment in a B2B marketing context. It is thus apparent that ‘switching costs’ lead to ‘calculative commitment’, and the following hypotheses are thus advanced:

**H1a:** Among dissatisfied customers, higher levels of benefit-loss costs are associated with higher levels of calculative commitment.

**H1b:** Among dissatisfied customers, higher levels of uncertainty costs are associated with higher levels of calculative commitment.

**H1c:** Among dissatisfied customers, higher levels of customer-service provider relationship costs are associated with higher levels of calculative commitment.

**H1d:** Among dissatisfied customers, higher levels of pre-switching costs are associated with higher levels of calculative commitment.

**H1e:** Among dissatisfied customers, higher levels of post-switching costs are associated with higher levels of calculative commitment.

‘Attractiveness of alternative service providers’ refers to the quality of service that the customer anticipates in the best available alternative to the present service provider (Patterson and Smith, 2003). Attractiveness of alternatives is reported to directly affect commitment in in personal relationships (Rusbult, 1980) and in consumer marketing contexts (Barksdale, Johnson and Suh, 1997, Ping, 1993). Applying the commitment framework proposed by Johnson (1991) to a B2B service context, customers are structurally committed to a relationship to the extent that reasonably available alternatives are perceived as less attractive. Therefore, it is hypothesised that:

**H2:** Among dissatisfied customers, lower levels of attractiveness of alternative service providers are associated with higher levels of calculative commitment.

‘Repurchase intentions’ is understood in the proposed model to be a customer’s judgment about again buying a designated service from the same service provider, taking into account the customer’s current situation and likely circumstances (Hellier *et al.*, 2003). While research has generally shown commitment to be related to customer retention (e.g. Garbarino and Johnson, 1999), there is no consensus on a positive relationship between calculative commitment and repurchase intentions either in a B2C (Bansal, Irving and Taylor, 2004; Fullerton, 2003; Gruen, Summers and Acito, 2000) or a B2B context (Wetzels, Ruyter and Brigelen, 1998). Our reasoning concurs with Bansal, Irving and Taylor (2004) who argue that calculative commitment reflects the fact that customers stay with a service provider because it reflects a sense of being “locked-in”, and therefore, we advance the following hypothesis:

**H3:** Among dissatisfied customers, higher levels of calculative commitment are associated with higher levels of repurchase intentions.

## Methodology

Recruitment e-mails were sent to 2,083 prospective participants who were identified from a database of Australian business managers. A key informant approach was used to collect data from responding organisations, and each informant was selected based upon the following three criteria: informant's knowledge of decisions relating to purchase of the service for their company (Campbell, 1955); informant's extent of participation in influencing, deciding or purchasing the service for their company (Phillips, 1981); and the extent to which the views of the informant were representative of the views of the group responsible for buying the service described in the survey (Patterson, Johnson and Spreng, 1997). The use of these criteria resulted in retaining 416 data sets. Of the 416 firms, 248 were small-sized firms (1-99 employees) and 168 were large sized-firms ( $\geq 100$  employees). The range of services that the key informants chose to discuss represented a variety of industries including information and communication technology services (35%), basic banking and insurance services (30%), professional services (12%), facility services (9%), marketing and related services (4%), and other services. Responding organisations represented the following businesses: manufacturing, construction, internet, telecommunication, banking/financial, education, hospitality, professional, software/information technology, and other services.

## Analysis

The mean score for overall dissatisfaction was 4.7 ( $\sigma = 1.29$ ) on a 7-point scale (1 = dissatisfaction is extremely low; 7 = dissatisfaction is extremely high). A two-step approach was selected for the measurement model and structural model (Anderson and Gerbing, 1988) using AMOS 7.0 with maximum-likelihood (ML) estimation. Reliability tests were conducted using squared multiple correlations ( $R^2$ ) for each measurement item. The  $R^2$  of all items was greater than 0.56. The construct reliability (C.R.) and variance extracted (V.E.) exceeded the minimum acceptable values, and are listed in Table 1 with Cronbach alpha ( ) values. As evidence of convergent validity, the critical ratio of every measurement item exceeded 1.96 (values varied between 12.4 and 30.7) and each measurement item loaded significantly ( $>.75$ ) on its respective construct. Further, discriminant validity was evident as the correlation between any two latent variables were lower than 0.80 (with the highest correlation being 0.51 between uncertainty costs and pre-switching costs).

**Table 1: Reliability Test Values**

Latent Variable	C.R.	V.E.	
Benefit-Loss Costs (2 items)	.83	.71	.83
Uncertainty Costs (3 items)	.88	.71	.88
Pre-Switching Costs (3 items)	.88	.72	.88
Post-Switching Costs (3 items)	.93	.81	.92
Customer-Service Provider Relationship (Sunk) Costs (3 items)	.93	.81	.92
Attractiveness of Alternative Service Providers (3 items)	.91	.78	.91

Calculative Commitment (2 items)	.88	.80	.87
Repurchase Intentions (3 items)	.90	.74	.89

For the assessment of the model, though the traditional chi-square is reported, reliance on the chi-square test as the sole measure of fit in a structural equation model is not recommended due to its sensitivity to sample size, especially for cases in which the sample size exceeds 200 respondents (Tabachnick and Fidell, 1996). Hence, alternative fit indices were employed to assess the “goodness of fit” of the measurement model. The results of the confirmatory factor analysis (CFA) provide a good fit of the model tested to the data (chi-square = 316.17, df = 181; Bollen-Stine Bootstrap,  $p = .031$ ; chi-square /df = 1.75; CFI = .98; TLI = .97; GFI = .94; RMSEA = .042; SRMR = .0318).

The authors estimated the hypothesised relationships using structural equation modelling, and estimated the structural model described in Figure 1 using AMOS 7.0 with maximum likelihood estimation. The results of structural analysis provide a good fit of the model tested to the data (chi-square = 383.32, df = 187; Bollen-Stine Bootstrap,  $p = .001$ ; chi-square /df = 2.05; CFI = .97; TLI = .96; GFI = .92; RMSEA = .05; SRMR = .068). The structural estimates of this model are shown in Table 2. The results support five out of the seven paths (H1a, H1c, H1e, H2 and H3), but do not support the other two (H1b, H1d).

**Table 2: Structural Estimates**

Structural Path		Estimate (β)	Critical Ratio (t values)	P
Calculative_Commitment	← Benefit Loss Costs	.19	3.97	.000
Calculative_Commitment	← Uncertainty Costs	.06	.90	.37
Calculative_Commitment	← Customer-Service Provider Relationship Costs	.24	4.91	.000
Calculative_Commitment	← Pre-Switching Costs	.09	1.69	.09
Calculative_Commitment	← Post-Switching Costs	.14	2.29	.02
Calculative_Commitment	← Attractiveness of Alternative Service Providers	-.11	-2.15	.03
Repurchase Intention	← Calculative Commitment	.45	8.30	.000

### Implication and Future Research

This research provides empirical support, in a B2B service context, to the contention that the antecedents of calculative commitment are attractiveness of alternative service providers and switching costs, specifically, benefit-loss costs, customer-service provider relationships costs and post-switching costs, and a consequence of calculative commitment is repurchase intention. However, a limitation of the study is that a convenience sample of Australian business managers was recruited. Hence, the model needs to be validated with another data set before drawing conclusions. Future research could also explore the mediating role of calculative commitment on the relationship between switching costs, attractiveness of alternative service providers and repurchase intentions. While there is evidence from the marketing literature that supports the contention that a uni-dimensional commitment variable mediates relational exchanges (e.g. Garbarino and Johnson, 1999), the limited research that

investigated the mediating role of calculative commitment has provided mixed results (Bansal, Irving and Taylor, 2004).



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