

# 1 Reexamining the Dimensionality of Brand Loyalty: The Case of the Cruise Industry

## 2 3 Introduction

4 The concept of brand loyalty has sparked renewed interest in recent years. This seems to  
5 echo the emergence of the relationship marketing paradigm (Morais, Dorsch, & Backman, 2005),  
6 which emphasizes the importance of establishing relationships between customers and  
7 businesses (Gronroos, 1994; Sheth & Parvatiyar, 1995). Nevertheless, brand loyalty research has  
8 been consistently criticized for lacking theoretical grounding and conceptual depth (Dimanche &  
9 Havitz, 1994; Iwasaki & Havitz, 2004; Jacoby & Chestnut, 1978; Oliver, 1999; Pritchard,  
10 Havitz, & Howard, 1999). It is particularly disquieting that no consensus has been reached on  
11 what loyalty is. That is, what components should be included when conceptualizing or measuring  
12 customers' brand loyalty, and where to draw the line between loyalty and its antecedents or  
13 outcomes. Moreover, the vast majority of previous loyalty studies have focused on consumer  
14 goods, while the advent of the "service economy" (Gummerrsson, 2002) or "experience  
15 economy" (Pine & Gilmore, 1999) has called for more research on services. Therefore, this study  
16 seeks to systematically examine the conceptual domain and structure of brand loyalty in a  
17 tourism service context.

18 One sector in need of retaining loyal customers is the cruise industry, which is  
19 traditionally characterized by a high level of repurchase (i.e., behavioral loyalty) (Petrick, 2004).  
20 To continue the current market balance and to block potential competitors from entry, major  
21 cruise companies have been investing heavily on cruise capacity expansion (Lois, Wang, Wall,  
22 & Ruxton, 2004). This growth in berths has made it imperative for the industry, among other  
23 things, to retain its current clientele, and improve repurchase rate, to maintain present occupancy

1 rates (Miller & Grazer, 2003). Thus, it seems that research focusing on customer loyalty may  
2 provide operational significance to the cruise industry.

3 This paper seeks a better understanding of the structure of cruisers' brand loyalty.  
4 Specifically, the study will examine the dimensionality of loyalty, and identify measures of  
5 loyalty from a multidimensional perspective. Theoretical significance aside, exploring the  
6 structure of loyalty may provide guidance to the measurement and management of loyalty.

## 7 Literature Review

### 8 Traditional View

9 The loyalty construct has been a central research topic among marketing scholars  
10 (Rundle-Thiele, 2005). Until recently, the conceptualization of loyalty has been adopted from  
11 three major approaches (Jacoby & Chestnut, 1978; Morais, 2000; Rundle-Thiele, 2005). It has  
12 been suggested that loyalty may refer to customers' behavioral consistency, attitudinal  
13 predisposition toward purchasing a brand, or both.

### 14 *Behavioral Loyalty*

15 The majority of early loyalty studies took a behavioral approach, and interpreted loyalty  
16 as synonymous with repeat purchase. This was grounded on a stochastic view of consumer  
17 behavior (Rundle-Thiele, 2005), which proposes that consumer behavior, as well as market  
18 structure, are characterized by randomness rather than rationality (Bass, 1974). Tucker (1964, p.  
19 32) went so far as to assert that "no consideration should be given what the subject thinks or  
20 what goes on in his central nervous system; his behavior is the full statement of what brand  
21 loyalty is." More recently, Ehrenberg (1988) contended that researchers should understand how  
22 people make brand purchases, before understanding why people buy. Finally, from a

1 measurement perspective, O'Mally (1998, p. 49) suggests that behavioral measures of loyalty  
2 provide "a more realistic picture of how well the brand is doing vis-à-vis competitors..."

3         A major criticism of the behavioral loyalty approach is that it fails to distinguish  
4 customers making purchase decisions because of genuine brand preference, from those who  
5 purchase solely for convenience or cost reasons (Back, 2001). In other words, underlying  
6 customers' repeat brand purchase may be inertia (i.e., repeat brand purchases for the sake of  
7 saving time and energy (Assael, 2004)), rather than the customer-brand bond (Fournier, 1998).  
8 Furthermore, due to inconsistency between behavioral measures, one customer classified as a  
9 loyal client based on Method A, may be classified as disloyal by Method B (Morais, 2000).  
10 Thus, several researchers have argued that the loyalty phenomenon cannot be adequately  
11 understood without measuring individuals' attitude toward a brand (Backman & Crompton,  
12 1991; Day, 1969; Dick & Basu, 1994).

### 13 *Attitudinal Loyalty*

14         The stochastic philosophy essentially maintains that marketers are unable to influence  
15 buyer behavior in a systematic manner. In contrast, the deterministic philosophy suggests that  
16 behaviors do not just happen, they can be "a direct consequence of marketers' programs and their  
17 resulting impact on the attitudes and perceptions held by the customer" (Rundle-Thiele, 2005, p.  
18 38). Researchers holding a deterministic view hence advocate the need to understand the loyalty  
19 phenomenon from an attitudinal perspective.

20         Guest (1944) was arguably the first researcher to propose the idea of measuring loyalty as  
21 an attitude. He used a single preference question asking participants to select the brand they liked  
22 the best, among a group of brand names. A number of researchers followed his approach, and  
23 conceptualized loyalty as attitudes, preferences, or arguably purchase intentions, all of which can

1 be considered as a function of psychological processes (Jacoby & Chestnut, 1978). Terms such  
2 as cognitive loyalty (Jarvis & Wilcox, 1976) and intentional loyalty (Jain, Pinson, & Malhotra,  
3 1987) subsequently emerged to capture different components of the psychological processes.  
4 More recently, Reichheld (2003a) argued that loyalty may be assessed using only one variable –  
5 “willingness to recommend” (which is otherwise considered as an attitudinal loyalty outcome).

6 A major criticism of the attitudinal loyalty approach is that it lacks power in predicting  
7 actual purchase behavior, even though a recent meta-analysis on attitude-behavior studies  
8 (Kraus, 1995) reported that attitudes significantly predict future behavior (Rundle-Thiele, 2005).  
9 It has been found that using attitudinal loyalty alone may not capture the entirety of the loyalty  
10 phenomenon (Morais, 2000). Meanwhile, some authors have suggested that the limited  
11 explanatory power of attitudinal loyalty could be the result of intervening influences from other  
12 factors constraining purchase behaviors (Backman & Crompton, 1991).

### 13 *Composite Loyalty*

14 The foregoing review implies that neither the behavioral nor attitudinal loyalty approach  
15 alone provides a satisfactory answer to the question “what is loyalty?.” Day (1969) argued that  
16 genuine loyalty is consistent purchase behavior rooted in positive attitudes toward the brand. His  
17 two-dimensional conceptualization of loyalty suggested a simultaneous consideration of  
18 attitudinal loyalty and behavioral loyalty, which profoundly influenced the direction of loyalty  
19 research (Jacoby & Chestnut, 1978; Knox & Walker, 2001).

20 A number of researchers have operationalized loyalty using a composite approach  
21 (Backman & Crompton, 1991; Dick & Basu, 1994; Morais, Dorsch, & Backman, 2004; Petrick,  
22 2004; Pritchard et al., 1999; Selin, Howard, Udd, & Cable, 1988; Shoemaker, 1999). For  
23 instance, Dick and Basu (1994) conceptualized loyalty as the relationship between relative

1 attitude (attitudinal dimension) and repeat patronage (behavioral dimension). They maintained  
2 that true brand loyalty only exists when consumer beliefs, affect, and intention all point to a focal  
3 preference toward the brand or service provider. In leisure literature, Backman and Crompton  
4 (1991) conceptualized psychological attachment and behavioral consistency as two dimensions  
5 of loyalty. Their findings revealed that “attitudinal, behavioral, and composite loyalty capture the  
6 loyalty phenomenon differently” (p. 217). To date, although some researchers still conceptualize  
7 loyalty as a uni-dimensional construct, the vast majority of researchers have adopted the  
8 composite loyalty approach.

### 9 Recent Conceptual Development

10 As loyalty research has evolved, the dominant two-dimensional conceptualization has  
11 been challenged (see Jones and Taylor (2007) and Rundle-Thiele (2005) for comprehensive  
12 reviews). It has been suggested that the two-dimensional conceptualization provides inadequate  
13 guidance for practitioners designing loyalty programs (Rundle-Thiele, 2005). Further, the  
14 dimensionality issue warrants attention as marketers who misunderstood the conceptual domain  
15 and structure of loyalty may: “be measuring the wrong things in their attempts to identify loyal  
16 customers; be unable to link customer loyalty to firm performance measures; and be rewarding  
17 the wrong customer behaviors or attitudes when designing loyalty programs” (Jones & Taylor,  
18 2007, p. 36).

19 Many new conceptualizations of loyalty are somewhat influenced by Oliver’s work  
20 (Oliver, 1997; 1999). Oliver followed the same cognition-affect-conation structure as Dick and  
21 Basu (1994), but suggested that loyalty formation is more likely to be an attitudinal development  
22 process, and that customers may demonstrate different levels of loyalty in different stages of this  
23 process. Thus, Oliver implied that loyalty is neither a dichotomy (loyalty vs. no loyalty), nor

1 multi-category typology (e.g., low, spurious, latent, and high loyalty), but a continuum.  
2 Specifically, Oliver (1997; 1999) posited that the loyalty-building process starts from some  
3 cognitive beliefs (cognitive loyalty), followed by affective loyalty (i.e., “I buy it because I like  
4 it”), to conative loyalty (i.e., “I’m committed to buying it”), and finally action loyalty (i.e., actual  
5 “action inertia”). Although the temporal sequence of loyalty formation remains controversial  
6 (Rundle-Thiele, 2005), a number of researchers have adopted Oliver’s four-dimensional loyalty  
7 conceptualization (Back, 2001; Harris & Goode, 2004; Jones & Taylor, 2007; Lee, 2003;  
8 McMullan & Gilmore, 2003).

9 For instance, Harris and Goode (2004) operationalized and tested Oliver’s 4-facet  
10 measure in two online service scenarios (purchasing books and flight tickets). The authors  
11 concluded that the hypothesized cognitive-affective-conative-action loyalty sequence provided a  
12 better fit of the data than other possible variations. In a similar vein, McMullan and Gilmore  
13 (2003) developed a 28-item scale to measure the four phases of loyalty, following Oliver’s  
14 conceptualization. Their empirical test in a restaurant-dining context supported the four-  
15 dimensional conceptualization.

16 Back (2001) agreed with most of Oliver’s (1997; 1999) development on the traditional  
17 two-dimensional view. However, based on the tripartite model of attitude structure (Breckler,  
18 1984), he argued that cognitive, affective, and conative loyalty are essentially three components  
19 of the traditional attitudinal loyalty construct, and all three should lead to action/behavioral  
20 loyalty. Furthermore, Back argued that the cognitive, affective, and conative phases of loyalty  
21 might not be a sequential formation process, as suggested by Oliver (1997; 1999). To Back, the  
22 three aspects are more likely to be independent factors of attitudinal loyalty attributable to unique  
23 variance. Empirical testing revealed that both affective and conative loyalty were positively

1 associated with behavioral loyalty, while cognitive loyalty was not (Back, 2001; Back & Parks,  
2 2003). Notably, although he maintained that cognitive, affective, and conative loyalty were three  
3 elements of attitudinal loyalty, Back did not measure the overarching construct of attitudinal  
4 loyalty, or include it in his model.

5         Lee (2003) also adopted part of Oliver's conceptualization. However, she argued that  
6 "the cognitive stage is more likely to be an antecedent to loyalty rather than loyalty itself" (p.  
7 22). Thus, Lee's loyalty measure contained three dimensions: attitudinal, conative, and  
8 behavioral loyalty. Her study lent partial support to the three-dimensional conceptualization.  
9 Although conative loyalty was significantly and positively influenced by attitudinal loyalty, the  
10 direct effect of conative loyalty on behavioral loyalty was found to be negative, which was  
11 opposite of the hypothesized direction. Lee postulated that this negative relationship might be the  
12 result of perceived constraints.

13         More recently, Jones and Taylor (2007) explored the dimensionality of customer loyalty.  
14 The authors' suggested that with cognitive components of loyalty getting more attention, recent  
15 marketing literature seems to support a three-dimensional conceptualization of loyalty  
16 (cognitive, attitudinal, and behavioral). Parallel to this, the interpersonal psychology literature  
17 has traditionally adopted a two-dimensional (behavioral and cognitive) conceptualization of  
18 interpersonal commitment, a construct closely akin to loyalty. Jones and Taylor's study  
19 supported a two-dimensional loyalty construct, in which behavioral loyalty remains as one  
20 dimension, while attitudinal and cognitive loyalty are combined into one dimension. A closer  
21 look at Jones and Taylor's measures indicates that what they called "attitudinal loyalty" might be  
22 termed "affective loyalty" in Oliver's terminology, while their behavioral loyalty was essentially

1 conative loyalty. Thus, Jones and Taylor (2007) revealed a conative versus cognitive/affective  
2 loyalty structure.

3 Overall, it seems consensus has not been reached on the specific structure of, or  
4 dimensions contained in the loyalty construct (Table 1). Nevertheless, recent discussion on  
5 loyalty dimensionality broadens, rather than invalidates the traditional two-dimension view.

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8 INSERT TABLE 1 ABOUT HERE  
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### 10 11 The Proposed Model

12 Based on the foregoing review, the present paper attempts to integrate previous findings  
13 and propose a conceptual model of loyalty dimensionality (Figure 1). Following recent  
14 conceptual development (Harris & Goode, 2004; McMullan & Gilmore, 2003; Oliver, 1999), the  
15 present research conceptualizes loyalty as a four-dimensional construct, comprising of cognitive,  
16 affective, conative, and behavioral components. The first three components collectively represent  
17 the attitudinal aspect of loyalty. Together they form a higher order factor termed attitudinal  
18 loyalty, which then leads to behavioral loyalty. Since the behavioral aspect of loyalty has been  
19 well supported and documented (Backman & Crompton, 1991; Cunningham, 1956; Iwasaki &  
20 Havitz, 2004; Morais et al., 2004; Pritchard et al., 1999), the focus of the present paper is on the  
21 breakdown of the attitudinal aspect of loyalty.

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24 INSERT FIGURE 1 ABOUT HERE  
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26  
27 The operational definition of brand loyalty, and its four components are listed below:

1            *Cognitive Loyalty*: The existence of beliefs that (typically) a brand is preferable to others  
2 (Harris and Goode 2004).

3            *Affective Loyalty*: The customer's favorable attitude or liking toward the service brand /  
4 provider based on satisfied usage (Harris and Goode 2004).

5            *Conative Loyalty*: Behavioral intention to repurchase the service brand characterized by a  
6 deep brand-specific commitment (Harris and Goode 2004).

7            *Behavioral Loyalty*: The frequency of repeat or relative volume of same-brand purchase  
8 (Tellis 1988).

9            *(Brand) Loyalty*: “A deeply held psychological commitment to rebuy or repatronize a  
10 preferred product/service consistently in the future, thereby causing repetitive same-brand or  
11 same brand-set purchasing, despite situational influences and marketing efforts having the  
12 potential to cause switching behavior” (Oliver 1999, p. 34).

13            The model is developed from marketing, social psychology, and leisure literature. The  
14 four-dimensional structure originated from Oliver’s (1997; 1999) conceptualization. However,  
15 following Back (2001), the present paper argues that the first three dimensions are three  
16 independent components of attitudinal loyalty, an overarching construct. This argument is  
17 theoretically grounded on the widely accepted tripartite model of attitude structure (Breckler,  
18 1984; Eagly & Chaiken, 1993; Reid & Crompton, 1993). The tripartite model suggests that there  
19 are three components of people’s attitudes: cognition, affect, and behavioral intention. The three  
20 components of attitude are independent of each other, and each exhibits unique variance that is  
21 not shared by the other two (Bagozzi, 1978). Further, some have argued that attitudes do not  
22 have to embrace all three components at the same time (Tian, 1998). Thus, the three components  
23 may not be sequential as suggested by Oliver (1997; 1999).



1 In this study, three 7-point Likert-type scales proposed by Back (2001; Back & Parks,  
2 2003) were used to measure cognitive loyalty, affective loyalty, and conative loyalty,  
3 respectively (see Table 2). Action or behavioral loyalty, following the most frequently-used  
4 approach, was measured by proportion of brand purchase (Cunningham, 1956; Iwasaki &  
5 Havitz, 1998). Specifically, this was operationalized as the number of cruises the respondent had  
6 taken with the focal cruise line in the past 3 years, divided by the total number of cruises s/he had  
7 taken during that time.

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10 INSERT TABLE 2 ABOUT HERE  
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### 13 Online Panel Survey

14 This study utilized an online panel survey, which is a fairly commonplace method in  
15 marketing research (Dennis, 2001; Deutskens, Jong, Ruyter, & Wetzels, 2006; Duffy, Smith,  
16 Terhanian, & Bremer, 2005; Hansen, 2005; Sparrow & Curtice, 2004; Van Ryzin, 2004). Online  
17 survey panels “are made up of individuals who are pre-recruited to participate on a more or less  
18 predictable basis in surveys over a period of time” (Dennis, 2001, p. 34). Despite its obvious  
19 advantage in cost efficiency and speed, some researchers have expressed concern regarding the  
20 validity of information collected from online panel studies, particularly due to the potential for  
21 sampling bias (Duffy et al., 2005; McWilliams & Nadkarni, 2005). Some researchers have even  
22 argued that repeat and paid participation in surveys might bias online survey panelists’ attitudes  
23 and behaviors, and make them closer to “professional respondents” (Dennis, 2001). However, a  
24 series of recent studies (Dennis, 2001; Deutskens et al., 2006; Duffy et al., 2005) have revealed  
25 that, despite minor differences, online panel and traditional methodologies generate equivalent

1 results in most cases. Since the representativeness of public opinion is not the primary concern of  
2 the study, the authors deemed online panel surveys appropriate for this study.

### 3 The Survey Process

4 The survey was conducted from March 15 to 22, 2006. Participants of this study were  
5 currently active cruisers, who took a cruise vacation in the past 12 months. Following Cruise  
6 Lines International Association (CLIA)(2005), the authors specified four demographic and  
7 behavioral characteristics of the sample when acquiring the online panel. Participants of this  
8 study were cruise travelers who cruised at least once in the past 12 months, were over 25 years  
9 old and had a household income of \$25,000 or more. Moreover, a 50-50 gender distribution was  
10 desired. For survey design purposes, only responses about CLIA member cruise lines (CLIA,  
11 2006b) were collected. These lines make up 95 percent of the overall North America cruise  
12 market (CLIA, 2006a). Further, cruise lines, rather than specific ships were chosen to ensure that  
13 participants' responses were at the brand level.

14 The survey started from a screening question, asking whether the respondent took a  
15 cruise vacation in the past 12 months or not. Respondents who said "Yes" were presented a list  
16 of CLIA's member lines (CLIA, 2006b), and asked which line they cruised with on their most  
17 recent cruise vacation. Clicking any of the cruise company names would lead the respondent to  
18 the actual survey, which was customized to the brand being chosen. Those who had not cruised  
19 with any of CLIA cruise lines in the past 12 months were thanked and asked to disregard the  
20 survey. A technical mechanism was used to ensure that all questions had to be answered before  
21 submission. The survey took approximately 12 minutes to complete.



## 1 Modeling and Hypotheses Testing

2 A structural equation modeling (SEM) procedure was employed to analyze the data. The  
3 analysis followed guidelines suggested by Byrne (2001) and Ullman (2001). Before testing the  
4 model, a variety of practical issues were checked, including sample size, missing values,  
5 univariate and multivariate outliers, continuous scales, linearity, univariate and multivariate  
6 normality, and so on. The only detected issue was that Mardia's (1970) normalized estimate of  
7 multivariate kurtosis was fairly large, which suggested the data might have a multivariate  
8 nonnormal distribution. One approach to dealing with multivariate non-normal data is  
9 nonparametric bootstrapping (Byrne, 2001; Kline, 2005). Thus, bootstrap results based on 500  
10 bootstrap samples are reported in the following section. Further, inter-correlations between major  
11 constructs were obtained, as recommended by Hatcher (1994). It was found that cognitive,  
12 affective, and conative loyalty had exceedingly high correlations (all  $> 0.97$ ). This will be  
13 addressed later.

14 The SEM procedure was conducted in four stages:

### 15 *Stage 1: Testing the Proposed Model*

16 To examine the proposed model, a second-order confirmatory factor analysis (CFA) was  
17 employed. A second-order factor model posits that the first-order factors estimated (i.e.,  
18 cognitive, affective, and conative loyalty) are actually caused by a broader and more  
19 encompassing construct (i.e., attitudinal loyalty). Hair et al. (1998) suggested that second-order  
20 CFA models allow for a stronger statement about the dimensionality of a construct than  
21 traditional approaches.

22 The second-order CFA model was tested following a procedure recommended by Byrne  
23 (2001). First, the identification of the higher order portion of the model was addressed, since this

1 part of the model was initially just-identified with three first-order factors. As suggested by  
2 Byrne (2001), this problem can be solved by placing equality constraints on certain parameters  
3 known to yield estimates that are approximately equal, through the application of the critical  
4 ratio difference (CRDIFF) method. It was found that the estimated values of the higher order  
5 residuals related to affective (-0.003<sup>1</sup>) and conative loyalty (-0.021) were almost identical, and  
6 the computed critical ratios for differences between the two residuals were -0.703 (absolute  
7 value < 1.96). Thus, it was decided to constrain the variance of the residuals related to affective  
8 and conative loyalty to be equal. The hypothesized model, with the equality constraints specified,  
9 is presented in Figure 2.

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11  
12 INSERT FIGURE 2 ABOUT HERE  
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14 The next step involved obtaining the goodness-of-fit statistics and modification indices  
15 (MI) (Sörbom, 1986) related to the hypothesized model. Since most researchers have argued that  
16 Chi-square is highly sensitive to sample size, it has been suggested that the use of multiple  
17 indices may collectively present a more realistic picture of model fit (McDonald & Ringo Ho,  
18 2002). Following Byrne's (2001) recommendation, GFI (acceptable when >0.9 (Hu & Bentler,  
19 1995)), CFI (acceptable when >0.9(Bentler, 1990)), and RMSEA (acceptable when <0.1(Browne  
20 & Cudeck, 1993)) were chosen to assess model fitness. Also included were the normed Chi-  
21 square (NC) ( $\chi^2/DF$ , acceptable when <5 (Bollen, 1989)), and the Bollen-Stine bootstrap  $\chi^2$   
22 ( $BS_{boot}$ ) (the Chi-square test based on Bollen and Stine's (1992) bootstrap procedure).

23 Considering the model was neither too large nor complex, the goodness-of-fit statistics  
24 indicated a poor fit (see Table 3). The multiple large MI values further evidenced that there could  
25 be substantial misfit in the hypothesized second-order model structure. Further, the MI results

1 were fairly complex, and did not present a meaningful solution to improve the model fit.

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3 INSERT TABLE 3 ABOUT HERE

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6 *Stage 2: Model Comparison*

7 For years, statisticians have called for the use of alternative models (i.e., comparing the  
8 performances of rival *a priori* models) in model specification and evaluation (Bagozzi & Yi,  
9 1988; Jöreskog & Sörbom, 1996; MacCallum & Austin, 2000). Thus, the authors examined  
10 alternative loyalty conceptualizations by testing a series of competing models (Table 1). These  
11 included:

- 12 • Rival Model 1: Oliver’s four-dimensional sequential model (Harris & Goode, 2004;  
13 McMullan & Gilmore, 2003; Oliver, 1999; Oliver et al., 1997);
- 14 • Rival Model 2: Back’s four-dimensional first-order model (Back, 2001; Back & Parks,  
15 2003);
- 16 • Rival Model 3: Lee’s three-dimensional sequential model (Lee, 2003); and
- 17 • Rival Model 4: The traditional two-dimensional model (Backman & Crompton, 1991;  
18 Day, 1969; Dick & Basu, 1994; Jacoby & Chestnut, 1978; Pritchard et al., 1999).

19 Table 3 displays the fitness statistics of these models. It seems that the fitness levels of all  
20 these models were no different from, or even worse than the hypothesized one. In other words,  
21 none of the models provided a good fit of the data. In light of these results, it was decided that  
22 exploratory analysis should be used to purify measures (Churchill, 1979).

23 *Stage 3. Model Modification*

24 Following Churchill’s (1979) recommendation, an exploratory factor analysis (EFA) was  
25 employed to identify the potential pattern of the nine items, which were supposed to measure

1 cognitive, affective, and conative loyalty. Note that the EFA results should and would only serve  
2 as a reference for the present discussion on loyalty dimensionality. It was found that the nine  
3 items in discussion all loaded on a single dimension, instead of the three dimensions  
4 hypothesized. Next, Cronbach's alpha, and alpha-if-item-deleted analysis was also performed.  
5 The Cronbach's alpha for the nine items was quite high, and deleting any one of the items would  
6 have little effect on alpha.

7         The EFA results seemed to support the one-dimension conceptualization of attitudinal  
8 loyalty. Further, recall that the intercorrelations among cognitive, affective, and conative loyalty  
9 were exceptionally high (all exceeding 0.97). Kline (2005) suggested that when two factors have  
10 a correlation over 0.85, they may not be accommodated in one structural equation model, as the  
11 two factors demonstrate poor discriminant validity (Rundle-Thiele, 2005), and could cause SEM  
12 to be statistically unstable. Put simply, they may be measuring the same construct. These results  
13 implied that the traditional one-dimensional conceptualization of attitudinal loyalty was  
14 theoretically and statistically more solid than the proposed model.

15         Moreover, the alpha-if-item-deleted analysis showed that when all nine items were used  
16 to measure one single first-order factor, they might be redundant with each other. Byrne (2001,  
17 p. 134), in her discussion on model modification, suggested "error correlations between item  
18 pairs are often an indication of perceived redundancy in item content." To solve such problems,  
19 some researchers have suggested that deleting questionable items could be an effective way to  
20 improve a measurement model without sacrificing its theoretical meaningfulness (Bentler &  
21 Chou, 1987; Byrne, 2001; Morais, Backman, & Dorsch, 2003). Further, Hatcher (1994)  
22 recommended that to avoid excessive complexity in measurement models, researchers may limit

1 the number of indicators used to measure one latent variable to around four. Netemeyer et al.  
2 (2003) also maintained that shorter scales are typically preferred.

3 In light of these recommendations, it was concluded that the initial misfit of Rival Model  
4 might be due to redundant items, and deleting these items may generate a better measure of  
5 one-dimensional attitudinal loyalty. This modification process, though post hoc in nature, strictly  
6 followed recommended procedures (Bentler & Chou, 1987; Byrne, 2001; Hatcher, 1994). Items  
7 associated with questionable MIs, insignificant paths (if at all), large standardized errors, and  
8 most importantly, conceptual or semantic fuzziness, were considered as candidates for deletion.

9 Specifically, this deletion process started with CON3, which had the largest standard  
10 error, and a comparatively weaker path. Two other items, AFF1 and CON1 were subsequently  
11 deleted, as both items were associated with multiple significant MIs. In fact, several expert  
12 panelists mentioned in the pilot test phase that AFF1 was somewhat confusing. Finally, COG1  
13 was deleted based on its comparatively large residuals, and weak loadings, as well as its  
14 semantic redundancy with the other two cognitive items. This process resulted in a one-  
15 dimensional loyalty measure containing five items: COG2 (“I believe <name> provides more  
16 benefits than other cruise lines in its category”), COG3 (“No other cruise line performs better  
17 services than <name>”), AFF2 (“I feel better when I cruise with <name>”), AFF3 (“I like  
18 <name> more than other cruise lines”), and CON2 (“I consider <name> my first cruising  
19 choice”). The five-item model, with  $\chi^2(5, N=554)=26.131, p<0.001, CFI=0.994, GFI=0.982,$   
20  $RMSEA=0.087,$  demonstrated good fit.

21 Finally, the modified loyalty model was tested in a structural equation model, with  
22 attitudinal loyalty as an exogenous variable, and behavioral loyalty as an endogenous variable  
23 (see Figure 3). The model, with  $\chi^2(9, N= 554) =52.399, p<0.001, CFI=0.988, GFI=0.969,$

1 RMSEA=0.093, demonstrated a good fit of the data. However, it was noted that the  $R_{SMC}^2$   
2 (0.115) of BEHLOY was fairly low, which indicated that attitudinal loyalty accounted for only a  
3 small portion of the variance associated with behavioral loyalty.

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5 INSERT FIGURE 3 ABOUT HERE

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7  
8 *Stage 4. Assessing Validity and Reliability*

9 The preceding procedure, though post hoc in nature, essentially generated a 5-item scale  
10 measuring attitudinal loyalty. Before drawing final conclusions, the authors deemed it necessary  
11 to examine the psychometric properties of this measure. First, convergent validity of indicators is  
12 evidenced by the ability of the scale items to load on its underlying construct (Bagozzi, 1994).  
13 Convergent validity may be further evidenced if each indicator's standardized loading on its  
14 posited latent construct is greater than twice its standard error (Anderson & Gerbing, 1988). All  
15 items under investigation met these two requirements.

16 Second, discriminant validity may be assessed by comparing the average variance  
17 extracted (AVE) for the focal measure with a similar, but conceptually different, construct and  
18 the square of the correlation between the two factors (Hatcher, 1994; Netemeyer et al., 2003).  
19 Discriminant validity is demonstrated if both AVEs are greater than the squared correlation. This  
20 requirement was satisfied after checking the AVEs and the squared correlation value for the  
21 attitudinal loyalty measure and three similar, but conceptually different constructs (satisfaction,  
22 quality, and value) (see Table 4). Thus, discriminant validity of the scale was established.

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24 INSERT TABLE 4 ABOUT HERE

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1 Third, scale reliability was checked in multiple ways. These included Cronbach's  
2 coefficient alpha ( $\alpha$  values need to exceed 0.7 ((Nunnally & Bernstein, 1994)), indicator  
3 reliability ( $R_{SMC}^2$  needs to exceed 0.5 (Fornell & Larcker, 1981)), composite reliability (the  
4 recommended cutoff point is 0.6 (Bagozzi & Yi, 1988)), and AVE (AVE needs to exceed 0.5  
5 (Fornell & Larcker, 1981)). It was found that the 5-item measure met all these requirements.

6 Finally, nomological validity is considered to be established when the proposed measure  
7 successfully predicts other constructs that previous literature suggests it should predict  
8 (Netemeyer et al., 2003). To test it, the authors ran three regression models, where attitudinal  
9 loyalty (operationalized as the mean of the five items) was modeled as predictors of three  
10 behavioral outcomes. The three variables, all of which have been suggested as loyalty outcomes,  
11 included repurchase intention (Morais et al., 2004), willingness to recommend (Dick & Basu,  
12 1994), and complaining behavior (Davidow, 2003). As shown in Table 5, in all three models,  
13 attitudinal loyalty's effect on the dependent variables was statistically significant, and its effects  
14 were consistent with what has been previously observed (Davidow, 2003; Dick & Basu, 1994;  
15 Morais et al., 2004; Petrick 2004; Rundle-Thiele 2005). These provide further support for the  
16 validity of the scale.

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19 INSERT TABLE 5 ABOUT HERE  
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23 Combined, tests on the convergent, discriminant and nomological validity, and the  
24 reliability of the five-item measure showed that it served as a good measure of the single-  
25 dimensioned attitudinal loyalty construct. It was thus concluded that the 5-item measure,  
26 measuring attitudinal loyalty as a single-dimension, first-order construct, demonstrated better fit  
27 of data than the hypothesized second-order model.

## Conclusions and Implications

This study attempted to explore the dimensional structure of the loyalty construct. Following recent developments in loyalty studies (Back, 2001; Jones & Taylor, 2007; Oliver, 1997; 1999), loyalty in this paper was conceptualized as a four-dimensional construct, comprising of cognitive, affective, conative, and behavioral loyalty. Further, this paper postulated that three components of loyalty (cognitive, affective, and conative loyalty) collectively formed a higher order factor, namely attitudinal loyalty. However, this conceptualization was not supported by the data. A competing model based on the traditional conceptualization that attitudinal loyalty is a one-dimensional, first-order factor was found to provide a better fit of the data than other possible variations. Further, the paper supported the attitudinal loyalty-behavioral loyalty link (Ajzen, 1991; Albarracin et al., 2001; Dick & Basu, 1994). Nevertheless, the relatively low variance of behavioral loyalty explained by attitudinal loyalty suggests that the attitude-behavior link may be moderated by other factors, which is also consistent with previous studies (Back, 2001; Dick & Basu, 1994).

In sum, this study supported the traditional two-dimensional conceptualization of loyalty, which maintains that loyalty has an attitudinal and a behavioral component (Backman & Crompton, 1991; Cunningham, 1956; Iwasaki & Havitz, 2004; Morais et al., 2004; Pritchard et al., 1999). Moreover, this finding seems to be congruent with psychology literature on interpersonal commitment, which has consistently suggested that pro-relationship acts (i.e., commitment) have two components, behavioral and cognitive (Jones & Taylor, 2007). Findings are also similar to Jones and Taylor (2007), who concluded that "...regardless of the target (friend, spouse, service provider), loyalty captures, in essence, what Oliver (1999) referred to as

1 'what the person does' (behavioral loyalty) and the psychological meaning of the relationship  
2 (attitudinal/cognitive loyalty)" (p. 45).

3 While the two-dimensional conceptualization of brand loyalty is not new to marketing or  
4 psychology researchers, what the present results reveal is that the two dimensions might be more  
5 complex than previously suggested. Remaining in the final 5-item attitudinal loyalty measure are  
6 cognitive, affective, and conative components, which is consistent with the tripartite model of  
7 attitude structure in the psychology literature (Breckler, 1984; Eagly & Chaiken, 1993; Reid &  
8 Crompton, 1993). One might speculate that although these three aspects of loyalty loaded in the  
9 same dimension, they could account for unique aspects of the construct. Admittedly, the present  
10 results may also imply that the respondents couldn't tell the differences between cognitive,  
11 affective, and conative loyalty, even though these components make conceptual sense.

12 In addition to clarifying the conceptual structure of customers' brand loyalty, this  
13 research also contributes to the literature by introducing and validating a 5-item attitudinal  
14 loyalty measure. The scale was deemed to be theoretically and psychometrically sound, and  
15 might be used in future loyalty research.

16 Although this study is primarily theoretical, it is believed that the revealed conceptual  
17 structure of customer brand loyalty may provide insights for cruise management. Although the  
18 data did not support the proposed multi-dimensional structure of attitudinal loyalty, the final 5-  
19 item scale does contain cognitive, affective, and conative components. For many service  
20 providers who focus primarily on the technical aspects of their services (i.e., helping customers  
21 build cognitive belief), this suggests that they should include affective and conative information  
22 in their marketing messages. Further, the relatively low variance of behavioral loyalty explained  
23 by attitudinal loyalty suggests that simply winning customers' positive attitude does not

1 necessarily lead to positive outcomes. Consumer behavior is extremely complicated, and  
2 marketers need to better understand other moderators to the attitude-behavior link.

3         Facing more sophisticated customers and challenged by more aggressive competitors,  
4 cruise line management, as well as many other tourism sectors, have invested tremendous  
5 resources to retain and reward loyal customers. The resultant scale provides a feasible tool for  
6 identifying, and potentially segmenting loyal and disloyal customers. Information generated via  
7 this tool may help managers design loyalty programs, and reward the right type of customer  
8 attitudes and behaviors (Jones & Taylor, 2007). It may also facilitate the benchmarking of  
9 customers' loyalty within, and across different tourism services.

#### 10 Limitations and Future Research

11         The present results may be limited to respondents who participated in this study, and who  
12 cruised at least once with one of CLIA's member lines in the past 12 months. Further research is  
13 necessary in order to determine whether the conceptual structure can be generalized to cruise  
14 passengers in other cultures and geographic regions, other recreationists, and ultimately  
15 consumers of different services.

16         Another limitation of this study is it did not consider differences in cruise lines.  
17 Employing different marketing strategies and loyalty programs and targeting different market  
18 segments, the cruise lines used in this study might exhibit considerable differences affecting  
19 customer loyalty building. It is uncertain whether and how these "noises" will influence the  
20 theoretical relationships suggested. It is quite possible that the current results are very different at  
21 the individual cruise line level, and that by combining cruise lines, the present results cannot be  
22 applied at the individual cruise line level.

1           The 5-item attitudinal loyalty scale used in this study, though demonstrating good  
2 validity and reliability, was generated from post hoc analyses. Admittedly, the original purpose  
3 of this paper is to examine the dimensionality of the loyalty construct, not scale development.  
4 Thus, the study is further limited by not going through a complete scale development process  
5 (Churchill, 1979; Netemeyer et al. 2003).

6           Yet, in conclusion, it is believed that this study contributes to the literature by  
7 systematically reviewing and empirically examining recent conceptual developments on loyalty  
8 dimensionality. As a result, the traditional 2-dimensional loyalty conceptualization was  
9 revalidated, and a 5-item attitudinal loyalty scale was generated. It is hoped that these findings  
10 will provide new insights for customer loyalty research, measurement, and management.

11  
12  
13 Endnote

14  
15 <sup>1</sup> The negative residuals here, considering their magnitude, may be treated as 0 (Kline, 2005).

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Figure 1. The Proposed Structure of Brand Loyalty

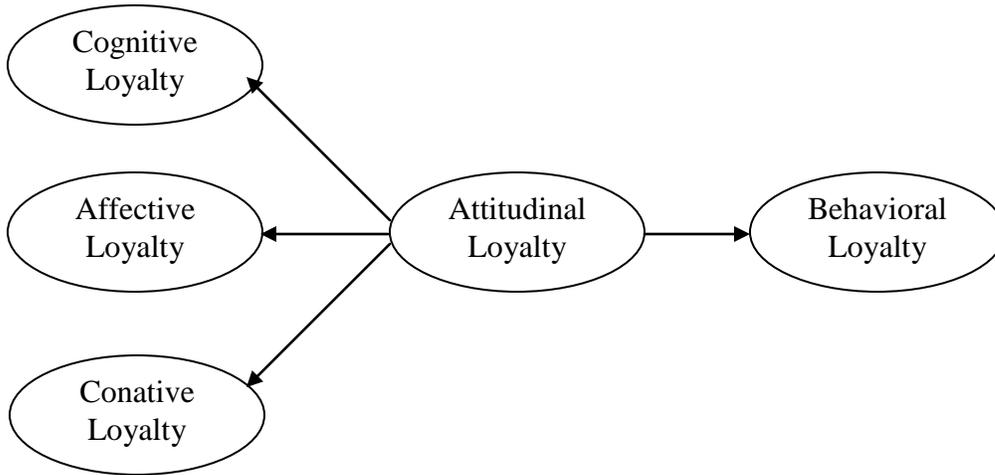


Table 1. Competing New Conceptualizations on Loyalty Dimensionality

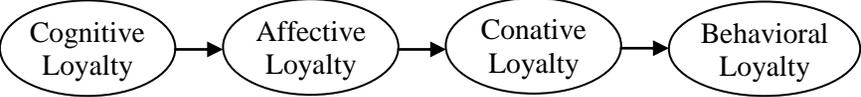
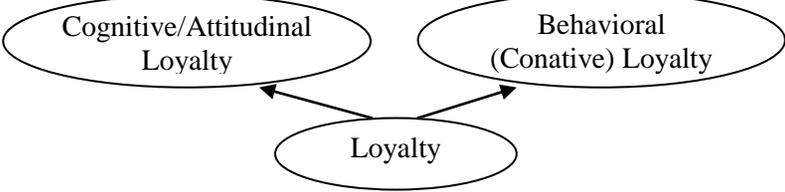
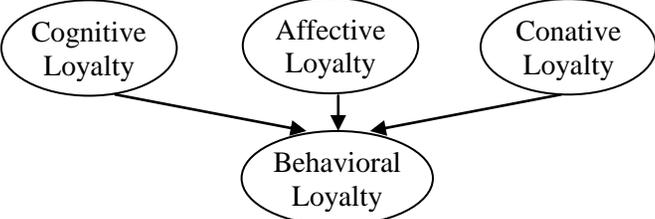
	Relationship	Selected Studies
	<p>Loyalty building is a continuum, starting from cognitive loyalty, followed by affective loyalty, to conative loyalty and finally action (behavioral loyalty).</p>	<p>(Harris &amp; Goode, 2004; McMullan &amp; Gilmore, 2003; Oliver, 1999; Oliver et al., 1997)</p>
	<p>Loyalty, a higher order factor, is comprised of two dimensions: a behavioral element, and a combined attitudinal/cognitive element.</p>	<p>(Jones &amp; Taylor, 2007)</p>
	<p>Cognitive loyalty, affective loyalty, and conative loyalty are 3 components of the traditional attitudinal loyalty construct, and all 3 should lead to action/behavioral loyalty.</p>	<p>(Back, 2001; Back &amp; Parks, 2003)</p>
	<p>Loyalty building starts from affective loyalty, which leads to conative loyalty and then behavioral loyalty.</p>	<p>(Lee, 2003)</p>

Table 2. Scale Wording and Measurement Property

Scale Items <sup>1</sup>	Coeff. $\alpha$ (Back & Parks, 2003)	Coeff. $\alpha$ (Current)	Mean	S.D.
<b>Cognitive Loyalty (COG)</b>	0.85	0.92		
cog1 <name> provides me superior service quality as compared to other cruise lines			5.18	1.60
cog2 I believe <name> provides more benefits than other cruise lines in its category			4.90	1.64
cog3 No other cruise line performs better services than <name>			4.27	1.88
<b>Affective Loyalty (AFF)</b>	0.87	0.94		
aff1 I love cruising with <name>			5.49	1.61
aff2 I feel better when I cruise with <name>			4.64	1.77
aff3 I like <name> more than other cruise lines			4.60	1.90
<b>Conative Loyalty (CON)</b>	0.86	0.90		
con1 I intend to continue cruising with <name>			5.56	1.67
con2 I consider <name> my first cruising choice			4.91	1.95
con3 Even if another cruise line is offering a lower rate, I still cruise with <name>			4.00	1.98

<sup>1</sup>All items were measured on 7-point scales

Figure 2. Hypothesized Second-Order Model

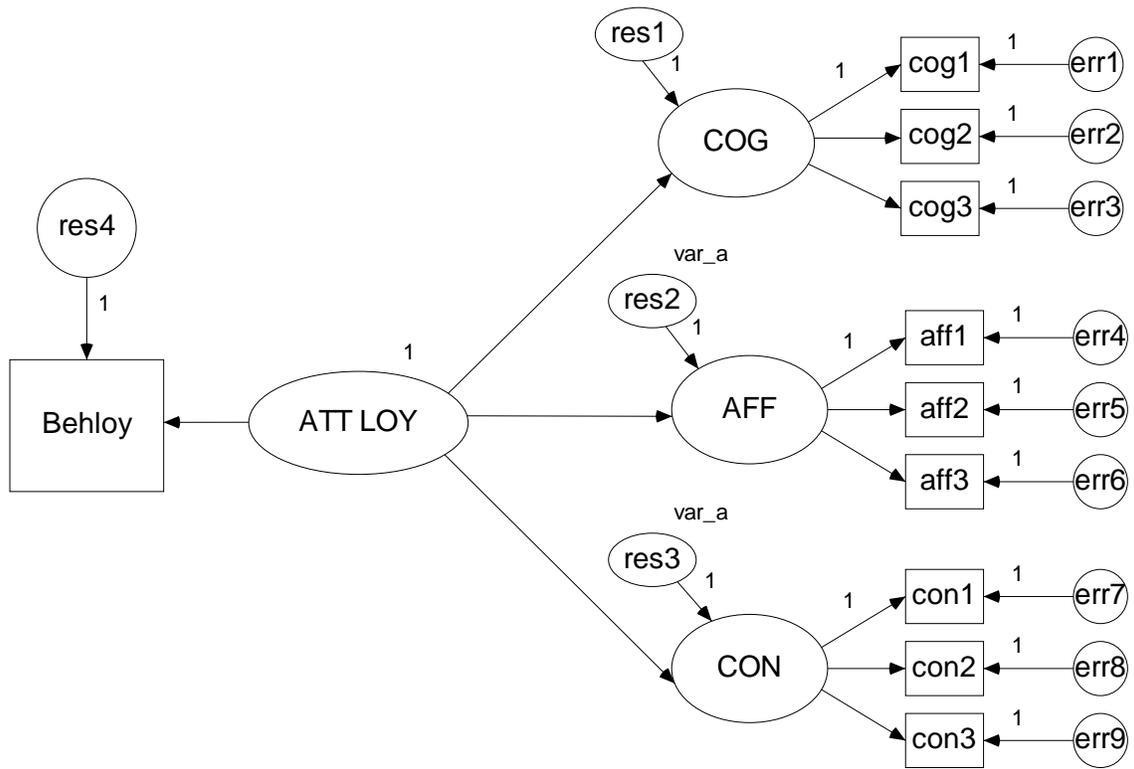


Table 3. Goodness-of-Fit Statistics of the Models

	$\chi^2$ (DF)	NC	BS <sub>boot</sub>	CFI	RMSEA	GFI
The Proposed Model	479.193 (32)	14.975	0.002	0.934	0.159	0.83
Rival Model 1	480.497(33)	14.561	0.002	0.934	0.157	0.829
Rival Model 2	2731.295 (33)	82.761	0.002	0.605	0.385	0.610
Rival Model 3	356.977 (13)	27.460	0.002	0.920	0.219	0.838
Rival Model 4	495.104 (35)	14.146	0.002	0.933	0.154	0.829

Figure 3. Exploring the Relationship Between Attitudinal Loyalty and Behavioral Loyalty

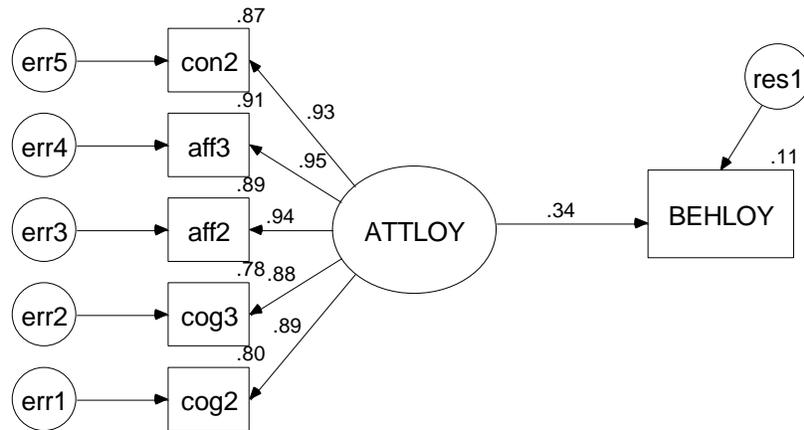


Table 4. Correlations Between Major Constructs

	VAL	QUA	ATTLOY	SAT
Value (VAL) <sup>d</sup>	<i><b>0.849<sup>a</sup></b></i>	0.630 <sup>c</sup>	0.551	0.623
Quality (QUA) <sup>e</sup>	0.794 <sup>b</sup>	<i><b>0.929</b></i>	0.567	0.663
Attitudinal Loyalty (ATTLOY)	0.742	0.753	<i><b>0.873</b></i>	0.555
Satisfaction (SAT) <sup>f</sup>	0.789	0.814	0.745	<i><b>0.841</b></i>

- a. The diagonal entries (in italics) represent the average variance extracted by the construct.
- b. The correlations between constructs are shown in the lower triangle.
- c. The upper triangle entries represent the variance shared (squared correlation) between constructs
- d. Measured by Sirdeshmukh et al.'s (2002) 4-item, 7-point scale
- e. Measured by Petrick's (2002) 4-item, 7-point subscale of his SERV-PERVAL scale
- f. Measured by Spreng et al.'s (1996) 4-item, 7-point scale

Table 5. Summary of Regression Analyses

Dependent Variable	B	SE	$\beta$	F	df	R <sup>2</sup>	R <sub>adj</sub> <sup>2</sup>
Repurchase Intention <sup>a</sup>	0.552	0.016	.827***	1195.218	553	0.684	0.683
Willingness to Recommend <sup>b</sup>	1.288	0.043	0.785***	883.765	553	0.616	0.615
Complaining Behavior <sup>c</sup>	-0.0766	0.029	-0.112**	6.962	553	0.012	0.011

Note. \*\*  $p < .01$ , \*\*\*  $p < .001$

<sup>a</sup> Measured by Grewal et al.'s (1998) two-item, five-point scale

<sup>b</sup> Measured by Reichheld's (2003b) one-item, 11-point scale

<sup>c</sup> Measured by Rundle-Thiele's (2005) seven-item, 7-point scale