

ESCALATION OF LOYALTY AND THE DECREASING IMPACT OF PERCEIVED VALUE AND SATISFACTION OVER TIME

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ABSTRACT

This paper examines the shifting role of perceived value and satisfaction in the formation of loyalty over the duration of a relationship life cycle. Drawing on a sample of online shoppers in Taiwan, the results show that the association between loyalty intention and shopping experiences conforms to an S-shaped growth curve. Customers' intentions to stay with a website appear to be influenced by the perceived value and satisfaction formed during the most recent transaction; however, the strength of action inertia gradually declines after the maturity stage. The sample was classified into three segments (i.e., relationship driven and variety seeker; relationship neutral and value seeker; relationship averse and satisfaction seeker), which show distinct behaviors in terms of preferences, relationship status, sex, switching, and e-WOM inclination. Satisfaction is the most powerful driver of loyalty for the first shopping experience. Above and beyond satisfaction, perceived value has a strong impact on motivating new customers to switch from other stores. As for customers with a longer-term relationship with an online store, the effects of perceived value and satisfaction turn out to be moderate. Overall, perceived value and satisfaction have decreasing effects on loyalty in the later stage of a relationship life cycle.

Keywords: Perceived value; Satisfaction; Customer loyalty; Customer relationship; Latent class regression

1. Introduction

According to Institute for Information Industry reports [2009; 2011], the number of business-to-consumer (B2C) online stores in Taiwan was 26,891 in 2010 and 28,499 in 2011. Internet B2C sales were US\$8.6 billion in 2010 and US\$10.7 billion in 2011, and sales are expected to rise by 20% in 2012 and another 20% in 2013. Almost half (49%) of the stores have multiple operations, including both virtual and physical channels, and 62% of these stores find their online operations to be more difficult to manage than their physical operations. Most of the online stores are newly established, small- and medium-sized enterprises (83% have less than three employees, and 77% were established within the previous five years). Entry barriers are low, and price competition is the primary competition strategy, leading to deteriorating profit margins. Close to 67% of the stores earned no profits in 2010. Further, a prominent cluster effect blurs competition boundaries. Since most of the stores are densely located in urban areas, online customers often search and compare products online but make their purchases in physical stores. Indeed, online shopping offers temporal and spatial advantages over conventional brick-and-mortar stores [Heinonen 2006]. Intriguingly, the online industry as a whole may appear to be prosperous, but individual stores may still be unprofitable. In fact, 95% of Internet users shop online, but their repurchase rate is extremely low; 54% of stores have a repurchase rate of less than 10%. Overall, a consequence of escalating competitive intensity is vanishing customer loyalty [Srinivasan, Anderson & Ponnnavolu 2002].

Online loyalty is defined as a customer's favorable attitude toward an online store that results in repeated buying behavior, willingness to pay more, less searching for alternatives, positive word-of-mouth and,

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ultimately, a store's profitability [Srinivasan et al. 2002]. Customer loyalty represents an enduring asset from which a store can reap long-term benefits [Pan, Sheng & Xie 2012]. The long-term relationship orientation highlights the importance of customer loyalty [Morgan & Hunt 1994], and service providers have followed strategies aimed at strengthening customers' intentions to maintain relationships with them. A better understanding of the mechanism that leads to customer loyalty is needed.

Cognitive-based perceived value and affective-based satisfaction are two of the most important driving forces of customer loyalty [Palmatier, Dant, Grewal & Evans 2006; Pan et al. 2012]. However, a customer's preferences may shift during the evolution of a relationship. For instance, service-quality attributes and relationship benefits have differential impacts on novice and longer-term customers [Dagger & O'Brien 2010; Dagger & Sweeney 2007]. Because strong relationships lead to higher market share and profits [Morgan & Hunt 1994], previous studies have advised the segmentation of customers based on relationship life cycle [Dagger & O'Brien 2010]. Although researchers have called for the development of a dynamic perspective of exchange relationships [e.g., Homburg, Koschate & Hoyer 2006; Mittal & Katrichis 2000], to our knowledge, no studies have investigated simultaneously the impact of perceived value and satisfaction on loyalty over the duration of a relationship life cycle. Previous studies are either static in nature or focus on either perceived value or satisfaction [e.g., Dagger & O'Brien 2010; Johnson, Herrmann & Huber 2006]. Although perceived value and satisfaction do lead to customer loyalty, an understanding of how these effects shift over time has theoretical and practical relevance, providing insight into the most critical factors at different stages in the loyalty-formation process.

Benefits derived from a long-term relationship include convenience, time savings, and improved decision making, and such benefits intensify a customer's asymmetric dependence on the service provider [Palmatier et al. 2006]. A customer's ongoing dependence on previous beliefs and attitudes when making decisions simplifies the complexity of the new purchase task, and the result is action inertia—that is, action guided by some habitual mannerism that involves less psychological or physical effort [Oliver 1999]. In addition, from the perspective of domain knowledge, the accumulated shopping experience and competency facilitate searching, comparing, and, ultimately, decision making, causing the effects of perceived value and satisfaction to decrease over time.

This paper begins by elaborating the phenomenon of loyalty inertia and the decreasing effects of perceived value and satisfaction on loyalty intention over time. Latent class regression is then applied to examine the data from an online survey. The empirical study reports that loyalty trajectory conforms to an S-shaped growth curve and that the impact of perceived value and satisfaction on loyalty attenuate over time. Three meaningful customer clusters from the data are described and discussed in detail. Finally, theoretical and practical implications of the study are presented.

2. Theory and Hypotheses

The conceptual framework of this paper corresponds with the definition of loyalty as manifested by commitments of varying degrees, including components of cognition, affect, and behavioral intention [Oliver 1997]. Consumer loyalty can follow a cognition-affect-conation-action sequence [Oliver 1999], a mechanism that has been well applied in both B2C and B2B contexts [e.g., Lam, Shankar, Erramilli & Murthy 2004]. Consumers develop cognitive loyalty based on a website's performance levels on attributes such as price and features. Affective loyalty is liking or pleasurable fulfillment developed on the basis of satisfying occasions; satisfaction is critical in building such loyalty. Conative loyalty denotes intention to repurchase, similar to motivation. Action loyalty involves the transformation from motivated intention to a desire to overcome obstacles that might prevent action. Collectively, attitudinal satisfaction for a specific website is one of the factors that online shoppers consider when making repurchase decisions. Loyalty also involves a cognitive evaluative process [Jacoby & Kyner 1973]. Therefore, perceived value and satisfaction are treated as two major determinants of online loyalty behavior [Eid 2011; Valvi & West 2013].

Perceived value is a cognitive consequence of a consumer's overall evaluation of the tradeoffs between benefits and sacrifices in a transaction [Zeithaml 1988]. Perceived value positively influences loyalty intentions [Lam et al. 2004; Lin, Sher & Shih 2005]. As an attitudinal response reflecting a holistic evaluative outcome, satisfaction is primarily the customer's affective state toward the consumption experience [Oliver 1980]. Customer satisfaction positively influences relationship maintenance and relationship strength [Dagger, Danaher & Gibbs, 2009]. Hence,

H1: *Perceived value is positively associated with loyalty intentions.*

H2: *Satisfaction is positively associated with loyalty intentions.*

2.1. Increased Loyalty over Time

Consumers form judgments and intentions at a given time by updating their prior judgments and intentions

[Hogarth & Einhorn 1992]. As a result, loyalty intentions shift over time in a relationship life cycle. To create post-consumption value and satisfaction judgments, consumers spend time and psychological effort evaluating and comparing products or services (e.g., searching and acquiring information). Consumers invest cognitive costs (i.e., the time and effort associated with thinking about and using a service) to form perceived value and satisfaction in support of a particular relationship with a website. The established value perceptions and satisfaction can be viewed as a type of specific asset investment. Asset specificity is defined as investment in assets that are undertaken in support of a particular relationship and whose redeployment entails substantial switching costs [Williamson 1985]. The transaction-specific investments of a relationship constitute one type of switching cost over time [Lam et al. 2004]. Asset specificity results in consumer dependence on providers [Joshi & Stump 1999]. This dependence is often asymmetric [Palmatier et al. 2006] and thus discourages consumers from switching. The termination of a satisfactory relationship engenders financial switching costs, relational switching costs, and information switching costs, which result from the loss of cognitive and emotional effort that a consumer has invested in the current relationship, a potential lack of information about new providers, and a need to exchange information to initiate a new relationship [Burnham, Frels & Mahajan 2003]. Due to the resulting inertia, the consumer stays with the current provider.

The online exchange relationships between consumers and service providers involve asset specificity [Chiou & Pan 2009]. In a long-term relationship, consumers perceive increasing exchange efficiency from confidence, social benefits, and special-treatment benefits [Gwinner, Gremler & Bitner 1998]. A consistent consumption experience builds a reliable and diagnostic knowledge base that can be used as a basis of evaluation in subsequent transactions. As information consistency increases, so do attitude and belief certainty [Homburg et al. 2006]. Over time, this phenomenon increases the likelihood of cognitive lock-in [Murray & Häubl 2007], which in turn fosters the accumulation of switching costs. Therefore,

H3: *Loyalty intentions increase over time.*

2.2. The Decreasing Effects of Perceived Value and Satisfaction over Time

The role of cognitive evaluation processes degrades with continued repurchase decisions [Gefen 2003], and satisfaction may not be a core element of loyalty once loyalty has been established [Oliver 1999]. Therefore, the association between perceived value, satisfaction, and loyalty may disintegrate over time. In fact, online consumers may not always make a decision on the basis of established perceived value and satisfaction [Valvi & West 2013]. Explicitly, the law of diminishing returns predicts the decreasing effects of perceived value and satisfaction. The perspective of domain knowledge further explains the mechanism. As compared to shoppers in traditional channels, online consumers perceive greater risk and require more mental resources to conduct information searches and comparisons, and domain knowledge appears to be a critical factor in the formation of loyalty over time [Lin 2010].

An individual's experience and knowledge play an important role in guiding her information processing and directing her behavior [John, Scott & Bettman 1986]. Attribute evaluability theory [Alba & Hutchinson 1987] suggests that experience influences consumers' cue utilization and message processing in product judgments [Peracchio & Tybout 1996]. Experts are better able to comprehend and assess intrinsic cues, such as performance attributes, than are novice consumers [Rao & Monroe 1988]. Greater expertise is associated with more well-developed mental structures [Alba & Hutchinson 1987]. These structures facilitate encoding and retrieval of the information needed to evaluate options and thus new learning [Alba & Hutchinson 1987]. Novice consumers expend more cognitive effort in product evaluation, so both information search costs and information resolution costs are higher for novice consumers than for experts [Chiou & Droge 2006]. Domain knowledge also decreases the cognitive costs associated with evaluating current and new service providers [Murray & Häubl 2007]. Because consumers accumulate domain expertise through encounter-specific consumption experiences as the relationship with the service provider unfolds [Park, Mothersbaugh & Feick 1994], the impact of cognition and affect on loyalty are likely to decrease over time.

Early in a relationship, consumers are tied to a service provider mainly through service benefits and financial incentives, which encourage value perceptions [Johnson et al. 2006]. Satisfaction is likely to be elicited at the start of a transaction [Dagger & O'Brien 2010]. Consumers may thus rely more heavily on cognitive and affective judgments when forming loyalty in the earlier stages of a relationship. Likewise, the impact of perceived value [Johnson et al. 2006] and satisfaction [Dagger & O'Brien 2010; Deng, Lu, Wei & Zhang 2010; Mittal et al. 1999] on loyalty intentions declines in the later phase of a relationship life cycle. Therefore,

H4: *The magnitude of the positive effect of perceived value on loyalty decreases from the early to the later stages in a relationship.*

H5: The magnitude of the positive effect of satisfaction on loyalty decreases from the early to the later stages in a relationship.

3. Methods

3.1. Questionnaire

A cross-sectional research design is considered appropriate for examining the shifts in perceived value and satisfaction over the duration of a relationship [Dagger & O'Brien 2010; Mittal & Katrichis 2000]. The authors conducted Web-based surveys by inviting members of shopping boards in the PTT Bulletin Board System (<http://www.ptt.cc/index.html>) to participate in the study. Only consumers who had made at least one online purchase within the last six months were qualified to participate. Respondents who had multiple purchase experiences were asked to consider their most recent purchase as a reference target.

3.2. Measures

This study measured perceived value with “a worthwhile deal” [Baker, Parasuraman, Grewal & Voss 2002] and satisfaction with “a wise choice” [Oliver 1980]. Conative loyalty is a behavioral intention to maintain an ongoing relationship with a service provider, and this study measured the key dependent variable with “repurchase intention” [Zeithaml, Berry & Parasuraman 1996]. The measures of perceived value, satisfaction, and repurchase intention were anchored on seven-point scales ranging from “completely disagree” (1) to “completely agree” (7). The Chinese scale items were adopted directly from a past study [Lin et al. 2005] in which translation and back-translation had been conducted to ensure equivalent meaning.

Further, all of the constructs were measured as single-item scales to lower respondents' burden and enhance their willingness to complete the survey. The three single items were the highest loaded items in their corresponding constructs from previous research [Lin et al. 2005]. Measuring a construct with a single indicator that is highly loaded on the underlying factor is justified [Lee, Loewenstein, Ariely, Hong & Young 2008], and the use of a concrete and mature single item has considerable precedent [Mittal et al. 1999; Mittal, Ross, & Baldasare 1998]. Table 1 summarizes the measurement items.

Table 1: Constructs and Measures

Construct	Measurement Item	Source
Loyalty intention	I will consume more on this website in the next few months.	Zeithaml, Berry, and Parasuraman (1996)
Perceived value	Considering all the costs and benefits, purchasing from this website is worthwhile.	Baker, Parasuraman, Grewal, and Voss (2002)
Satisfaction	Purchasing on this website is a wise choice.	Oliver (1980)
Total number of shopping experiences on the website (proxy for phases of a relationship)	Total number of times you have bought goods from this website.	
Total number of online shopping experiences	Total number of times you have bought goods online.	
Word of mouth	Intention to recommend this website to others who seek your advice.	Zeithaml, Berry, and Parasuraman (1996)

To locate different stages of a relationship life cycle, respondents' contact levels (total number of shopping experiences on a website) were collected as a proxy variable. Several other covariates were gathered as well. Customer referrals and endorsements are extremely important forms of consumer behavior for a company, and word of mouth is one of the best means of acquiring new customers [Jones & Sasser 1995]. This study measured recommendation intention [Zeithaml et al. 1996], operationalized as a likely or unlikely dichotomous response. This study also collected respondents' sex and their total number of online shopping experiences, which allows the data to categorize respondents as switchers or stayers. Switching inclination is defined as one minus “times shopping on the target website divided by times shopping on any website.” A large switching index implies that the respondent tends to switch between stores rather than remain with the target store. Table 2 shows the means, standard deviations, and correlation coefficients among the key variables.

Table 2: Descriptive Statistics and Intercorrelation among Variables

	Mean	S.D.	Repurchase	Value	Satisfaction	Contact level	Overall times	Switching index
Repurchase	5.04	1.49						
Value	5.07	1.24	0.53**					
Satisfaction	4.99	1.31	0.55**	0.63**				
Contact level	7.61	12.90	0.15**	0.05	0.07			
Overall times	14.18	26.38	0.16**	0.12**	0.11**	0.60**		
Switching index	0.30	0.33	0.11**	0.16**	0.13**	-0.14**	0.28**	
WOM	0.68	0.47	0.47**	0.44**	0.44**	0.08*	0.09*	0.08*

Notes: 1. Contact level = Relationship status or number of shopping experiences on the target website.

2. Overall times = Overall number of times of online shopping.

3. WOM = Word of mouth.

4. **Significant at $p < 0.01$ or better. *Significant at $p < 0.05$.

3.3. Data

This study collected a total of 712 questionnaires. About 52% of survey respondents recollected a specific online shopping they had experienced within one month before the survey date. The sample was comprised of more females (59%) than males (41%). The mean age of respondents was 25.6 years, and most had a college degree or higher (97%). This upscale, educated sample is somewhat comparable with Internet users in Taiwan in terms of sex and age [Institute for Information Industry 2009]. Nearly 68% of respondents indicated a strong intention to recommend the shopping experience to others. The average number of shopping experiences on the target website was 7.6 times, and the average number of online shopping experiences was 14.2 times. The switching index was recoded into a dichotomous variable, “stayer” (with switching index = 0) vs. “switcher” (switching index > 0), to profile the latent segments. The data show that 47% of respondents are stayers, and 53% are switchers. Table 3 shows the sample characteristics.

4. Analysis and Results

4.1. Increased Loyalty over the Duration of a Relationship Life Cycle

The association between loyalty intention and contact level is assumed to conform to an S-shaped growth curve [Crosby, Marks, & Johnson 2007]. A customer’s loyalty intention initially increases slowly in a relationship, then increases rapidly, but eventually has a slight downturn at high levels of intentions. This study estimated an ordinal logistic model with the quadratic term (contact level)² while controlling for the effects of value and satisfaction. This study used GOLDMineR 2.0 [Magidson 1998] for the ordinal logistic regression. Table 4 shows the results. The nonsignificant residual L^2 indicates that the model fit is adequate. All coefficients are significant ($p < 0.001$) in the expected direction. Figure 1 exhibits the fitted S-shaped curve. Whereas the slope at the early stage of a relationship is concave upward, the slope at the latter stage is concave downward. The contact level intensifies loyalty inertia, and perceived value and satisfaction are positively associated with loyalty intention. The results provide support for H1, H2, and H3.

Table 3: Sample Characteristics

	N	%
Sex		
Female	418	58.8
Male	293	41.2
Age (in years)		
≤ 20	109	15.4
21-25	359	50.6
26-30	120	16.9
31-35	59	8.3
≥ 36	63	8.9
Education level		
Senior high school or below	25	3.5
College or university	545	76.7
Master's or doctoral degree	141	19.9
Recommendation intention		
Likely	482	67.7
Unlikely	230	32.3
Time period between the date of online shopping and the survey date		
Within one month	370	52
One month - six months	341	48
Total number of shopping experiences on the website		
Single time	162	22.8
2-10 times	440	61.8
≥ 11 times	110	15.4
Total number of online shopping experiences		
Single time	73	10.4
2-5 times	271	38.5
6-10 times	161	22.9
11-20 times	99	14.1
≥ 21 times	100	14.2
Switching inclination		
Stayer (switching index = 0)	326	46.8
Switcher (switching index > 0)	371	53.2

Table 4: Ordinal Logistic Regression Results

	Dependent variable = Loyalty intention	
	Beta	Odds Ratio
Contact level	0.030	1.03
(Contact level) ²	-0.001	0.99
Value perception	0.270	1.30
Satisfaction	0.260	1.30
R ²	0.39	
Explained L ² (d.f.)	335.38(4)	
Residual L ² (d.f.)	982.56(1358)	

Note: 1. All coefficients are significant at $p < 0.001$.

2. The explained $L^2 = 335.38(4)$ is significant at $p < 0.001$, indicating that R^2 does not equal 0.

3. The residual $L^2 = 982.56(1358)$ is not significant ($p = 1$), indicating an excellent fit to the data.

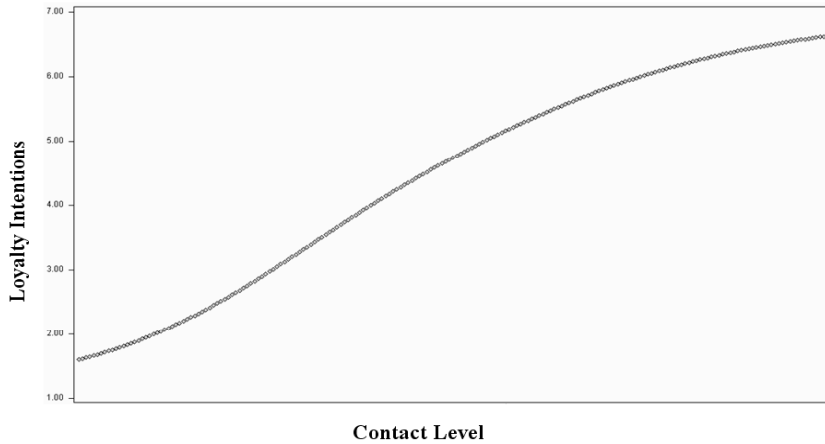


Figure 1: S-shaped relationship life cycle

4.2. Latent Class Regression

Hypothesis 4 and 5 propose that the effects of perceived value and satisfaction on loyalty intention decrease in later phases of a relationship. To recognize that heterogeneous consumers may form different relationship preferences on the two factors, this study adopts latent class regression, also known as finite mixture model, to analyze the data. Latent class regression simultaneously estimates separate regression models for each latent class and has been used in similar marketing studies [e.g., Danaher, Conroy & McColl-Kennedy 2008].

The first step is to determine the appropriate number of latent segments. The next step involves using covariate variables (e.g., contact level, WOM intention, and sex) to profile the latent segments. If the theoretical rationale is confirmed, the variable of contact level should be able to profile the changing effects of perceived value and satisfaction (i.e., H4 and H5). This study applied Latent Gold 4.5 [Vermunt & Magidson 2005] in estimating the latent class regression model.

This study uses the lowest AIC3 value to determine the number of segments [Andrews & Currim 2003]. From Figure 2, the minimum AIC3 value occurs at the three-class model (AIC3 value = 2022.9205), indicating that the three-class model best fits the data. The model fit statistic for the three-class model is significant ($L^2(661) = 995.7907, p < 0.001$). However, the bootstrapped estimate for the p-value is 0.0580 with a standard error of 0.01, and the three-class model appears to provide an adequate fit of the data. Since the three-class model best describes the heterogeneity in the data, respondents are assigned to one of the three segments.

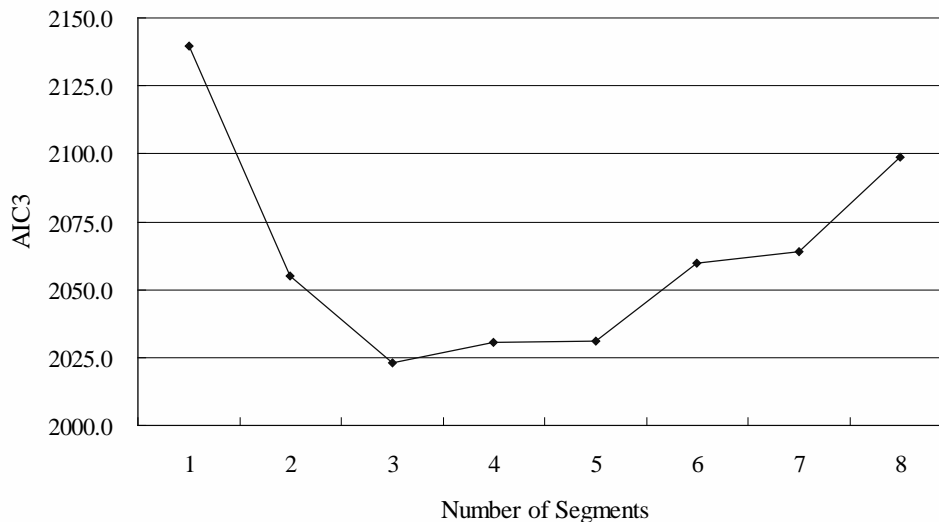


Figure 2: Number of segments and AIC3 value

4.3. Three Segments Characterized by Distinct Orientations

Table 5 exhibits the three-class regression results. Both perceived value and satisfaction contribute to the ability to discriminate between segments ($p < 0.01$). In Segment 1, loyalty is positively influenced by both value perception ($\beta = 0.50$) and satisfaction ($\beta = 0.38$) at a mediocre level. In Segment 2, loyalty is influenced by value ($\beta = 2.81$) and satisfaction ($\beta = 1.29$), and value has a much stronger effect than does satisfaction. In Segment 3, loyalty is only mildly influenced by satisfaction ($\beta = 0.27$). Overall, the results further corroborate H1 and H2, and also display that the impact of value and satisfaction differs considerably across segments.

The benefits of using latent class regression are illustrated by comparing the results of the three heterogeneous segments with those of the conventional one homogeneous segment. A nonsegmented analysis on the entire sample would conclude that the effects of value and satisfaction are significant and that their absolute impacts are equally mild. However, the three-segment results show that the effects are significantly different across segments, and the absolute impact also differs within segments.

Table 5: Latent Class Regression Results

	Segment 1	Segment 2	Segment 3	Aggregate 1-class model
Expected segment size	43.9%	28.7%	27.4%	100%
Value perception	0.50(4.26)	2.81(4.65)	-0.17(-1.57)	0.25(7.30)
Satisfaction	0.38(3.95)	1.29(4.24)	0.27(2.86)	0.27(8.08)
R ²	0.39	0.86	0.10	0.36
Effect coding of profile covariates				
Relationship status				
Single time	-0.99	0.56	0.43	
2-10 times	-0.04	-0.05	0.10	
Above 11 times	1.03	-0.50	-0.53	
Switching inclination				
Stayer	-0.26	-0.02	0.28	
Switcher	0.26	0.02	-0.28	
Word of mouth				
Unlikely	-0.90	0.25	0.65	
Likely	0.90	-0.25	-0.65	
Sex				
Female	0.56	-0.54	-0.02	
Male	-0.56	0.54	0.02	

Note: 1. Z values in parentheses.

2. The Wald statistics associated with value, satisfaction, and all covariates are significant at $p < 0.05$ or better, indicating the effects are significant.

3. Wald statistic is used to test the null hypothesis of equality of slope coefficients across segments. The Wald statistics associated with value and satisfaction are significant at $p < 0.01$ or better, indicating the relative effects are significantly different across the three segments.

4.4. The Decreasing Effects of Perceived Value and Satisfaction

The analysis next included contact level with the target website, switching inclination, WOM intention, total number of general online shopping experiences, and respondent's sex as covariates to profile the segment memberships. Because previous estimation generated three segments, the authors recoded the contact level into three groups: single relationship (22.8% of the sample), relationships within 2-10 times (61.8%), and relationships above 11 times (15.4%). The cutoff for classifying customers in a relationship life cycle is rather subjective [Mittal & Katrichis 2000], and the study uses the coding scheme intentionally to discern single vs. mid-term vs. long-term relationships. As previously mentioned, if the theoretical rationale is confirmed, the variable of contact level should effectively describe the shifting effects of perceived value and satisfaction (i.e., H4 and H5).

Overall, all the covariates except the total times of general online shopping experiences are significant ($p <$

0.05).¹ From Table 5, the effects of relationship status show that consumers with a long-term relationship (above 11 times) with the focal website are more likely than others to be in Segment 1, and consumers with only a single relationship are more likely to be in Segments 2 and 3. By contrasting the profile between Segments 1 and 2, the results suggest that the impact of perceived value and satisfaction decreases over time as the relationship with the website unfolds. However, the pattern does not replicate between Segments 1 and 3, and thus H4 and H5 are only partially supported.

Moreover, the effects of switching inclination suggest that switchers are more likely than stayers to belong to Segment 1 and much less likely to belong to Segment 3. Consumers who recommend the websites to others are more likely to be in Segment 1. Female consumers are more likely to be in Segment 1, and male consumers are more likely to be in Segment 2. Because domain knowledge is related to contact level [Dagger & O'Brien 2010], consumers in Segment 1 appear to be the most experienced among the three segments, while consumers in Segment 3 are the novices, engaging in their first online shopping experiences.²

To better illustrate the results, this study plotted the levels of covariates in a barycentric coordinate tri-plot display (see Figure 3). Items that are close together on the graph are closely associated. Consumers in the first segment are female, are very likely to say positive things about the website to others, and frequently switch between websites despite their long-term relationships with the target website. The second segment is largely composed of male consumers who visit the focal website for the first time; they are not likely to engage in referral behaviors. The third segment could be described as novice consumers who rarely recommend; most of them are actually first-time online shoppers.

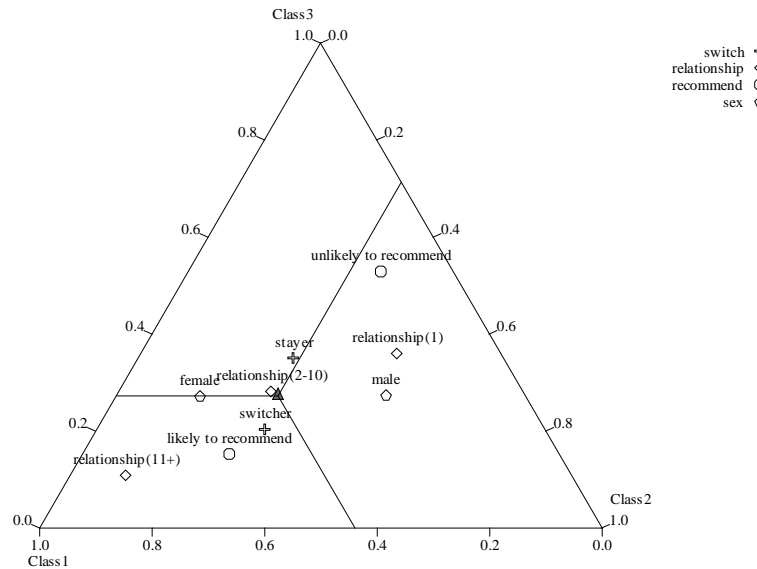


Figure 3: Correspondence analysis of relationship segments

5. Discussion and Implications

The primary objective of this study was to examine the decreasing effects of perceived value and satisfaction on loyalty in online shopping contexts. The results show that online shoppers tend to have inertia in forming loyalty, and they put less emphasis on value perception and satisfaction over time. Using latent class regression, this study finds that online consumers could be classified into three heterogeneous segments that differ considerably in terms of shopping behaviors, such as perceived value, satisfaction, relationship status,

¹ The effect of overall times of online shopping experiences is not significant and deteriorates the model fit. Also, the study also included the variable “time period” to control for potential recollection bias. The $\Delta X^2 = 4.5178$ (df = 3, p = 0.21) indicates that model fit does not improve significantly by including “time period,” and it appears that recollection bias is not a serious problem in the study. The model was thus re-estimated by excluding above two variables, and Table 5 shows the results.

² The switching index is naturally 0 for consumers with a single relationship with a website and their total number of online shopping experiences is 1. Thus, consumers with a single relationship and with a switching index equivalent to 0 (stayer) are in fact first-time online shoppers, which Segment 3 illustrates.

switching inclination, and recommendation intentions. The three segments, summarized in Table 6, are discussed in detail, along with study implications and directions for future research.

Table 6: Segment Profiles for Online Shoppers' Relationship Maintenance

	Segment 1	Segment 2	Segment 3
Segment label	Relationship driven, variety seeker	Relationship neutral, value seeker	Relationship averse, satisfaction seeker
Stage of relationship	Maturity	Initiation	Initiation
Expected segment size	43.9%	28.7%	27.4%
Average rating of loyalty intention ¹	High	Medium	Low
Impact of value and satisfaction on loyalty intention	Both are moderate	Both are strong, but mainly dominated by value	Only slightly influenced by satisfaction
Maturity of online shopping in general ²	Experienced	Less experienced	Less experienced
Overt profiles	Female, likely to recommend, long-term orientation with the website, switching between stores, less concerned about value and satisfaction, more experienced	Male, value-seeker, unlikely to recommend, first-time customers who switched from other stores, somewhat experienced	Satisfaction-seeker, most are first-time online shoppers, unlikely to recommend, gender is ambiguous, less experienced (novice)
Managerial implications	Simplification of shopping process	Value for money	Recreation, curiosity, and aesthetics

Note: 1. The average ratings of repurchase intentions are 5.98, 4.86, and 3.58 for Segments 1, 2, and 3, respectively, and are significantly different ($p < 0.05$).

2. The overall numbers of times of online shopping experiences are 20.65, 9.77, and 8.28 for Segments 1, 2, and 3, respectively. It is significantly greater in Segment 1 than in Segments 2 and 3 ($p < 0.01$). There is no significant difference between Segments 2 and 3.

5.1. Segment Profiles

Segment 1—Relationship driven and variety seeker. Almost 44% of consumers belong to this segment. They are less concerned about value and satisfaction than they are with maintaining a relational bond. They are mostly female and likely to spread the word about a website; they have long-term relationships with a website but also switch among different stores. They are relationship-driven primarily due to their strong intrinsic intentions to stay with a website and to recommend it to others. As exhibited in this segment, consumers might build long-term relationships with a website while also frequently switching between websites. In fact, although the effect of overall number of times of general online shopping in profiling the segments is not significant in the latent models, consumers in Segment 1 exhibit a greater number of general online shopping experiences than consumers in Segments 2 and 3. The results suggest that consumers in Segment 1 are, in general, expert and mature online shoppers. They might be more prone to be in the habit of buying things online and thus to interact with a greater variety of websites. These experienced, sophisticated consumers may be variety seekers. Indeed, consumers may display loyalty to multiple service providers [Bennett & Rundle-Thiele 2005]. Greater prior experiences with alternative service providers and greater switching experiences are associated with lower switching costs, and thus attenuate the effects of perceived value and satisfaction [Burnham et al. 2003]. Therefore, the modest impact of value and satisfaction suggests these consumers are motivated by inertia to shop among certain websites. This segment may appear at the maturity stage of a relationship. It also appears that Segment 1 manifests the essence of true or intentionally loyal consumers. True loyalty is based on an initial rational decision, but such decisions are likely to be made infrequently [Day 1969]. As loyalty accumulates over time, truly loyal buyers have the greatest degree of confidence in their ability and experience to judge among alternatives, and they have more to gain from adopting a habitual pattern that will permit them to economize on the effort of repeated decisions [Day 1969].

Segment 2—Relationship neutral and value seeker. This segment includes about 29% of consumers, typically males making their first purchase on the target website. They are somewhat unlikely to recommend the

website to others. While they look for both value and satisfaction, value consciousness is a significant motivator for them to maintain a relationship. They have accumulated the domain knowledge needed to make cognitive evaluations of value, which is the salient impetus for consumers in this segment. They tend to rationally think about the absolute value of online shopping. As opposed to hedonic consumption, such as merely browsing and shopping for fun, the utilitarian task of completing a specific purchase may dominate the shopping process. This segment, which may appear at the early stage of a relationship, corresponds with spuriously loyal consumers whose loyalty is based on an initial rational decision and who lack any attachment to websites, and can therefore immediately switch to another website that offers a better deal [Day 1969].

Segment 3—Relationship averse and satisfaction seeker. This segment is composed of about 27% of consumers. Most are first-time online shoppers and thus novice online shoppers. Gender is ambiguous in this segment. These consumers are relationship averse, display relatively low repurchase intentions, and are unlikely to generate positive word of mouth. They are only weakly influenced by emotional satisfaction when determining the source of their next purchase. In other words, though cognitive evaluation has a weak effect in this segment, hedonic consumption [Mathwick & Rigdon 2004; Novak, Hoffman & Duhachek 2003; Wolfinbarger & Gilly 2001] might dominate these consumers' shopping processes. In fact, affect or emotion has a stronger impact on loyalty in the initial relationship stage than does cognition. For the first online shopping experience, consumers usually have less developed mental structures stored in their memory on which to base an evaluation; hence, they rely on affective inputs in loyalty formation [Homburg et al. 2006]. This segment emerges at the earliest stage of a relationship.

5.2. Theoretical Contributions

The study contributes to the literature in several ways. First, it simultaneously examines the role of perceived value and satisfaction in the formation of loyalty from the perspective of the relationship life cycle. Other studies also adopt a dynamic view; however, they focus on either perceived value [e.g., Johnson et al. 2006] or satisfaction [e.g., Dagger & O'Brien 2010]. Simultaneously considering both perceived value and satisfaction in loyalty formation has theoretical and practical implications. Perceived value denotes cognitive belief, whereas satisfaction reflects an overall affective state toward a service experience. In the online context, satisfaction has the most powerful influence on the very first shopping experience. Perceived value has a strong impact above and beyond satisfaction on new customers switching from competitors (notably, not on first-time online shoppers), because these consumers have accumulated shopping experience and value consciousness. For experts, the impact of perceived value and satisfaction turn out to be mild. Because the antecedents of perceived value and satisfaction differ, understanding the subtle differences in the formation of loyalty substantially facilitates the effectiveness of relationship marketing strategies.

Second, this study adopts contact level (total number of shopping experiences on a website) as a proxy variable of relationship life cycle. The study results show that the association between loyalty intention and shopping experiences conforms to an S-shaped growth curve. Consumers' intentions to stay with a website appear to follow the S-shaped trajectory, which is adjusted by the value perceptions and satisfaction formed in the most recent transaction. However, the strength of action inertia eventually stabilizes and even slightly declines at the very late stage of a relationship. For marketing purposes, the merit of using contact level to identify the phases of a relationship is that objective data can readily be obtained from a membership database. Other information sources, such as directly asking about a consumer's shopping experience or the phases of a relationship, might entail additional survey costs and potential measurement errors.

Third, this study provides a new means of theory testing. In empirical studies with hypothesized moderator variables, researchers traditionally require the division of the sample into groups by median or quartiles of the moderator, derive separate estimate for each group, and then compare coefficients across groups to examine whether the association between predictor and criterion variables depended on the moderator. The decision of the number of subsamples is somewhat arbitrary. In this study, the essentially heterogeneous sample itself determines the optimal number of segments by applying a finite mixture model. The next issue concerns whether covariate variables could profile consumer preferences in each segment. Since there are no predetermined segments, the method could provide greater insight into the nuance of the sample.

5.3. Implications for E-commerce Practice

Managerial implications follow from the study results. Relationship programs might want to pay the most attention to the variety-seeking consumers (Segment 1). Variety-seeking behaviors are characterized by satiation, boredom, curiosity, novelty, change, and stimulation [Punj 2011]. Similar to the exhibited pattern of Segment 1, variety seekers may devalue the marketing efforts of a service provider [Ashley, Noble, Donthu & Lemon 2011]. Assuming repeated visitors are already members of a firm (notably, consumers in Segments 2 and 3 are never members as they are first-time visitors), direct communications, such as updates on sales and quick access

to simplify the shopping process, may extend the duration of a relationship. Customized promotion based on recognized preferences could be delivered to intensify the relationship strength with these shoppers.

Distinguishing between first-time shoppers (Segments 2 and 3) and repeated shoppers (Segment 1) is critical. Although both consumers in Segments 2 and 3 are situated in the initiation phase of a relationship, they expect different benefits from online shopping. Browsing behaviors between Segments 2 and 3 would be different. For value seekers in Segment 2, the website they previously visited may be a competitor of the focal website, and consumers might search specific key words and rank products by pricing or performance attributes. A simple and straightforward website interface that includes sufficient product and price information will be helpful for these task-oriented shoppers. By contrast, in addition to the functional value of a website, a solid emphasis on the privacy and security policy to reduce risk perceptions might be helpful for novice online shoppers in Segment 3 [Lin 2010]. Further, a trendy, aesthetically appealing site [Souitaris & Balabanis 2007] may turn passersby into first-time shoppers.

Moreover, the three segments are characterized by consumers' referral behavior. The impetus for positive word of mouth may not be related to strong perceived value and satisfaction (as exhibited in Segment 2) but may be related to repeated shopping experiences (as exhibited in Segment 1). The result bolsters the strong association between consumers' experiences and WOM communication [Yoon 2012]. Only when customers have established a long-term relationship with a website do they recommend it to others. By contrast, Segment 2 is unlikely to recommend; however, service firms could stimulate these consumers' positive word of mouth by relating behaviors to tangible relational benefits (recalling that they are value-oriented consumers). Loyalty rewards programs are one example. Particular investments in stimulating recommendations are not as imperative for Segments 1 and 3, as consumers in Segment 1 are intrinsically relationship driven (that is, they already tend to recommend) and those in Segment 3 are relationship averse (reward programs may yield half the result with twice the effort).

5.4. Study Limitations and Further Research Directions

The study has several limitations. First, merely stating an intention to repurchase may be insufficient for defining loyalty, and additional overt purchasing acts ensure a comprehensive understanding of the underlying dynamics of loyalty behavior [Jacoby & Kyner 1973]. Similarly, the "switching index" is based on a consumer's past behaviors and may not fully represent future switching intentions. An alternative is to directly measure consumers' switching intentions [e.g., Han, Kim & Hyun 2011]. Additionally, the choice between single-item and multiple-item measurement is a tradeoff. Theoretically, the three constructs (i.e., value perception, satisfaction, and repurchase intention) are reflective in nature, such that the measuring items reflect their respective constructs rather than cause the constructs, as in the case of a formative construct. Thus, the single-item measurement does not alter the conceptual domain of the constructs [Jarvis, MacKenzie & Podsakoff 2003]. Empirically, this is a limitation of the study, and future research could examine whether the results differ when single- vs. multiple-item measurements are applied.

The study suggests avenues for future research. The diminishing impact of perceived value and satisfaction on loyalty over time may be due to carryover effects [Johnson et al. 2006; Mittal et al. 1999]. Specifically, the relationship between perceived value and loyalty as well as between satisfaction and loyalty may be mediated by other variables. If a temporal mediation model is correct, the explanatory power of the mediator will increase over time. The present study does not conceptualize the causal order between perceived value and satisfaction. In fact, perceived value may have a direct impact on loyalty and an indirect impact through satisfaction on loyalty [Lin et al. 2005]. Further, trust is essential in developing a long-term relationship, but the role of trust needs to be clarified. Trust can be understood as an antecedent [e.g., Chiou & Droge 2006; Chiou & Pan 2009; Deng, Lu, Wei & Zhang 2010] or a consequence [e.g., Garbarino & Johnson 1999] of satisfaction. Trust and satisfaction may also be parallel in forming loyalty (i.e., there is no causal order between trust and satisfaction) [e.g., Dagger & O'Brien 2010; Palmatier et al. 2006; Pan et al. 2012; Valvi & West 2013]. Perceived value may influence trust [Valvi & West 2013], but the association between perceived value and trust has drawn less attention than the association between satisfaction and trust. This study encourages future research to test the carryover effect and elucidate the mechanism among perceived value, satisfaction, trust, and loyalty.

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