# “Role of flow in online store loyalty”


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# Role of flow in online store loyalty


## Abstract

During the past decade, researchers have used the psychological concept of flow to examine diverse aspects of online consumer behavior. Flow is likely to play a role in online store loyalty formation, yet this role of flow has not been investigated. To address this issue, the relationship between flow and online store loyalty is examined empirically in this research. The authors also account for some traditional antecedents of store loyalty, such as store reputation, perceived value, and convenience. In addition this paper examines the effects of the antecedents on different components of online store loyalty (conative and action). The authors generate a set of hypotheses and test them by developing a structural equation model that is calibrated on data collected through online surveys. The findings indicate support for most of our hypotheses. The authors find that store reputation, perceived value, convenience and flow have significant positive relationships with the different dimensions of loyalty. The findings have important managerial implications for marketing managers.


**Keywords:** flow, online store loyalty, store reputation, perceived value, convenience, structural equation modeling.

## Introduction

Retail firms should develop long-term relationships with their customers by enhancing their store loyalty (Garton, 1995). The creation of such store loyalty is important as it leads to valuable "store level" benefits such as an increased share of purchases (Macintosh and Lockshin, 1997), a higher relative price (Chaudhuri and Holbrook, 2001), etc. Studies have also suggested that loyal customers are less price sensitive (Krishnamurthy and Raj, 1991) and, therefore, even small increases in retention rates can dramatically increase profits (Reichheld and Sasser, 1990). Advantages such as these have lead to studies calling store loyalty as the single most important factor in retailing success and longevity (Samli, 1989). This author specifically notes that "without loyalty toward the retail establishment, differential congruence for which management is striving does not exist and the store is doomed to fail" (p. 2).

The already high importance of store loyalty has become even more pronounced in the online marketplace (Abbott et al., 2000). The low search and switching costs on the Internet, grant online customers greater access to information and enable them to explore more alternatives prior to a purchase decision (Ray, Kim and Morris, 2012; Souitaris and Balabanis, 2007). The Internet with its low entry barriers for competitors offers many more alternatives to consumers than traditional environments (Auger and Gallagher, 1997; Klein, 1998). As a result, the probability of defection of online customers is very high. In some sectors, the defection rate of new customers before their third anniversary with a e-commerce site reaches as high as 50% (Reichheld and Schefter, 2000). This defection is a source of concern for most online retail firms since the typical acquisition cost per customer is very high; acquisition costs per customer in groceries can be as high as $84 (Reichheld and Schefter, 2000). Understanding online store loyalty is especially important because "e-loyal" consumers tend to visit sites more often, spend more time at a website, and consolidate their purchases at one site (Reichheld and Sasser, 1990). It is not obvious how different kinds of variables independently or in a joint manner might affect the nature and pattern of loyalty for online stores.

The literature on traditional store loyalty is extremely rich and can be potentially tapped to identify the determinants of store loyalty. This, however, assumes that online and offline store loyalties are similar. When Danaher, Wilson and Davis (2003) compared online and offline store loyalty for 100 brands in 19 categories, they found substantial differences. Shankar, Smith and Rangaswamy (2003) compared customer satisfaction and loyalty in online and offline environments, and found loyalty to the service provider to be higher online than offline. This finding is counter intuitive because online consumers are just clicks away from other competing offers, which may lead them to be less loyal online than in an offline setting (Kannan, Wagner and Velarde, 2002). Another study finds that the positive relationship between satisfaction and store loyalty is not as strong and linear as expected in an online setting (Balabanis, Reynolds, Simintiras, 2006). Hence, we cannot conclude that the nature of online store loyalty would be similar to that of traditional store loyalty without a further review.

The realization that online and offline store loyalties are different spawned a number of research studies aimed at identifying the determinants of online store loyalty. Srinivasan, Anderson and Ponnavolu (2002) identified eight factors (the 8Cs – customization, contact interactivity, care, community, convenience, cultivation, choice and character) that potentially

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influence online store loyalty, and found all of them except convenience to impact e-loyalty. Souitaris and Balabanis (2007) studied the roles of customization, product assortment, website design, customer care, convenience and value in customer loyalty. Other researchers have examined the roles of online loyalty programs (Suh and Yi, 2012), and word of mouth (Gauri, Bhatnagar and Rao, 2008) in online loyalty formation. All these studies highlight the urgent need to determine the antecedents of online loyalty that can be used by firms to gain competitive advantage.

We believe that an interesting type of variable has substantial promise in terms of being able to impact the level of online store loyalty; this variable is called "flow". The flow construct was introduced in the online marketing literature by Novak, Hoffman and Yang (2000). Flow has been described as the state in which people are completely engaged with their interaction with the computer (Novak, Hoffman and Yang, 2000); the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it (Cziksentmihalyi, 1977).

Online stores use different strategies to try and ensure online store loyalty from individuals. This includes providing a differentiated shopping environment (http://www.motorola.com/web/Business/Products/Mbile%20Computers/Handheld%20Computers/MC17/_Documents/category.pdf), keeping them updated on new products (http://www.prestashop.com/blog/en/how-increase-customer-loyalty-internet-three-steps-2nd-part/), and utilizing various other standard marketing strategies. One thing is common among these approaches; all of them aim to keep the web surfer "*engaged*" with the online web site of the store by providing a pleasant experience. Given that the fundamental concept of "flow" is closely associated with "*engagement*" between the individual and her/his interface to the world wide web, we feel that it is not implausible to expect the "flow" variable to have a spillover effect on the nature of loyalty of the individual for online stores.

The objective of this study is to contribute to the limited literature on the antecedents of online store loyalty (Balabanis, Reynolds, and Simintiras, 2006). We do this by empirically testing the relationships between different components of store loyalty (conative and action) and flow, while controlling for traditional antecedents, such as store reputation, convenience and perceived value. We believe that the rather complex nature of online store loyalty can be well understood only by utilizing a multi-dimensional model that employs these potential determinants. We employ a structural equation modeling approach to empirically estimate the multi-dimensional relationships between these relevant sets of variables.

The remainder of the paper is outlined as follows. In section 1, we survey the traditional store loyalty literature to identify some antecedents of online store loyalty namely store reputation, convenience and perceived value and use these constructs of interest to develop our hypotheses. The data on which the model is calibrated is described in section 2. In section 3, we develop a structural equation model to test for any significant relationships between these four constructs, and the conative and action components of online store loyalty. The structural equation model is calibrated on data collected through online surveys, and the results of this analysis are presented in section 4. Finally, we conclude with a discussion of the study's limitations and implications for managers.

## 1. Literature review

**1.1. Store loyalty.** For the purposes of this study, we define store loyalty as "the biased, conscious buying behavior of a decision making unit expressed over time with respect to one store out of a set of stores and which is a function of psychological processes resulting in a commitment to this store" (Odenkerken-Schroeder et al., 2001). This definition emphasizes that online store loyalty is about both, a commitment to re-buy, and actual re-buy. Conceptualizing store loyalty as consisting of different components such as commitment and re-buy is also supported by other researchers (Devraj, Fan and Kohli, 2002; Harris and Goode, 2004). Conative loyalty is defined as the consumer's behavioral intention to keep on using the store in the future (Harris and Goode, 2004). In the conative loyalty phase, consumers develop a deep commitment to repurchase from a particular store. Specifically, this phase is "exemplified by repurchase intentions and via actions like recommending the store to others" (Styliano, Kumar and Robbins, 2005). Consumers in this stage not only hold a commitment to re-buy, but also recommend the store to others. Most of the extant research on online consumer loyalty focuses on conative loyalty. However, researchers have pointed out that a behavioral definition may not be enough due to its failure to distinguish between true loyalty and spurious loyalty that may results due to say lack of available alternatives (Srinivasan et al., 2002). To counter this criticism, we also measure loyalty by another dimension – action loyalty. Action loyalty is where consumers overcome obstacles and convert their intentions to action by actually re-buying. The motivated intention in conative loyalty phase is transformed into actual action (Harris and Goode, 2004).

**1.2. Store reputation.** We define store reputation as the extent to which buyers believe that the selling organization is honest (Doney and Cannon, 1997) and credible (Hyde and Gosschalk, 2005). Reputation has been found to be an important antecedent of loyalty (Helm, Eggert and Garnefeld, 2010) because a good reputation signals to the buyers that the seller has committed resources to build that reputation (Jarvenpaa and Tractinsky, 1999). Consumers perceive the chances of opportunism on the part of sellers less for stores with good reputation because they would have to pay a huge penalty by forgoing the resources invested to earn the reputation. Consequently, consumers consider highly reputed stores "trustworthy", i.e., store reputation is positively associated with consumers' trust in a store. Researchers have found the relationship between reputation and loyalty to hold across cultures (Jin, Park and Kim, 2008).

Researchers have found store reputation to be important for online stores too (Casalo, Flavian, and Guinaliu, 2007; Caruana and Ewing, 2010). Jarvenpaa and Tractinsky (1999) found that reputation builds consumer trust which in turn increases online sales. This is because at online stores the physical attributes of a product cannot be examined before purchase by a consumer. Due to this inability, consumers use extrinsic cues such as the reputation of a store as a "summary" construct or "shorthand" cue for quality and make inferences about store quality and product quality based upon the store reputation (Agarwal and Teas, 2001). A good store reputation leads to higher trust, which positively affects the loyalty of a consumer. We test this relationship, and also extend the past studies by examining store loyalty at a finer level. We state the hypotheses corresponding to store reputation as follows.

*H1a: Store reputation is positively associated with consumers' conative store loyalty.*

*H1b: Store reputation is positively associated with consumers' action store loyalty.*

**1.3. Perceived value.** Perceived value has long been recognized as an important construct for marketers (Chaudhuri and Ligas, 2009; Fredericks and Salter, 1995) because it leads to strong positive word of mouth and a strong repeat purchase intention (Kannan, Wagner and Velarde, 2002). For the purposes of this study, we use the definition advanced by Zeithaml (1988) according to which perceived value is the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given. What contributes to assessment of utility is highly personal and idiosyncratic, and has been defined in various terms such as low price, quality, benefits and as "what I get for what I give". The perceived value of any object has also been conceptualized to be driven by intrinsic and extrinsic dimensions related to the quality of the object (Juha and Pentti, 2012). Usage situations could also affect drivers of perceived value (Hultén, 2012).

Perceived value has already been recognized as an antecedent of traditional store loyalty (Chaudhuri and Ligas, 2009; Chen and Quester, 2006), and in general, consumers expect lower prices at Internet stores. Brynjolfsson and Smith (2000) empirically compared the prices at online and conventional stores over 15 months, for homogeneous physical goods (CDs and books) and found that prices were generally lower at Internet stores. This may be because as buyer search costs fall, buyers can more easily find the lowest cost seller. This leads to increased price competition among the sellers, which puts downward pressure on prices. It would be quite natural to assume that consumers would be more loyal to those stores where they perceive the economic value to be high. Kim and Niehm (2009) find perceived value to influence conative loyalty of customers of a website. Souitaris and Balabanis (2007) found value to influence online conative loyalty only for goal-directed customers. Hsin and Hsion-Wei (2011) found that perceived value moderates the relationship between customer satisfaction and online loyalty, i.e., the link is stronger when consumers perceive higher perceived value. Therefore, we posit that perceived value should positively impact the conative loyalty of a consumer in an online store, which in turn affects action loyalty. The hypothesis is stated as follows.

*H2a: Perceived value is positively associated with consumers' conative store loyalty.*

*H2b: Perceived value is positively associated with consumers' action store loyalty.*

**1.4. Convenience.** Consumer behavior scholars have often defined convenience in terms of saving time and effort, including physical and mental effort (Seiders, Voss, Godfrey and Grewal, 2007). Attributes of convenience long important to consumers are now found in new forms in online shopping (Styliano, Kumar, and Robbins, 2005; Moeller, Fassnacht and Ettinger, 2009). In particular, web-based purchasing is the ultimate in savings of time and effort, and increased accessibility. Consumers shopping online can economize on time and effort because the web makes it easy to locate merchants, find items and procure offerings (Szymanski and Hise, 2000). Several studies have related convenience to online store loyalty (Srinivasan, Anderson and Ponnavolu, 2002; Souitaris and Balabanis, 2007). Both Bhatnagar et al.

(2000) and Kannan et al. (1997) have identified convenience as one of the reasons consumers would shop online. This is because the full price of any purchase consists of the price paid plus the opportunity costs of time spent shopping. Online shopping reduces the full price by reducing the time spent shopping. Overall buying effort is also reduced because online shoppers do not need to conform to the social conventions of grooming and acceptable behavior (Wolfinbarger and Gilly, 2001). However, when the relationship between convenience and loyalty was empirically tested (Srinivasan, Anderson and Ponnavolu, 2002), it did not find a relationship between convenience and conative loyalty. On the other hand, Souitaris and Balabanis (2006) found that convenience influences store conative loyalty only when consumers are goal directed. Later research found that convenience played an important role in intensifying the relationships between customers and stores (Seiders, Voss, Godfrey and Grewal, 2007). Moeller, Fassnacht and Ettinger (2009) investigated different dimensions of convenience and also found them to differentially influence action and conative loyalty. We, therefore, present the following hypotheses.

*H3a: Convenience is positively associated with consumers' conative store loyalty.*

*H3b: Convenience is positively associated with consumers' action store loyalty.*

**2.5. Flow.** Hoffman and Novak (2009) review the different marketing research studies that have explored the diverse marketing outcomes of the flow construct. Creating a compelling web experience that is enjoyable and correlated with fun and recreation influences consumer attitude towards purchasing online (Korzaan, 2003), hedonic value of online shopping experience (Senecal, Gharbi, and Nantel, 2002), web site effectiveness (Sicilia and Ruiz, 2007), etc. Flow has also been found to influence behavior intentions, such as, intention to purchase (Richard and Chandra, 2005), use the Web (Agarwal and Karahanna, 2000; Sanchez-Franco, 2006), etc. Therefore, we can expect flow to positively influence consumer intention to repurchase and thereby influence conative loyalty.

Hoffman and Novak (1996) had hypothesized that consumers would retain more of what they perceive at a Website if they experience flow while learning. This hypothesis was empirically found to be true by Skadberg and Kimmel (2004). Similarly, Choi, Kim and Kim (2007) found flow to be an important determinant of e-learning. Consumer learning is known to enhance loyalty (Villas-Boas, 2004). Consumer learning of a website navigation pattern reduces the time required for shopping in subsequent trips, and therefore the effective price of a product (sum of actual price plus the opportunity cost of time) reduces with the number of trips. The more human capital a consumer has invested in a particular behavior the higher its utility and the more likely s/he is to repeat that behavior in the future (Murray and Bellman, 2011). Increased loyalty will yield benefits to a customer in terms of reduced effective prices. As the number of trips increase, a website becomes more and more attractive. Since flow enhances consumer learning, it will also enhance action loyalty. We thus present the following hypotheses.

*H4a: Increasing flow is positively associated with consumers' conative store loyalty.*

*H4b: Increasing flow is positively associated with consumers' action store loyalty.*

## 2. Data description

We calibrated the model on data collected by a national research agency. The data was collected via online surveys conducted nationally. The survey was posted on the Web and, therefore, administered to the entire Internet population. The survey was run for four weeks. Participants were solicited through announcements on Internet related newsgroups (e.g. comp.infosystems.www.announce, comp.internet.net-happenings, etc.), and on the www-surveying mailing list. Responses were boosted by offering ten cash prizes of $100 each.

The respondents were asked to rate the Internet store, from which they shopped most recently, on a number of store attributes. The data from the survey was highly appropriate for our study because the respondents were online customers reporting on their shopping experience with an Internet retailer in the recent past. More importantly, the survey captured responses on store loyalty and the four antecedents chosen for the study (i.e. store reputation, perceived value, convenience and flow). In all there were 400 respondents.

Store reputation was measured using the following five items: (1) this Internet retailer is a highly skilled expert in the area of services and merchandise it offers; (2) this Internet retailer strives to attain excellence; (3) when this Internet retailer promises to do something by a certain time, it does so; (4) when I think of the Internet retailer, I think of excellence; and finally (5) I received excellent service from this Internet retailer. Perceived value was measured using the following 3 items: (1) the price

of the products and/or services I purchased from this Internet retailer are at the right level given the quality; (2) the products and/or services I purchased from the retailer were a good buy; and (3) this Internet retailer offers a good economic value. The three items used to measure convenience were: (1) making a purchase from this Internet site makes life easier; (2) when I make a purchase from this Internet site, I save time; and (3) making a purchase from this Internet retailer is very convenient. Flow was measured using the following two items: (1) I get so involved when I shop at the Internet retailer's website that I forget everything else; and (2) shopping at the Internet retailer's web site gets me away from it all. For each one of the 13 items, the respondents had to indicate agreement/disagreement on 7-point Likert scales. The scales were anchored by strongly disagree and strongly agree. Confirmatory factor analysis, conducted to check if the items were loading on the factors, validated the constructs.

The two dependent constructs as shown in the model are conative loyalty and action loyalty. Conative loyalty, expressed in terms of intent, was measured using the following items: "I intend to continue to visit this Internet retailers site in the future" and "I will recommend this Internet retailer to my friends". Action loyalty, expressed in terms of action, was measured by agreement with the following 2 statements: "How much would you estimate you have spent with this Internet retailer in the past twelve months?" and "How often have you transacted with this Internet retailer in the past twelve months?" For all the items, the respondents had to indicate agreement/disagreement on 7-point Likert scales, with the scales being anchored by strongly disagree and strongly agree.

## 3. Model

The hypotheses are tested using a structural equation model as shown in Figure 1. The positive relationships are represented with a '+'. We denote the unobserved constructs by $Y_i$ and the observed exogenous variables postulated to influence the unobserved constructs by $X_j$. Fixed coefficients denoting the influence of the $X_j$ on $Y_i$ are represented as $\gamma_j$ and random error components are denoted by $\delta_i$. All the model specifications are assumed to be additive and linear in the parameters. Specifically, we assume:

$$Y_1 = \gamma_1 X_1 + \gamma_2 X_2 + \gamma_3 X_3 + \gamma_4 X_4 + \gamma_5 X_5 + \delta_1, \quad (1)$$

$$Y_2 = \gamma_6 X_6 + \gamma_7 X_7 + \gamma_8 X_8 + \delta_2, \quad (2)$$

$$Y_3 = \gamma_9 X_9 + \gamma_{10} X_{10} + \gamma_{11} X_{11} + \delta_3, \quad (3)$$

$$Y_4 = \gamma_{12} X_{12} + \gamma_{13} X_{13} + \delta_4. \quad (4)$$

These equations can be explained as follows. Equation (1) operationalizes the relationship between the construct store reputation and its antecedents. Similarly, equations (2), (3) and (4) operationalize the relationships of the antecedent variables to perceived value, convenience and flow. We also specify how the unobserved loyalty constructs are measured in terms of the observed variables. We denote the observed measures by $Z_i$. and the coefficients reflecting their influence on $Y_i$'s as $\lambda_i$'s. The error terms reflecting all other sources of variation are denoted by $\varepsilon_i$.

$$Z_1 = \lambda_1 Y_5 + \varepsilon_1, \quad (5)$$

$$Z_2 = \lambda_2 Y_5 + \varepsilon_2, \quad (6)$$

$$Z_3 = \lambda_3 Y_6 + \varepsilon_3, \quad (7)$$

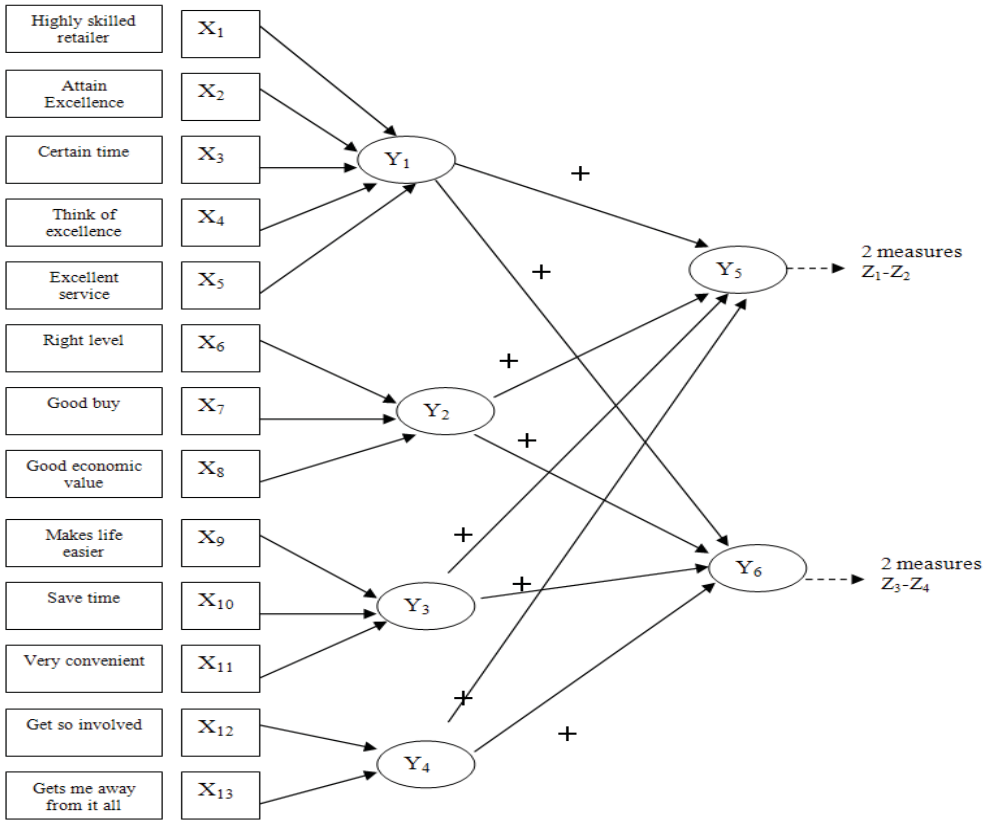
$$Z_4 = \lambda_4 Y_6 + \varepsilon_4. \quad (8)$$

Equations (5) and (6) refer to the measures of conative loyalty (denoted by $Y_5$) and equations (7) and (8) refer to the measures of action loyalty (denoted by $Y_6$). The influence of $Y_i$'s on other $Y_k$'s are represented by the fixed coefficients $\beta_i$, and by the random variables $\nu_i$. Equations (9) and (10) describe the influence of store reputation, perceived value, convenience and flow on conative and action loyalty respectively.

$$Y_5 = \beta_1 Y_1 + \beta_2 Y_2 + \beta_3 Y_3 + \beta_4 Y_4 + \nu_1, \quad (9)$$

$$Y_6 = \beta_5 Y_1 + \beta_6 Y_2 + \beta_7 Y_3 + \beta_3 Y_8 + \nu_2. \quad (10)$$

For further details, please see Figure 1.




Notes: $Y_1$ = Store reputation; $Y_2$ = Perceived value; $Y_3$ = Convenience; $Y_4$ = Flow; $Y_5$ = Conative loyalty; $Y_6$ = Action loyalty.

**Fig. 1. Antecedent variables and directionality of relationships**

## 4. Empirical results

Data was analyzed using AMOS 4.0 (Arbuckle, 1999). As no single measure of fit can ensure high quality SEM research (Gefen et al., 2011), we use a range of measures of fit. We determined goodness of fit and adjusted goodness of fit statistics because they are commonly used. The indices indicated a very good fit for our model. The goodness of fit index (GFI = 0.936) was above 0.90 indicating a good model fit (Gefen et al., 2011). The widely used measure, Adjusted Goodness of Fit Index (Bagozzi and Yi, 1988) or AGFI (= 0.90) was also above 0.80 indicating a good fit (Devaraj et al., 2002). Normed Fit Index (NFI = 0.944) for the model was very close to 0.95 indicating as acceptable to a good fit. However, since NFI is influenced by sample size as well, we looked additionally at Tucker Lewis Index (TLI). TLI (= 0.956) was above 0.95 and confirmed a good fit. In addition, we looked at the value of RMSEA (= 0.058), a parsimony measure. The value was below 0.6 as recommended by Hu and Bentler and Kano (1992) indicating a good fit. These results, therefore, confirm a good model fit of our data.

The estimated coefficients are presented in Table 1 along with their *p*-values. All the coefficients of the antecedents of store reputation are significant at the 0.05 level. The gamma coefficients indicate that there is a significant positive relationship between store reputation (0.262) and action loyalty, and between store reputation (0.386) and conative loyalty thereby supporting hypotheses H1a and H1b. The results indicate that store reputation affects both conative and action loyalty. All the coefficients of the antecedents of perceived value are also significant at the 0.05 level. Other results indicate that perceived value significantly influences conative loyalty (0.306) indicating support for hypothesis H2a. However, the effect of perceived value (-0.08) on action loyalty is not significant. So while hypothesis H2a is supported, hypothesis H2b is not supported. This may be explained as follows. Consumers sacrifice both money and other resources (e.g., time, energy, effort) to obtain products and services (Zeithaml, 1988). Therefore, when customers intend to purchase products online where uncertainty is very high, they might look for cues that convey psychological benefits to justify their decision. Perceived value could be such a cue that conveys to the consumers that their decision to repurchase is rational and hence is significant for conative loyalty. Perceived value ceases to be significant for action loyalty because at this stage consumers convert their intent to repurchase into action, and are more committed to buying and, therefore, could look for less psychological bene-

fits to justify their purchase decision. The results confirm that there are a large number of buyers whose intent is not converting into action.

Table 1. Estimated coefficients and standard errors for the equations

| Structural model |
|---|
| $Y_1$ =1.0 $X_1$ + 0.993 $X_2$ + 1.033 $X_3$ + 0.924 $X_4$ + 1.175 $X_5$<br>(fixed) (0.05) (0.05) (0.05) (0.05) |
| $Y_2$ =1.0 $X_6$ + 1.003 $X_7$ + 1.106 $X_8$<br>(fixed) (0.05) (0.05) |
| $Y_3$ =1.0 $X_9$ + 0.939 $X_{10}$ + 0.983 $X_{11}$<br>(fixed) (0.05) (0.05) |
| $Y_4$ =1.0 $X_{12}$ + 0.939 $X_{13}$<br>(fixed) (0.05) |
| $Y_5$ = 0.386 $Y_1$ + 0.306 $Y_2$ + 0.188 $Y_3$+ 0.091 $Y_4$<br>(0.05) (0.05) (0.011) (0.035) |
| $Y_6$ = 0.262 $Y_1$ - 0.084 $Y_2$ + 0.096 $Y_3$+ 0.113 $Y_4$<br>(0.013) (0.403) (0.332) (0.061) |

Note: The numbers in parentheses are the *p*-values.

Our results indicate that all the coefficients of the antecedents of convenience are significant at the 0.05 level. There is a significant positive effect of convenience (0.188) on conative loyalty indicating support for hypothesis H3a. However, the effect of convenience (0.096) on action loyalty is not significant. Not surprisingly, convenience shows a pattern similar to perceived value. The support for H3a indicates a positive relationship between convenience and conative loyalty, suggesting that as earlier, customers look for psychological benefits to justify their purchase decision. H3b is not supported because once the intent has been converted into action, consumers' commitment is firmer, and they have less of a need to justify their decision.

The coefficients of the antecedents of flow are significant at the 0.05 level. The gamma coefficients indicate that there is a significant positive relationship between flow (0.091) and conative loyalty, and between flow (0.113) and action loyalty. Thus both hypotheses H4a and H4b are supported, indicating that flow affects both conative and action loyalty.

## Concluding remarks

Identifying the antecedents of store loyalty is of great interest to online retailers. If these retailers want to enhance their customers' loyalty, then they need to improve their performance on those attributes that are important to their customers. They can study the vast traditional store loyalty literature to find the antecedents of store loyalty. But since the online environment presents a very different context, retailers need to confirm whether the traditional antecedents determine store loyalty in the online environment too. Furthermore, there could be factors unique to the Internet that have not been studied in traditional research but could be determinants of online store loyalty. We identify one such factor, flow, that we believe to be an important antecedent of online store loyalty. We empirically test the relationships between online store loyalty and its traditional antecedents and flow. We develop a structural equation model that is calibrated on data collected through online surveys. Our findings indicate that store reputation and flow influence both online conative and action loyalty. The other two constructs, perceived value and convenience were found to have a significant positive relationship with conative loyalty, but no significant relationship with action loyalty.

The findings of this study strongly suggest that the traditional antecedents of store loyalty – store reputation, perceived value, convenience are important in the online retailing environment too. The entire fulfillment process needs to be closely examined to ensure that the traditional antecedents of store loyalty are enhanced for online shoppers, creating greater online store loyalty leading to favorable outcomes such as higher profits and market share. To enhance store reputation, managers should focus on strategies that build online brands such as advertising and engage in strategic collaborations with other sites. Unknown web merchants can sell their products through reputed merchants, such as Amazon, etc. Perceived value and convenience are also important for online conative loyalty. Initiatives such as price discounts or benefits can be used to build perceived value. Web sites should be subjected to usability studies to determine how convenient they are to use. The navigation of a site can be made very convenient, by having less graphics, multimedia content and incorporating devices such as site map, search feature etc.

The most important contribution of this research is that flow plays an important role in online store loyalty formation. Managers can gain competitive advantage by focusing on those factors that create and enhance consumers' state of flow. Hoffman and Novak (2009) is a comprehensive review of the determinants of flow that need to be studied by online retailers. For instance, a state of flow can be induced by features such as content, apps and creating a sense of community. Right content and apps will make the experience enjoyable resulting in an increase in consumers' involvement. Similarly, creating a sense of community, via blogs, Facebook, etc. might increase a consumer's involvement to such an extent that they lose track of time and enter a state of flow.

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