

# How Does Brand Popularity Affect Patrons' Continuance? Examining the Mediating Role of Customer Commitment

*Full Paper*

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## Abstract

Researchers have developed a rich body of literature that examines the effect of product popularity on consumers' choice through either economical or non-economical lens. However, there has been little work studying both two processes of consumers' collective behavior, even though this behavior can be driven by distinct mechanisms simultaneously. Against the research context of brand switching, this research makes reference to the three-component commitment model and offers a framework that links brand popularity to customer continuance through the key mediating role of customer commitment. Drawing on cue utilization theory, I also theorize three primary brand popularity cues and investigate their nuanced effects on customer commitment and brand continuance intention. The analytical results from a popular virtual community of consumption in China show empirical evidence supporting most hypotheses. This research enriches extant literature by proposing and testing multiple mechanisms of brand-herding behavior. It also sheds light on marketing practice.

**Keywords** popularity cues, cue utilization theory, brand switching, customer commitment, virtual community of consumption

## 1 INTRODUCTION

Consumer social interaction is one of the most influential factors affecting people's consumption-related decision making (Chen et al. 2011). Particularly when making product choices, consumers apt to follow the decisions of the crowd in many cases (Bonabeau 2004). Referred to as *herding* in the literature, such behavior-based social influence among market participants has long been a topic of study (Banerjee 1992; Hirshleifer and Hong Teoh 2003; Raafat et al. 2009). With the rise of online social media platforms, other people's actions are increasingly observable, as consumers tend to share their product-related use experiences, opinions, and purchase decisions with others (Liu et al. 2015). As such, behavior-based social influences play a critical role in shaping and affecting consumers' choices (Duan et al. 2009). At the same time, research on herd behavior has grown significantly. Empirical and analytical research examines herd behavior in a wide range of scenarios, including online purchase (Cheung et al. 2014; Huang and Chen 2006), technology adoption (Sun 2013; Walden and Browne 2009), online auctions (Simonsohn and Ariely 2008), and contribution to open source projects (Oh and Jeon 2007).

It has been widely held in the herding literature that "popularity" tends to be "self-reinforcing", as it signals the extent that an option appeals the public, which further encourages people to make the same choice (Tucker and Zhang 2011). While no single reason can explain this behavioral convergence of human agents, research in economics, information systems (IS), and marketing highlights two economical mechanisms behind this self-reinforcing nature of popularity: informational cascades (i.e., ignoring one's own choice in favor of another's because of uncertainty in decision making; Bikhchandani et al. 1992) and positive network externalities (i.e., additional users increase the value of a choice; Kauffman et al. 2000). Although economical mechanisms are indeed salient underlying the influence of popularity on decision-making, especially in the context of product choice, research in social psychology reveals that there are processes beyond economic reasons (Bikhchandani et al. 1992). For example, Jones (1984) reports that people sometimes make a popular choice for the desire to conform the majority. In addition, human agents may choose to conform the mainstream choice so as to avoid sanctions due to his/her disobedience (Bendor and Mookherjee 1987)<sup>1</sup>.

The economical and non-economical processes of popularity's influence could both play important roles in the context of customer switching. Customer switching, as an important research topic for both IS and marketing communities, studies why customers migrate from a product or service to competitors (Bansal et al. 2005; Kim and Son 2009; Zhou et al. 2012). Prior research has long established that consumers' beliefs, attitudes, intentions, and behaviors are driven by both economical and non-economical mechanisms (Bendapudi and Berry 1997; Kim and Son 2009). Likewise, it can be postulated that these two distinct mechanisms driving brand popularity's self-reinforcement seem to operate simultaneously rather than separately. On the one hand, customer switching is inherently an economic activity, during which brand popularity taps into a consumer's decision process by affecting cost-benefit evaluations (Deval et al. 2013; He and Oppewal 2018; Li 2004) and risk perceptions (DeSarbo et al. 2002). Hence, economical views provide pliable lens for explicating the influence of popularity on customers' decision (i.e., stay vs. switch). On the other hand, empirical and anecdote evidence indicates that brand popularity contributes to consumer loyalty (Raj 1985), brand image, and brand equity (Aaker 2009). These key factors, in turn, encourage the existing customers of a brand to continue their patronage rather than leave. Therefore, a brand's popularity establishes a hinderance to customer switching through non-economic processes as well. Despite the voluminous research on consumers' collective behavior, however, there still lacks a systematic and holistic investigation into how brand herding is driven by different forces *simultaneously* through distinct pathways.

In attempt to address this theoretical lacuna, the current research introduces customer commitment—the key construct in business relationship literature—to offer an integrative understanding of how brand popularity affects brand patrons' behavior. Extant literature has widely acknowledged that commitment plays a central role in people's persistence of behavior (Newman and Sabherwal 1996). In particular, customer commitment involves not only the state of mind that binds a customer to the present business relationship (Kelley and Davis 1994) but also the structural conditions that prevent him or her from making a change (Becker 1960). This research adopts the three-component commitment model (TCM), a widely used conceptualization of commitment (Meyer et al. 2002). According to the TCM, people

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<sup>1</sup> Note that the effect of popularity on product choice can be *negative* in some occasions. Consumers' "need for uniqueness" (Tian et al. 2001) and negative network externalities (Hellofs and Jacobson 1999) are two prominent driving forces. The former often occurs among consumers of products symbolizing identity, such as apparel, music, and the like (Berger and Heath 2007; Steinhart et al. 2014); a typical case of the latter is the congestion effect, i.e., the quality of a certain service becomes worse as a result of high service popularity (Hellofs and Jacobson 1999).

choose to maintain the current business relationship because they feel they ought to (normative commitment), want to (affective commitment), or need to (calculative commitment) (Meyer et al. 1993). The first research question this paper attempts to address is: *how do normative, affective, and calculative commitment mediate the effect of popularity of a brand on its patrons' intention to continue?*

Virtual communities of consumption (VCC), the online groups explicitly centered on consumption-related interests (De Valck 2005), are chosen as the research setting of this study. The second research question is related to the multiplicity of informational cues that signal brands' popularity in the environment of VCC. According to the cue utilization theory (CUT), consumers exploit various cues to develop perception of products and thereby aid their decision-making. This research identifies two categories of brand popularity cues available through online social interactions in VCC, including the number of ongoing patrons of the brand (i.e., population) and the trend of patrons' migration. Accordingly, the second research question I attempt to address is: *to what extent do different popularity cues affect a brand patron's continuance, and further, does customer commitment underline such processes?*

This study potentially contributes to the herding literature and commitment literature. To practitioners, the findings of this research also shed light on marketing practice by recommending effective strategies to retain current customers and attract potential customers.

## 2 THEORY DEVELOPMENT AND HYPOTHESES

Note that due to page limit, literature review and detailed theory development are omitted in this submission.

### 2.1 Consumer commitment and brand continuance

Consumer behavior research widely maintains that customer commitment is a key antecedent of brand continuance (Fullerton 2003; Pritchard et al. 1999). In line with prior research on the positive effect of commitment on business relationship continuance, I propose the following:

*H1: (a) Normative commitment, (b) affective commitment, and (c) calculative commitment positively influence patrons' intention to continue with the brand.*

### 2.2 Brand popularity cues

Brand popularity, broadly defined as the extent to which a brand being favored by general public (Kim and Chung 1997), is important for deliberating consumers to infer "mainstream" choices (Whang et al. 2015). According to cue utilization theory, products contain a collection of cues that form the basis for customers to develop perceptions of them (Anderson 1981; Olson and Jacoby 1972). During the decision-making process, consumers explore, integrate, and employ various cues to assess a product before making the final decision (He and Oppewal 2018). Brand popularity can be cued by not only how many ongoing patrons a brand has, but also the trend (i.e., rise and fall) of this number. Anchored on these two categories of popularity signals, I conceptualize brand popularity cues as follows. First, the number of "other actors" who made the same choice suggests the mainstream behavior (Granovetter 1978). In the context of consumer decision-making, likewise, the sheer number of peer patrons of a brand (perceived by a patron) does not only allow the inference of economical utility (He and Oppewal 2018), but also trigger collective behavior (Schelling 2006). As perception may vary across different consumers, I conceptualize the *perceived number of peer patrons* (PNP) as the subjective perception of the total number of a brand's customers and consider it a key component in brand popularity cues. Second, prior research in social perception and behavior reveals that social actors actively engage in categorization, identification, and comparison (Ellemers et al. 1997; Tajfel 1982). In the settings of consumer behavior, customers categorize themselves as in-group members and accentuate the differences against out-group members (i.e., non-patrons) to clarify their social identity (Bagozzi 2000). Accordingly, I conceptualize *perceived in-bound switching* (PIS) as the perception of the migration from other alternative brands and *perceived out-bound switching* (POS) as the subjective perception of peer patrons' switching to other alternative brands. The conceptualization of three popularity cues allows to tap into the diverse effect of different "herding" signals.

Grounded on extant literature, I contend that, by and large, brand popularity cement customers' intention to continue their patronage by affecting their commitment. I discuss the influence of brand popularity cues on the three different types of commitment in the subsequent sections.

## **2.3 Effect of brand popularity cues on commitment**

*H2: (a) POS negatively influences normative commitment, while (b) PIS and (c) PNP positively influence normative commitment.*

*H3: (a) POS negatively influences affective commitment, while (b) PIS and (c) PNP positively influence affective commitment.*

*H4: (a) POS negatively influences calculative commitment, while (b) PIS and (c) PNP positively influence calculative commitment.*

## **2.4 The mediating role of commitment on popularity cues and brand continuance**

*H5: Normative commitment mediates the relationship between (a) POS, (b) PIS, and (c) PNP and brand continuance intention.*

*H6: Affective commitment mediates the relationship between (a) POS, (b) PIS, and (c) PNP and brand continuance intention.*

*H7: Calculative commitment mediates the relationship between (a) POS, (b) PIS, and (c) PNP and brand continuance intention.*

# **3 METHODOLOGY**

## **3.1 Research context, procedure, and measurements**

Virtual communities of consumption are the study context of this research to examine the influence of brand popularity on brand continuance behavior. I chose a popular online forums of digital photographic gears as the setting to test the research model.

I hosted the questionnaire on an online questionnaire platform and then posted the link of the questionnaire on several of the most popular boards of the forum. In total, I received 307 valid responses.

Participants were asked first to report the brand of their main photographic system and then to answer the questionnaire from their own perspective. I adapted measures from existent validated questionnaires whenever possible, with some minor revision to fit the research context. Participants responded to all the measurement items on 7-point Likert scales, anchored by strongly disagree (1) and strongly agree (7). The measures of POS and PIS were self-developed. I adapted the measure of PNP from Sun (2013); normative, affective, and calculative commitment from Allen and Meyer (1990) and Bansal et al. (2004); and continuance intention from Bhattacharjee (2001) and Zhou et al. (2012). I measured satisfaction, a construct controlled in the structural model, using a scale adapted from Hausknecht (1990). I used a single-item scale to measure past switching experience by asking the participants to report how many times they had switched camera brands in the past five years. The detailed measurements of the constructs are omitted in this submission for brevity.

## **3.2 RESULTS**

### **3.3 Measurement model**

I assessed the psychometric properties of the measures using the confirmatory factor analysis approach in IBM AMOS v24. All indices (CFI = 0.971, CMIN/df = 1.438, RMSEA = 0.038, and PClose = 0.99) suggested a good fit (Hu and Bentler 1999), implying satisfactory construct validity. I also examined internal composite reliability (CR), convergent validity, and discriminant validity. The internal consistency reliabilities of all the latent variables exceeded 0.70, indicating satisfactory reliability. I tested the convergent validity using the square root of average variance extracted (AVE), which should be greater than the recommended level of 0.5. Results show that the square root of AVE for each construct exceeded 0.5. I also examined the impact of multicollinearity and common method bias (CMB), the results suggested that multicollinearity and CMB were not major concerns.

### **3.4 Structural models**

I then proceeded to test the research model with structural equation modeling (SEM). Figure 1 provides a summary of the results of the test. The model fits confirm that the research model offers a satisfactory representation of the structure underlying the samples (CFI = 0.946, CMIN/df = 1.565, RMSEA = 0.043,

and  $pclose = 0.976$ ), explaining 43.6% of the total variance in continuance intention. The statistical results and coefficient of relationships are shown in Figure 1.

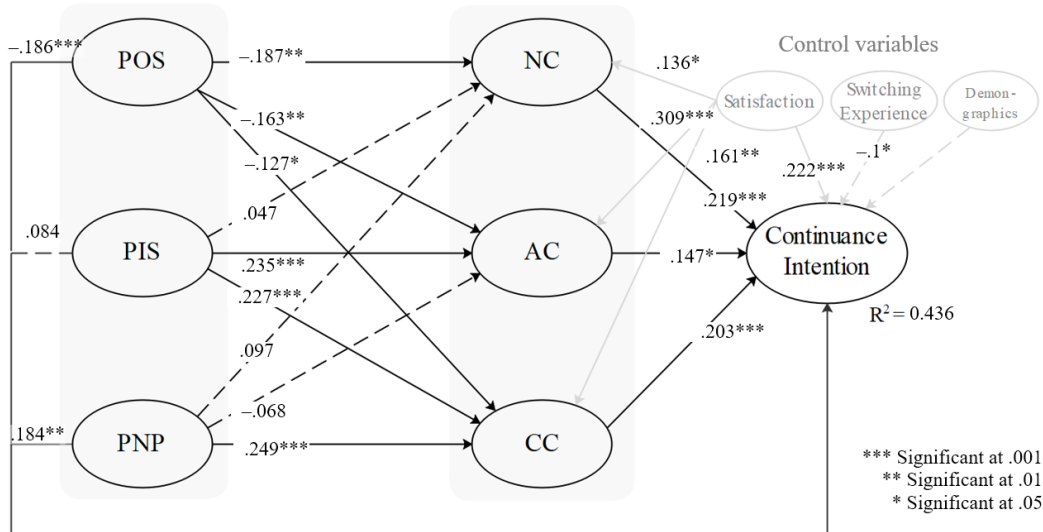


Figure 1. SEM results of the primary research model.

H5, H6, and H7 predict that the three commitment components mediate the influence of brand popularity cues on brand continuance intention. I conducted SEM with a bootstrap test of the indirect effects in IBM AMOS. Table 1 presents the results of a bootstrap test of direct and indirect effects of the various hypothesized mediation paths in H5, H6, and H7.

Path	Hypothesis	Direct effect		Indirect effect		Type of Mediation
		Standardized Regression Weights	Standardized Regression Weights	95% Bootstrap CI Lower	95% Bootstrap CI Upper	
POS → NC → Intent	H5a	-0.186**	-0.029**	-0.058	-0.01	Partial
POS → AC → Intent	H6a		-0.017*	-0.042	-0.005	Partial
POS → CC → Intent	H7a		-0.018*	-0.041	-0.004	Partial
PIS → NC → Intent	H5b	0.084	0.009	-0.011	0.034	None
PIS → AC → Intent	H6b		0.031*	0.01	0.067	Full
PIS → CC → Intent	H7b		0.041**	0.019	0.076	Full
PNP → NC → Intent	H5c	0.184**	0.017	-0.001	0.043	None
PNP → AC → Intent	H6c		-0.008	-0.033	0.003	None
PNP → CC → Intent	H7c		0.041**	0.018	0.077	Partial

\*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

Table 1. Mediation of the Effect of Brand Popularity Cues on Continuance Intention through the Three Commitment Components

## 4 DISCUSSION

Consistent with prior research in consumer commitment literature (Bansal et al. 2004; Fullerton 2005; Gustafsson et al. 2005), the findings confirm the positive influence of the three commitment components on continuance intention (H1a, H1b, and H1c), allowing to further examine the mediating role of commitment components in the development of convergent behavior among brand patrons. The detailed discussion of findings and unsupported hypotheses are omitted due to page limit.

I find that the three brand popularity cues are important antecedents of brand commitment. In terms of the predictors of normative commitment, the negative influence of POS on normative commitment is supported (H2a), whereas the positive influences of PIS and PNP on normative commitment are not

(H2b and H2c, respectively). Regarding the antecedents of affective commitment, the negative effect of POS and the positive effect of PIS on affective commitment are both supported (H3a and H3b, respectively), while the hypothesized positive effect of PNP on affective commitment is not supported (H3c). For the antecedents of calculative commitment, the results provide support for all three hypothesized relationships between popularity cues and calculative commitment (H4a, H4b, and H4c).

The results suggested that, by and large, brand popularity cues affect continuance intention through brand commitment. Specifically, I found that all three commitment components partially mediated the effect of POS on continuance intention. Similarly, I found that calculative commitment partially mediated the influence of PNP on continuance intention. This implies that either the number of patrons, per se, has direct impact on continuance intention, or potential mechanisms other than customer commitment are operating (Zhao et al. 2010). By contrast, I found that affective and calculative commitment *fully* mediated the effect of PIS on continuance intention.

## 5 IMPLICATIONS

The results have implications for the IS and marketing literatures, specifically the research on group-mimicking behavior and consumer retention. They also prescribe a concrete set of guidelines that could help marketing practitioners in their relationship marketing practice.

### 5.1 Theoretical implications

This research adds to the existing literature in the following several ways. First, while prior research either explains collective behavior as the rational choice based on the evaluation of economical utility, or the consequence of various social influences, the present study provides a holistic theoretical view to gain a better understanding of customers' behavioral convergence in the focused context of brand switching. Therefore, this research sheds light on the nature of behavioral convergence of consumers, and paves new revenues for future studies on herd behavior in other research contexts. The second theoretical implication lies in the development and refine of the conceptual and operational definition of brand popularity cues. I differentiate and conceptualize three subjective perceptions of popularity. The conceptualization of brand popularity cues allows to tap into the perceptual effect of brand popularity on consumer behavior and discern the contingent influence of popularity cues. Therefore, this research adds nuanced insights to the literature on herd behavior. Third, I make reference to the CUT and TCM to explain the phenomenon of behavioral convergence *among brand patrons* and examines the impact of other consumers' choices on brand patrons' decisions to continue or switch. This research extends the discussion of herd behavior into the context of customer retention, therefore suggests a new context for herd behavior research.

### 5.2 Practical implications

This research also has implications for business practice. Customer retention is crucial for winning market share and building a sustainable competitive edge (Boone and Kurtz 2013). It is hence vital to understand the reasons behind brand herding. This research suggests viable approaches to customer retention using popularity cues. While practitioners have used popularity cues for marketing promotion for a long time (Dean 1999), this research discerns different influence of three types of popularity cues. On the one hand, present customers' in-bound switching perception cements their emotional attachment (affective commitment) and helps them recognize the beneficial relationship with their current choice (calculative commitment), which in turn leads to their continuous patronage. On the other hand, perceived number of patrons positively affects patrons' calculative commitment. Therefore, to strengthen long-term customer retention, highlighting the popularity and fad characteristics of the brand should be an effective marketing strategy.

By contrast, signals of peer patrons' defection (i.e., POS) are most detrimental to a brand, because they weaken all three types of customer commitment, which in turn trigger further defection of existing customers. Therefore, encouraging new customers to share their experiences of converting from competitive brands in online social environments could have dual benefits. On the one hand, it could strengthen extant business relationships by signaling PIS cues to present customers. On the other hand, such social nudges could help further sway rivals' hesitating patrons by signaling out-bound switching cues.

## 6 LIMITATIONS AND FUTURE RESEARCH AVENUES

Future studies on consumers' herding behavior should account for the following limitations of this research. First, part of the findings in this research may be limited to its particular research setting. As mentioned in earlier sections, popularity-induced value perception may vary across different product types. Hence, the influence of brand popularity cues on product choice, particularly through calculative commitment, may not hold in the product domains with high personal identity-relevance (e.g., apparel)(Berger and Heath 2007; Steinhart et al. 2014). As a result, conclusions drawn in this research may not generalize across a wide set of commodities. In addition, the hypothesized relationships could be conditional on personal traits or various cultural contexts. Therefore, I call for future research to examine the proposed model in different settings and consider the influence of individual disposition and/or cultural difference.

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