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Abstract

Social media brand communities have been widely adopted by marketers as a marketing channel to engage consumers, and by consumers as a source of product/brand information prior to their purchase decisions. The popularity of social media brand communities has attracted some academic research efforts. However, there still exist important research gaps to be addressed in the existing literature. First, previous studies only focused on the impact of consumers’ engagement in the community of a brand on their purchases from that particular brand. However, consumers could have preference for multiple brands within a product class. As such, the impact of engagement in the community of a brand on consumers’ purchases from other preferred alternative brands remains unknown. Second, previous studies implicitly assumed that consumers only engage in a single community of a preferred brand. However, consumers would engage in multiple communities of multiple preferred brands within a product class. As such, the impact of consumers’ engagement in communities of multiple similar brands on their purchases from those engaged brands also remains unknown. This study thus proposes a set of research hypotheses, aiming to fill these research gaps. The findings from this study would offer several notable theoretical contributions.

Keywords: Social Media, Brand Community, Engagement, Consumer Behavior.
1 Introduction

Social media (e.g., Facebook) have become increasingly popular over the past few years. The popularity can be observed from two aspects, i.e., usages of online users and firms. For instance, according to the official statistics on Facebook, the number of active users has already reached 750 million in July 2011, about 50% increase since July 2010 (Facebook 2011). Moreover, more than 1.5 million businesses have set up brand communities (i.e., fan pages) on Facebook in 2010 (Website-Monitoring 2010).

The popularity of social media brand communities has attracted some research efforts from IS and marketing disciplines. For instance, previous studies have documented that consumers’ brand community engagement may affect their community behavior (Bagozzi and Dholakia 2006), purchase behavior (Adjei et al. 2010), brand trust (Porter and Donthu 2008) and brand loyalty (Shang et al. 2006). Past studies have established a link between a consumer’s engagement in the community of a preferred brand (referred to as “focal brand” in this study) and the consumer’s purchase from that focal brand. However, within a general product class, consumers may have preferences for multiple brands (Cunningham 1956; Jacoby 1971; Massy et al. 1968) and further have multi-brand purchase behavior (Ehrenberg and Goodhardt 1970; Howard and Sheth 1969). As such, when a consumer engages in the community of a focal brand, she may still purchase from other preferred similar brands (referred to as “alternative brands” in this study). However, it remains unknown whether and how a consumer’s community engagement of a focal brand will affect the consumer’s purchase from other alternative brands.

Furthermore, past brand community studies (e.g., Algesheimer et al. 2005; Bagozzi and Dholakia 2006; Casaló et al. 2008; Shang et al. 2006) implicitly assumed that, within a product class, consumers engage in only one brand community of a particularly preferred brand. However, consumers may have preferences for multiple brands. As brand community research has identified several motivational antecedents of consumers’ brand community engagement (e.g., to get access to brand/product information, to receive exclusive discount and promotion offers, and some other social and psychological factors) (Bagozzi and Dholakia 2006; Casaló et al. 2008; Dholakia et al. 2004; Ouwersloot and Odekerken-Schröder 2008; Shang et al. 2006), consumers may also engage in communities of other alternative brands to harvest such benefits. As such, they may engage not only in the community of the focal brand, but also in other communities of alternative brands which they also prefer. This possibility is supported by both academic research and industry reports. For instance, McAlexander et al. (2002) found that consumers may participate in multiple brand communities. Moreover, Facebook statistics showed that the average Facebook user became a fan of four communities each month in 2010 (Website-Monitoring 2010). Therefore, the implicit assumption that consumers engage in only one brand community has been challenged. However, there has been no existing study investigating the impact of a consumer’s community engagement of both focal and alternative brands on the consumer’s purchase from those engaged brands.

In essence, this study attempts to answer two research questions: (1) How do consumers’ single-community engagements with a focal brand affect their purchases from other alternative brands? (2) How do consumers’ multiple-community engagements affect their purchases from those engaged brands?

2 Literature Review

A small number of studies focused on discovering factors that influence online users’ engagement in brand communities. The identified factors can be mainly classified into several categories: social, emotional, psychological, and economic (e.g., Bagozzi and Dholakia 2006; Casaló et al. 2008; Dholakia et al. 2004; Ouwersloot and Odekerken-Schröder 2008). For instance, Dholakia et al. (2004) investigated two determinants of brand community engagement, i.e., group norms and social identity. Bagozzi and
Dholakia (2006) modified and expanded the theory of planned behavior (Ajzen 1991) by incorporating new factors such as social identity, anticipated positive/negative emotions, to study antecedents of community engagement. Moreover, Casaló et al. (2008) analyzed the role of trust, satisfaction with previous interactions and communications in the member’s intentions to participate in a brand community.

The majority of existing brand community literature focused on the consequences of community engagement (e.g., Algesheimer et al. 2005; Bagozzi and Dholakia 2006; Casaló et al. 2008; Shang et al. 2006). Typical consequences identified in the past include community behavior, purchase behavior, and brand loyalty. For instance, Algesheimer et al. (2005) examined the impact of engagement on their intentions (brand loyalty intention, membership continuance intention, community recommendation intention, and community participation intention) and further the corresponding behaviors. Similarly, Bagozzi and Dholakia (2006) reported that consumers’ engagement in brand communities will influence their group behavior, and further lead to brand purchase behavior. Moreover, Shang et al. (2006) investigated the impact of consumers’ brand community engagement on their brand loyalty.

However, past studies may face a limitation that individual consumers’ choices do not occur in isolation but in a context that includes many alternatives and substitutes. For instance, consumers’ multi-brand preferences (Cunningham 1956; Jacoby 1971; Massy et al. 1968) and multi-brand purchase behaviors (Ehrenberg and Goodhardt 1970; Howard and Sheth 1969) have been long documented. Therefore, the role of brand communities in such an overlooked context still remains a research gap.

### 3 Hypotheses

#### 3.1 Single-Community Engagement and Consumer Purchase

Community engagement will allow consumers to communicate with other community members. During the communication, consumers may discuss about the specialized subject, i.e., the focal brand. With more engagement in the community, consumers can get more access to a larger amount of brand information. This information will reduce consumer brand uncertainty and thus confer consumers with a higher level of confidence about their purchases (Chen et al. 2004; Lin and Goh 2011). As such, we would expect that engagement in a brand community will reduce consumers’ uncertainty of that brand and eventually have a positive impact on their purchases from that brand. Therefore, we postulate that:

**Hypothesis 1:** An increase in the engagement in a brand community results in an increase in the consumer’s purchase from that brand.

Within a product class, consumers may have preferences for multiple brands (i.e., the focal and other alternative brands). Products of the focal and other alternative brands are similar because they have many common attributes (e.g., composition, design and functionality). When a consumer engages in the community of the focal brand, she may get exposed to product information of that particular brand. At the same time, this information can also be applied by the consumer to understand similar products of other preferred alternative brands, because the consumer does not engage in the communities of other alternative brands and thus this information may serve as a reference for other alternative brands. As such, information of the focal brand can also reduce consumer uncertainty of other preferred alternative brands. Moreover, multicategory choice literature shows that consumer preferences are attribute-based (Singh et al. 2005). For instance, consumers may prefer apparels that have a similar design or material. Thus, there is some reason to believe that a consumer’s preferred focal and alternative brands have some common attributes. Hence, as a consumer has deeper engagement with the focal brand, we may expect that her preference for alternative brands may increase as well due to the existence of those common attributes.
Hypothesis 2: An increase in the engagement in the community of the focal brand results in an increase in the consumer’s purchase from other preferred alternative brands.

3.2 Multiple-Community Engagement and Consumer Purchase

When consumers engage in communities of multiple preferred brands, they can get information of those brands from the corresponding engaged brand communities to reduce their brand uncertainty. As discussed above, more community engagement will allow consumers to have more information of the brand, and brand uncertainty will be better reduced (Chen et al. 2004; Lin and Goh 2011). Therefore, we would expect that the brand community in which a consumer has a higher level of engagement will offer the consumer with a larger amount of information to reduce the uncertainty of that brand, and consequently lead to an increase in the consumer’s purchase from that brand. Additionally, a relatively higher engagement in a brand community (compared with the engagement in other brand communities) may also imply the consumer’s relatively higher preference for that brand. Therefore, we posit that:

Hypothesis 3: When a consumer engages in multiple brand communities, an increase in the engagement in a brand community results in an increase in the consumer’s purchase from that brand.

When a consumer engages in only a single community of a brand, information from this single channel may serve as a reference to the consumer about the focal engaged brand as well as other similar alternative brands. Thus in that context, it is unlikely for consumers to compare different brands based on the information from only a single brand community. However, multiple-community engagement allows a consumer to obtain information about multiple engaged brands. As such, based on the available information from multiple engaged communities, the consumer may always evaluate and compare those brands and choose the one that could offer her the highest utility (Guadagni and Little 1983). In other words, when a consumer engages in multiple communities and thus gets access to information about multiple brands, “better” and “worse” brands would emerge and those brands would become substitutions for one another. Therefore, we would expect that a relative increase in the engagement in a brand community would increase the consumer’s purchase from that brand, but decrease her purchase from other alternative brands. As a result, the consumer is only choosing the “best” brand to purchase with other alternative brands substituted, and is maintaining a similar level of purchase amount. In other words, the consumer’s multiple-community engagement will not change her total purchase from all her engaged brands within a product class. In summary, we posit that:

Hypothesis 4: When a consumer engages in multiple brand communities, an increase in the engagement in the focal brand community results in a decrease in the consumer’s purchase from other alternative brands.

Hypothesis 5: A consumer’s multiple-community engagement will not increase the consumer’s total purchase from all her engaged brands within a product class.

4 Empirical Model

4.1 Key Variables

Let subscript \( i \) index each individual consumer, and subscript \( t \) denote each time period. Consider superscript \( A \) as a consumer’s preferred focal brand and superscript \( B \) as the other alternative brand also preferred by the consumer. First, we model consumer purchase behavior in terms of purchase expenditure. Thus the dependent variables would be \( \text{EXP}_i^A \) and \( \text{EXP}_i^B \), indicating the purchase expenditure consumer \( i \) spends for brand \( A \) and brand \( B \) in period \( t \). Second, the independent variables would be consumer \( i \)’s engagement in the community of the focal brand \( (ENG_i^A) \) and in the community of the alternative brand
(ENG\textsuperscript{A} in period t). We measure a consumer’s engagement in a brand community as the total number of entries of contents generated by the consumer in that community. Lastly, we also control for other important relevant factors at the brand, individual consumer, and time chronological levels: (1) price (PRICE\textsubscript{A} and PRICE\textsubscript{B}), the average prices of all products for brands A and B in period t; (2) promotion intensity (PROM\textsubscript{A} and PROM\textsubscript{B}), the average level of promotions for products of brands A and B in period t; (3) past expenditure (PEXP\textsubscript{A} and PEXP\textsubscript{B}), consumer i’s average purchase expenditures for products of brand A and brand B prior to period t; (4) monthly income (INCOME\textsubscript{i}), consumer i’s monthly income; (5) age (AGE\textsubscript{i}), i.e., consumer i’s age; (6) gender (MALE\textsubscript{i}), i.e., consumer i’s gender (1: male, 0: female); and (7) a set of time dummies (\beta\textsubscript{e}).

For the purpose of brevity, we use \textit{C}\textsubscript{it} to denote the set of control variables which is shown in Equation (1).

\begin{equation}
\text{C}_{it} = \beta_1 \cdot \text{PRICE}_i^A + \beta_2 \cdot \text{PRICE}_i^B + \beta_3 \cdot \text{PROM}_i^A + \beta_4 \cdot \text{PROM}_i^B + \beta_5 \cdot \text{PEXP}_i^A \\
+ \beta_6 \cdot \text{PEXP}_i^B + \beta_7 \cdot \text{INCOME}_i + \beta_8 \cdot \text{AGE}_i + \beta_9 \cdot \text{MALE}_i + \epsilon_{it}
\end{equation}

where \beta\textsubscript{e}s is a set of coefficients for the control variables.

4.2 Models for Single-Community Engagement

In this section, we operationalize the empirical models for the first research question. Suppose brand A is the focal brand and consumer i engages in the community of brand A, whereas brand B is the alternative brand and consumer i does not engage in the community of brand B. However, consumer i prefers and purchases from both brand A and brand B.

In order to test hypothesis 1, we employ a random effects linear regression specification (also for all following equations) (Cameron and Trivedi 2005; Wooldridge 2002), which is shown in Equation (2). Moreover, we allow factors pertaining to brand B to affect consumer i’s purchase from brand A, which applies to all following equations. We also allow for a lag from the consumer’s community engagement online to the actual purchase offline, which also applies to all following equations.

\begin{equation}
\text{EXP}_{it}^A = \alpha_i + \beta^A \cdot \text{ENG}_{it-1}^A + \text{C}_{it} + \epsilon_{it}
\end{equation}

where \beta^A is the coefficient of the independent variable (engagement in the community of brand A); \alpha_i captures unobserved consumer specific effects; \epsilon_{it} is the residual random error term. These notations apply to all following equations.

To test hypothesis 2, we examine the impact of consumer i’s engagement in the community of brand A on her purchase from brand B. The model is presented in Equation (3).

\begin{equation}
\text{EXP}_{it}^B = \alpha_i + \beta^A \cdot \text{ENG}_{it-1}^A + \text{C}_{it} + \epsilon_{it}
\end{equation}

4.3 Models for Multiple-Community Engagement

In this section, we operationalize the empirical models for the second research question. Suppose brand A is the focal brand whereas brand B is the alternative brand, which are both preferred by consumer i. Consumer i engages in the communities of both brands.

In order to test hypothesis 3, we consider the impact of consumer i’s engagement in the communities of both the focal and the alternative brands, on the consumer’s purchase from the focal brand. The model is presented in Equation (4).
Next, in order to test hypothesis 4, we replace the dependent variable in Equation (4) with consumer $i$’s expenditure of purchase from brand $B$, which is shown in Equation (5).

$$EXP_{it}^{B} = \alpha_{i} + \beta^{A} \times ENG_{it-1}^{A} + \beta^{B} \times ENG_{it-1}^{B} + C_{it} + \epsilon_{it}$$

Lastly for the test of hypothesis 5, we consider the impact of consumer $i$’s engagement in the community of brand $A$ on her total purchase from brands $A$ and $B$. The model is shown in Equation (6).

$$TEXP_{it} = \alpha_{i} + \beta^{A} \times ENG_{it-1}^{A} + \beta^{B} \times ENG_{it-1}^{B} + C_{it} + \epsilon_{it}$$

where $TEXP_{it} = EXP_{it}^{A} + EXP_{it}^{B}$.

5 Data

Our data were drawn from two sources. First, two apparel retailers (different brands) in an Asian country (we are not able to reveal the identity of the retailers due to confidentiality agreements) provided us with (1) their loyalty card membership databases with consumer demographics (e.g., income, date of birth, gender), (2) the purchase transaction data of existing consumers in the databases, and (3) their marketing calendars. Second, we wrote Java codes based on Facebook API (application programming interface) to retrieve user community engagement behavior (i.e., “posts”, “comments”, “likes” generations) in the two brand communities (fan pages) set up by these two retailers on Facebook. Based on the identity information from the databases, we identified all consumers who are also members of each of the two brand communities based on Facebook API. As such, we could test our hypotheses by linking consumers’ community engagements of one or both brands directly to their brand purchase behavior. Moreover, according to the retailers, these communities are the major social media channels they use to connect consumers. As such, this fact provides a clean and unambiguous setting to investigate the impact of consumers’ social media engagement on purchase behavior.

6 Potential Contributions

This study aims to offer theoretical contributions in two aspects. First, previous brand community studies only focused on the impact of consumers’ engagement in the community of a brand on their purchases from that engaged brand. This study contributes to the literature by aiming to identify the impact of consumers’ engagement in the community of a brand on their purchases from other preferred alternative brands. Second, previous brand community studies implicitly assumed that consumers only engage in a single community of a preferred brand. However, our study challenges this inappropriate assumption and argues that consumers would engage in multiple communities of multiple brands within a product class. This study thus contributes to the literature by aiming to identify the impact of consumers’ engagement in multiple brand communities on their purchases from multiple engaged brands.

References


