

# Effect of Online Brand Community on Customer Value Exploration: Reconciling Mixed Findings via Regulatory Focus Theory

*Research-in-Progress*

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## Abstract

*This study seeks to address the mixed findings of prior studies regarding the effect of online brand community on customer value. Based on the regulatory focus theory, we hypothesize that participation in a brand community tend to increase both visit and purchase frequencies of customers with promotion-focus; on the contrary, the same would typically decrease visit and purchase frequencies of customers with prevention-focus. By analyzing data from an online brand community using a “propensity-score matching” technique, we found a partial validation that attendance of the community led to increases in customer visit frequency for customers with both promotion-focus and prevention-focus. Further, our results show that customers with promotion-focus tend to purchase more; while customers with prevention-focus slightly decreased their purchase volume. Both theoretical and practical implications of our findings are discussed in the paper.*

**Keywords:** Online brand community, regulatory focus, purchase frequency

## **Introduction**

Online brand community (OBC) is “a specialized, non-geographically bound community based on a structured set of social relationships among admirers of a brand ” (Muniz Jr et al. 2001). OBC is considered one of the most important channels to perform effective marketing (Algesheimer et al. 2010; Rishika et al. 2013). Through the provision of such type of community, not only online platforms could post their promotional advertising and observe customers’ behavior, but also consumers could learn the product and company-related information as well as communicate with experienced customers online (Goh et al. 2013). Although a large quantity of benefits (e.g., a platform providing mutual communication for consumers) can be seen from such type of communities, it is still unclear whether the community provision could really bring the benefits to online platforms, i.e., can the community provision lead to firms to get more values from consumers?

Our review of the current literature revealed inconsistent findings in the literature. On the one hand, researchers identified the positive relationships between the community participation and customer value exploration. For instance, by collecting data from a brand community hosted on Facebook, Rishika et al. (2013) found that OBC participation leads to an increase of consumer visit frequency as well as platform profitability. Meanwhile, Goh et al. (2013) also demonstrated that OBC participation improves customer purchase expenditure and diverse types of communications have distinct impacts on this improvement. On the other hand, negative relationship was also found. By considering consumer learning effect from the abundant information in the community, Algesheimer et al. (2010) suggested that participants tend to become more conservative in their purchase behavior after participation, thus decreasing the purchase frequency. In addition, from the completion perspective, Thompson et al. (2008) demonstrated that online community participation would make consumers be much easier to buy products from rival brands than from the preferred brand.

To address these mixed findings in the literature, we drew on the regulatory focus theory that suggests that there are two types of consumers varying on their regulatory focus, i.e., promotion-oriented focus and prevention-oriented focus (Haws et al. 2010; Higgins 1998). Compared with the prevention-focus customers, promotion-focused consumers, in their learning process, tend to pay more attention on the pros, gains, and accomplishment more than the cons, losses, and security in a piece of information in evaluating a product. For instance, when a sentence is presented “A is better than B”. For promotional person, their focus is more on the advantage/positive-side of the product, and comprehensible result is more likely to be: A is good. While for prevention focused people, their focus is more on the disadvantage/negative-side of the product, and their comprehensible result would be: B is bad. This difference in learning behavior leads us to conjecture a new way to reconcile the mixed findings in the literature. Namely, through OBC participation, promotion-focus consumers would increase the purchase frequency, while prevention-focus consumer would decrease the purchase frequency.

In order to validate this proposition of ours, we assemble a unique data set that integrates individual customer level transaction data, customer OBC participation data, and their online product reviews data. We develop a method to distinguish customers’ regulatory focus based on their feedback bias in product reviews. We then adopt propensity score matching technique to study the impact of OBC participation on customer values in term of customer visit and purchase frequency and explore how customers’ regulatory focus influences these effects. Our study extends the current research in the following facets. First, through the conduction of this study, we reconcile the mixed finding on the business value of OBC participation by introducing regulatory focus theory. Second, it offers a new perspective to examine the relationships between the regulatory focus and consumer evaluations. This study provides a new method to identify consumers’ regulatory focus through their expressed content. Third, as one of the first attempts, our study reveal that brand community participation affects customers’ motivations differently on the varying levels, i.e., visit frequency and purchase frequency, thus helping practitioners understand more about customers behavior in OBC.

## **Theory and Hypotheses**

Online brand community refers to a special virtual community that facilitates consumers to interact with each other (Muniz Jr et al. 2001). It is composed of consumers, marketers, products, and the relationships among them (McAlexander et al. 2002). Brand community not only brings a new platform for consumers

to interact with each other to discuss/exchange/complain the product, seller and company (Algesheimer et al. 2005; Schau et al. 2009), but also becomes a new channel for firms to advertise and promote its products (Oh et al. 2004), communicate with consumers (Adjei et al. 2010), observe consumers' behavior and co-create with consumers (Schau et al. 2009). Realizing the importance of such type of platform provision for both the firms and consumers, researchers have paid their great attentions on this area.

Our comprehensive review of the current literature suggests that there are two main streams of studies regarding the brand community. One is brand community participation factors identification, i.e., what are the antecedents which encourage consumers to engage in the brand community; and the other is brand community participation consequences, i.e., whether does consumers' participation would increase the firms' sales? (Algesheimer et al. 2004; Bagozzi et al. 2006; Thompson et al. 2008). For the first stream of studies, scholars have spared large quantity of efforts and identified a series of factors. For instance, by examining the participants from Harley-Davidson Motorcycle, Bagozzi et al. (2006) suggest that cognitive self-awareness of membership in the brand community, affective commitment, and evaluative significance of membership are main psychological factors in affecting their participation.

In addition, Garnefeld et al. (2012) experimentally study members' participation behavior and suggest the varying effects, i.e., monetary rewards can be the incentive to increase active and passive OBC members' participation in the short term, but the costs hidden likely emerge in the long run because the participation motivation expire along the time. For the second stream of studies, researchers typically reveal the mixed findings, i.e., some scholars find the positive effect of OBC participation on the firms' sales, while others identify the opposite results (Algesheimer et al. 2010; Bagozzi et al. 2006; Goh et al. 2013; McAlexander et al. 2002; Thompson et al. 2008). To explore the underlying reason about why the inconsistent findings generate, we go back to understand what the motivations are in incentivizing customers to attend the community. That is, we conjecture that customers' different motivations would generate different effects on their learning process, and further lead to final visit and purchase frequency.

Regulatory focus theory is rooted in the basic idea that there are two regulatory systems that motivate human behavior (Higgins 1998; Higgins et al. 2004). One system, i.e., promotion-focus, emphasizes on growth, accomplishment, and advancement of nurturance needs, and individuals in promotion focus strive to achieve personal ideals. On the other hand, prevention-focus, is concerned with satisfying security needs. Individuals with prevention focus concern more on the absence or presence of losses. Research has identified that individuals equipped with chronic regulatory focus and one dominant regulatory focus directs person's behavior (Zhang et al. 2010). The countervailing motivational forces derived from individuals' regulatory focus systems make people behave differently in information processing and decision-making in OBC, thereby lead to distinct outcomes of community participation. From previous studies, Arazy et al. (2012) found that there are two countervailing's motivational forces (i.e., promotion-oriented motivation and prevention-oriented motivation) among people who engage in online communities, and these distinct motivations produced by regulatory focus determined individuals' behavior and affected the outcome of participation. For customers with promotion focus, who are concerned with aspiration, they participate in OBC and create social interaction to receive product information for attaining potential gains (Chatterjee et al. 2011). In contrast, prevention-focused customers are concerned with safety and security. They engage in OBC and create social interaction to obtain product information for avoiding potential losses (Higgins 2000). Customers with promotion focus seek for products that achieve their expectation in OBC and they tend to make purchase when rich product information is shared. Prevention-focused customers tend to avoid buying products when information about the defects of products is shared in OBC.

Online brand community is full of various types of product information, including positive and negative. Participants with distinct self-regulatory systems behave differently in OBC in term of information processing (Goh et al. 2013; Thompson et al. 2008). This difference generates biases in customers' product perception and evaluation, and thereby influence customers' purchase behavior. Participants rely on their regulatory focus as a filter to select relevant information for processing, and they pay more attention to information that addresses their regulatory concerns (Wang et al. 2006). Positive information, which provides information on satisfactory experiences with products and thus present opportunities to attain positive outcomes, is more congruent with customers' promotion focus (Kirmani et al. 2007; Zhang et al. 2010). Therefore, promotion-focused participants concern more with positive product information, which leads to the greater persuasiveness than negative ones.

In contrast, negative information, which provides information on disadvantages of products and presents opportunities to avoid negative outcomes, is more congruent with customers' prevention focus (Kirmani et al. 2007), which leads that consumers with prevention focus would be more likely to be persuaded by the negative information. Even with same piece of information, according to the theory, consumers would have different comprehensions. For instance, when presented a sentence regarding the comparison between product A and B: A is better than B. For promotion-focused consumers, it is more likely for them to gain the comprehension: A is good. On the contrary, for prevention-focused consumers, they are more likely to comprehend it as: B is bad. Based on the nature difference between these different information-processing styles, we learn that participants with distinct regulatory focus influence their product evaluation and purchase decision (Werth et al. 2007). We posit that the participation would have positive effects on promotion-focused consumers, while have negative effects on prevention-focused consumers.

In this study, we distinguish two types of customer value, i.e., customer visit frequency of online store and customer purchase frequency. Visiting an online store site is essentially costless for consumers, and they are more likely to visit an ecommerce website without any intention of buying (Moe 2003). With typical the percentage of visits that result in purchases rarely exceeding 5% (Moe et al. 2004), we take visit frequency and purchase frequency as different levels of customer consumption and would like to test whether individual's regulatory focus will influence the effects of OBC participation on each level of customer value. Therefore, we take both consumers' visit frequency and purchase frequency into consideration.

*H1a: Online brand community participation has a positive impact on customer visit frequency for customers with promotion focus.*

*H1b: Online brand community participation has a negative impact on customer visit frequency for customers with prevention focus.*

*H2a: Online brand community participation has a positive impact on customer purchase frequency for customers with promotion focus.*

*H2b: Online brand community participation has a negative impact on customer purchase frequency for customers with prevention focus.*

## **Research Methodology**

Based on the regulatory focus theory, we learn that consumers varying on their regulatory focus will give different evaluations on a product (e.g., the emotional expressions). By using the text mining method on the basis of emotional theory, we classify consumers in the online platform as promotion-focused and prevention-focused. Then we adopt propensity score matching technique to preliminary analyze the treatment effects of OBC participation on customer visit and purchase frequency conditional on customer regulatory focus.

### ***Regulatory Focus and Reviews Bias***

#### **Regulatory Focus and Evaluation Bias**

Individuals with different regulatory focus evaluate products differently. A predominant chronic regulatory system of customers directs their behavior in product purchase and evaluation (Zhang et al. 2010). Consumers with promotion focus concern with the presence and absence of positive products features, while consumers with prevention focus regulate the absence and presence of negative product features. The different motivations between promotion focus and prevention focus influence the ways in which consumers seek and process product information (Wang et al. 2006). Moreover, consumers in promotion focus process product information risk while consumers in prevention focus are associated with a more conservative and vigilant processing style (Friedman et al. 2001). All of these differences in regulatory focus systems affect how consumers evaluate and response to products (Higgins et al. 2004; Werth et al. 2007; Zhang et al. 2010), and promotion-focused consumers incline to response positively (i.e., a "risky" bias) while prevention-oriented consumers incline to response negatively (i.e., a "conservative" bias) in their product evaluations. For promotion-focused individuals, they concern with positive signals and their brand evaluations are more likely to be more favorable (Kirmani et al. 2007). In

contrast, prevention-focused individuals concern with negative signals and thus their brand evaluations are more likely to be less favorable (Kirmani et al. 2007).

The evaluation bias affected by regulatory focus also reflects in consumer's emotional experience in relation to a product (Werth et al. 2007). Consumers in different regulatory focuses concern distinct types of pleasure and pain. When product features satisfy consumers, promotion-focused consumers expressed more cheerful compared to prevention-focused consumers, whereas the latter responded more quiescent (Higgins 1998; Higgins et al. 1997). On the other hand, when product features dissatisfy consumers, promotion-focused consumers expressed dejection-related emotion while prevention-focused consumers expressed agitation-related emotion (Higgins et al. 1997). Therefore, for a product evaluation, consumers in promotion focus evaluate the product with positive emotional bias while consumers in prevention focus evaluate the product with negative emotional bias. Attitudes and sentiments embedded in online product reviews can be interpreted as their general evaluation of a brand or products (Clemons et al. 2006; Liu 2006). Consequently, sentiments embedded in product reviews will also be biased by and consistent with consumers' regulatory focus.

### **Product Reviews Bias**

Online product reviews are biased by consumers' characteristics (Lauw et al. 2008; Li et al. 2008; Moe et al. 2012). And reviews bias can be consistent with customers' regulatory focus systems (Kwon et al. 2012; Zhang et al. 2010). The service-dominant logic of marketing shows that consumption is the interaction process between a customer and a product (Vargo et al. 2004). The evaluation of a product depends on customers' perceptions of the product. Therefore, product evaluation can be biased by customers' perceptions. Li et al. (2008) showed the existence of bias in online product reviews. Although online reviews can be biased by many factors, one determinant component is reviewer characteristic (Sikora et al. 2012). Moreover, individuals have sufficiently stable positivity bias and negative bias in their online reviews (Basiri et al. 2014). Lauw et al. (2008) also developed an inverse reinforcement model to determine individual bias in online product reviews.

According to evaluative space model, people respond to positive and negative inputs by independent motivational substrates (Ito et al. 2005) and these motivations can derive from customers' regulatory focus. Promotion-focused consumers are consistent with positivity bias in online product reviews, while prevention-focused consumers are consistent with negativity bias in online reviews (Zhang et al. 2010). When searching for product reviews, consumers with promotion focus will respond to a promotion-focused consumer-generated product review more favorably than to a prevention-focused review, and the vice is true for consumers with prevention focus (Kwon et al. 2012). Based on regulatory focus theory, consumers' regulatory focus influences customers' emotional experience during the interaction process between consumers and products and directs consumers' behavior in online product reviews. The emotion involved in online product reviews discloses the ways in which customers perceive the products and the individual bias of emotion is more likely to consistent with customers' regulatory focus (i.e., positive emotional bias is consistent with promotion focus; negative emotional bias is consistent with prevention focus).

### ***Empirical Model***

#### **Identifying Regulatory Focus from Product Reviews**

We develop a method to measure emotional biases of consumers. Based on the bias, we distinguish consumers in promotion focus from consumers in prevention focus. We collect data on customer reviews. This data includes all reviews made by specific customers and all reviews that are about specific products during a time period. According to these data, we can build a completed bipartite network of reviewers and products. For each product review, we use text mining to evaluate emotional strength involved in online reviews. The algorithm SentiStrength is adopted to analyze how consumers deliver their emotion in online product reviews (Thelwall et al. 2010). SentiStrength has been heavily used in various contexts to explore emotion strength in short informational messages (Gruzd et al. 2011; Stieglitz et al. 2013), and it classifies texts both for positive emotion (on a scale of 1 to 5) and for negative emotion (on a scale of -1 to -5).

We firstly determined the emotional strength of each review by using the SentiStrength algorithm. For an online product review, we extract both its positive emotion strength and negative emotion strength. Secondly, we calculate positive emotion strength and negative emotion strength of the specific product by averaging emotional scores (both positive and negative) of all of online reviews, which are about the product. After identifying the emotion strength of products, we determine the emotional bias of each reviewer. For a customer, who produced several product reviews on different products, its positive and negative emotional biases can be gotten by averaging difference between their emotional strength of product reviews and the corresponding emotion strength of products. Finally, we determine a customer's emotional bias by summarizing his/her positive emotion strength and negative emotion strength, and if the emotional bias is bigger than zero, then he/she is promotion-focused, otherwise is prevention-focused.

### **Propensity Score Matching**

It is not likely to be random that customers take part in OBC and these customers might exhibit characteristics that systematically differ from customers who do not. To account for endogeneity that could arise because of customer self-selection, we will use the propensity score matching (PSM) technique. PSM helps us mimic a randomized experimental setup by identifying a matched control group (non-participation customers) based on observable variables (Rosenbaum et al. 1983). First, we determine a series of observable exogenous variables to model customer community participation decision based on previous studies (Goh et al. 2013; Rishika et al. 2013). Second, we adopt a logit regression model to obtain propensity scores of OBC participation by taking exogenous variables as independent variables. Specifically, in this process, the dependent variable is a binary variable indicating whether a consumer has engaged in the community. After examining common support condition and balance condition, we take the optimal pair matching technique to find the matched control group according to their propensity scores. Customers, who are identified by PSM and in control group, are systematically similar with customers who participate in OBC. Finally, we estimate the average treatment effect on the treated (ATT), i.e., the impact of OBC participation on customer visit and purchase frequency.

### **Data Collection**

Our research context is an e-commerce company, which designs, produces, and sells clothing in Asia. In July 2010, the company, for the first time, set up an OBC on its e-commerce website with the objective of connecting with its customers. Since then, the company has regularly released product information and promotion in its OBC. The online brand community allows consumers to register by using their e-commerce website accounts. This advantage enables us to observe consumers' OBC activities and purchase behavior.

Working with the company, we collected data from three sources. First, in December 2012, there were more than 44,300 members in its OBC. We developed a specially programmed web crawler to gather information on registration record of these consumers from their profile pages. Second, the focal firm provided us with (1) the customer reward program database with information for more than 10,000 customers, and (2) the transactional data of these customers from May 2011 to December 2012. Third, information on products, its reviews, and reviewers who produced these reviews are collected during this time period. More than 2,400 consumers generated about 12,800 online reviews on around 900 products. We then match customers' community registration records, online reviews behavior, and purchase records by using their user IDs. We take customers, who produce online reviews, participate in the OBC, and are in our reward database as our study sample. There are 818 consumers and we omit consumers who (1) registered in the OBC before May 2011 (2) registered in the OBC after June 2012 (we need reasonable numbers of customer purchases and sufficient data period post customer participation to reliably estimate our model parameters) (3) were not active after registering. Our final data ample for model estimations has 484 unique consumers (254 customers with promotion focus and 230 customers with prevention focus). We adopt this sample to conduct our field survey and model estimation.

We organize our panel data and develop various exogenous variables to conduct our primary PSM analysis. We include several exogenous variables as covariates: (1)Age<sub>i</sub>, three indicators of customer specific transaction (2) payment methods (PayMethod<sub>i</sub>), which is a category variable indicating which means that consumers pay for their products, such as paying by cash and paying by credit card (3) deal sensitivity (Deal<sub>i</sub>), which measures the number of products bought on promotion divided by the total

number of products purchased in a given time period and (4) premium product purchases ( $PremiumShare_i$ ), which is the ratio of the number of premium products to the total number of products purchased by the consumer in a time period, three binary variables of whether a customer disclosed his or her (5) address information ( $AddressDisclosed_i$ ) (6) phone number ( $PhoneDisclosed_i$ ) and (7) MSN number ( $MsnDisclosed_i$ ), three indicators of location of customers (9) living in a city or a countryside ( $Rural_i$ ) (10) living in south or north ( $South_i$ ) and (11) income ( $Income_i$ ), which is a zip code-level estimate of the levels of household income as provided by the national statistics.  $VisitFrequency_i$  and  $PurFrequency_i$  are customer visit and purchase frequency respectively.  $VisitFrequency_i$  ( $PurFrequency_i$ ) is measured as the number of times a consumer visits (purchases) in a given time period. Table 1 shows the descriptive statistics of the variables our primary analysis.

Variables	Mean	Std. dev.	Variables	Mean	Std. dev.
VisitFrequency	60.890	81.152	PhoneDisclosed	0.254	0.435
PurFrequency	1.806	1.356	MsnDisclosed	0.085	0.279
PayMethods	4.290	0.602	Rural	0.196	0.390
Deal	0.239	0.351	South	1.220	0.420
PremiumShare	0.130	0.250	Income	1.730	0.870
AddressDisclosed	0.992	0.090	Age	33.00	13.520

**Table 1. Descriptive statistics of variables**

## Primary Results

We examine the treatment effect of online brand community participation on customer value by employing optimal pair matching method in our PSM produce. Table 2 shows our primary results.

Variable	A. Full sample		B. Promotion Focus		C. Prevention Focus	
	ATT	t-value	ATT	t-value	ATT	t-value
VisitFrequency	46.930	9.55***	32.153	2.72***	64.470	5.68***
PurFrequency	0.379	6.29***	0.554	4.02***	0.227	1.17

**Table 2. Our primary results**

In the analysis of either pre or post matching, we find that both  $VisitFrequency$  and  $PurFrequency$  are significant different from zero (for  $VisitFrequency$ , post matching  $ATT = 46.930$ ,  $p < 0.01$ ; for  $PurFrequency$ , post matching  $ATT = 0.379$ ,  $p < 0.01$ ) at the 1% level. These results are consistent with previous findings, and participating in OBC seems to lead members to visit and purchase the brand more frequently. We further classify the community participation group into two subgroups: (1) customers with promotion focus subgroup, and (2) customers with prevention focus subgroup. Table 2 shows OBC participation significant improves visit frequency for both subgroups of customers. However,  $PurFrequency$  is not significant different within the customers with prevention focus subgroup ( $ATT = 0.227$ ,  $p > 0.1$ ), while it is significant for customers with promotion focus ( $ATT = 0.554$ ,  $p < 0.01$ ).

## Discussions

A firm-sponsored online brand community is an efficient tool for companies to nurture customer relationships and improve customer value, but it does not have the same impact on all customers. Heterogeneity of customer participation derived from their different motivational forces determines the effectiveness of online brand community strategy. This study attempts to reconcile the mixed findings in

previous studies about the online brand community participation on customer behavior. The results reveal that brand community participation typically increase consumers' visit frequency for both promotion-focus and prevention-focus customers; but for purchase frequency, the result also suggest that, for promotion-focus customers, brand community participation increases their purchase frequency; while for prevention-focus customers, brand community participation does not decrease their purchase frequency.

Although our proposition suggests that the prevention-focus customers would typically decrease both customers' visit and purchase frequency, the unexpected results remind us to pay attentions to the value in different degrees. Specifically, customer visit frequency, as a superficial behavior, should be impacted by the community itself. That is, the hedonic value of the brand community is an important factor in attracting consumers (Chiu et al. 2014; Hur et al. 2011). While for the purchase frequency, our further data analysis demonstrated that most of message postings in this firm-sponsored online brand community are positive. This situation may contribute to the insignificant impact of brand community participation on customer purchase behavior for customers with prevention focus.

Through the conduction of this study, the results contribute to the current literature from the following facets. First, by addressing the mixed findings in prior literature regarding the business value of social media participation (Algesheimer et al. 2010; Goh et al. 2013), our results reveal that the impact of online brand community participation on customer value depends on customers' motivational forces of participation. Our exploration and validation, as one of the first attempts, extend the prior understanding regarding the impact of customers' regulatory focus on influencing customers' online value exploration. Second, by juxtaposing the role of customers' regulatory focus and social media participation, we unravel how customers' regulatory focus influences the economic value of social media participation, thereby enhancing past work. Third, this study contributes to regulatory focus theory in customer regulatory focus identification (Haws et al. 2010; Malaviya et al. 2014). Using business intelligence technique, our study proposes a novel method to distinguish customers' regulatory focus, which provides a new lens for researchers to identify how a consumer could be a promotion-focus or prevention-focus one from his/her expressions.

This study also offers several important practical implications. First, building online brand community and encouraging customers to engage in can help firms improve customer value. Online brand community provides a new platform for firms to nourish customer-firm relationship and breed customer loyalty. Second, online brand community does not generate equal value for all customers. Our results show that the efficiency of online brand community depends on customers' regulatory focus and marketers need to develop new strategies for customers with prevention focus, because engaging in social media community doesn't improves their value. Third, the method, which is used to identify customers' regulatory focus in this study, can be adopted in organizations to help managers to understand customers' psychology, and further help firms conduct better customer relationship management.

As all other studies, our work also suffers from some limitations. First, Although PSM is an efficient tool to control self-selection biases, our results may be biased by possible unobserved variables. In our future studies, we will involve additional econometric methods, such as the difference-in-difference method to verify our results. Second, our findings are also limited by the dataset. Although interesting findings are identified, the single data source is also a limitation which affects the generalizability of our results. As shown previously, most of the information in our community platform is positive, we wonder how communities that include more negative information would impact the research results. We will explore this issue in in our future work.

## **Conclusion**

In this paper, we strive to reconcile the mixed findings in the literature about the impact of customer participation in an online brand community on customer behavior. We introduced the regulatory focus theory in the study of customer participation in brand communities and explored how customers' regulatory focus affects the outcome of their community participation. We conducted this study by creating a novel data set, which integrate customers' transaction data, community participation data, and online product reviews data. We proposed a method to identify customers' regulatory focus based on their feedback biases in online product reviews and use propensity score matching to rule out customer self-

selection issues concerning community participation and purchase frequency. Our results showed that the effectiveness of online brand community is determined by customers' regulatory focus. Our study helps enrich the regulatory focus theory on its expressive power towards understanding the impact of online brand community regarding customer behavior in e-commerce.

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