

A Structural Equation Model for Enhancing Online Brand Community Loyalty

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Online brand communities are an important tool for creating market opportunities. Previous studies have concluded that they generate value for their brands, yet little is known about how to manage them in order to secure the loyalty of their members. The current study aims to test a model of members' loyalty to online brand communities and to study the impact of the perceived values on members' loyalty through mediator variables which include community satisfaction and community trust. The samples obtained are active participants of Facebook fan pages for automobile brands in Thailand. The sample size was 512 respondents obtained by using a systematic random sampling technique. An online questionnaire was used to collect data, which were analyzed by means of structural equation modeling. The results show that the model fits the empirical data, considering goodness of fit measures, namely Chi-square = 44.761 ($df = 20$), p -value = 0.001, (χ^2/df) = 2.24, CFI = 0.995, TLI = 0.985, RMSEA = 0.048, and SRMR = 0.018. The perceived value factors were important for the enhancement of members' satisfaction with online brand communities. A high degree of member satisfaction with online brand communities resulted in a greater trust in the communities. Moreover, the members' loyalty was influenced by their satisfaction, but not by their trust. Therefore, the results of this study suggest that the administrators of online brand communities encourage the members' satisfaction by creating brand contents. These lead to high member loyalty by positive communication intention with others.

Keywords: online brand community, perceived value, satisfaction, trust, loyalty

Social media is a tool which can be used for creating a challenging opportunity to develop customer relationships. Basically, the goals of an organization which uses social media are 1) to increase the relationship between customer and brand, 2) to distribute widely, rapidly and more reliably information that provides greater effectiveness than mass media, and 3) to increase brand awareness because it can access a large perception. Finally, increases the volume of sales. The important roles of a marketer in using social media are to achieve the maximum effectiveness in marketing and to identify the type of social media which responds most effectively to a firm's strategy (Tsimonis & Dimitriadis, 2014). According to Barker, Barker, Bormann, and Neher (2013), social media can be classified into five groups, namely: 1) social network sites (e.g. Facebook, LinkedIn, MySpace) 2) video sharing sites (e.g. YouTube), 3) microblogging sites (e.g. Twitter), 4) photo sharing sites (e.g. Instagram), and 5) encyclopedia (e.g. Wikipedia).

By using the data obtained from social media, it was found that 79 percent of organizations had used Facebook (Heller Baird & Parasnis, 2011). This is similar to findings obtained in Thailand, where 77 percent of firms use Facebook (Zocial Inc, online, 2015). The reasons for the usage of Facebook are ease of access to communication channels of modern marketers and word-of-mouth (WOM) (Cholsirirungskul, 2011). Therefore, social media is a

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crucial communication tool for forming close relationships between customers, brands, firms, products and groups of customers who share the brand experiences together (McAlexander, Schouten, & Koenig, 2002). As a result of the wide growth of social media through Facebook, the relationship between consumers and online brand communities is created and developed (D. Lee, Kim, & Kim, 2011). Muniz and O'Guinn (2001) have defined a brand community as "a specialized, non-geographically bound community, based on a structured set of social relationships among users of a brand" (p.412). An online brand community is a group of people who access the internet for communication with users who have the same interests. A community is established to supporting brands and to encourage customers to be members. Both content and topics can be freely exchanged (Sicilia & Palazón, 2008). Interestingly, the advantages of online brand communities are that marketers can create and distribute beneficial information concerning their products and services. Furthermore, this is a stimulus for customers to make their purchasing decisions (D. Lee et al., 2011).

In general, the management of online brand communities is a complicated process which does not always result in success for all firms. This means that many members join the communities, but to keep members in a long term relationship and to get them to participate in activities are more problematic (H. J. Lee, Lee, Taylor, & Lee, 2011). The critical question for a marketer in managing an online brand community effectively is to know what factors affect participation and active behavior with a view to maintain sustainability (Wirtz et al., 2013). However, there is lack of studies in the literature concerning the management of online brand communities through the use of Facebook and its long term sustainability. The present study considers brand loyalty because the brand is the main component in an online brand community (H. J. Lee et al., 2011). This concept can be explained in terms which affect brand loyalty, namely, perceived values, satisfaction and trust (He, Li, & Harris, 2012). Consequently, this study investigates the perceived values. Consumers follow their interests and join communities that represent their values or provide benefits to them (Farquhar & Rowley, 2006; Park & Kim, 2014). Moreover, the factor of satisfaction with an online brand community is important for obtaining the participation of members in communities and to sustain success in managing the brands (Chow & Shi, 2015). In addition, trust in an online brand community is a crucial factor, especially when communities are not able to establish the trust of its members who could decide to leave the group (Spaulding, 2010). All the factors mentioned above affect the loyalty of online brand communities (Jin, Lee, & Cheung, 2010; Marzocchi, Morandin, & Bergami, 2013). In particular, this study defines the terms of loyalty which affect behavior to in the support of online brand communities and to maintain a long term relationship. These terms are the indicators of sustainable management in online brand communities.

In summary, in order to understand the factors that affect loyalty of online brand communities on Facebook, it will be necessary to investigate the factors which affect brand loyalty, namely, perceived values, satisfaction, and trust in an online brand community which results in loyalty to an online brand community. The behaviors of members in supporting online brand communities are investigated in order to describe the relationship of the variables. The findings will be beneficial for marketers in sustainable management of online brand communities. This study uses the Structural Equation Modeling (SEM) approach. This technique is used for studying the causes and effects of factors that are influenced. The methodology is based on an analysis of the empirical data in order to confirm the structural theory (Pipatprapa, Huang, & Huang, 2016; Yoelao, Thammakitak, & Prasertsin, 2016). Also,

SEM was used to test the underlying constructs in the proposed model which test members' loyalty to online brand communities.

Research Objectives

1. To test a model of members' loyalty to online brand communities.
2. To study the impact of the perceived values on the members' loyalty through the mediator variables which include the community satisfaction and the community trust.

Research Boundary

The sample of this study was members in online brand communities on Facebook. They were identified as being active participants on the grounds of making posts, likes, comments and sharing. The variables were the perceived values factors of online brand communities that had provided effect to loyalty moderating by satisfaction and trust.

Literature Review

Brand loyalty is a crucial and salient factor which indicates a firm's performance that it leads to competitive advantages in the market. It can be assessed in terms of both behavior and attitude. The concept of brand loyalty is increasingly adopting an integrative approach to model the antecedents to brand loyalty. This concept was chosen in this study because in the context of online brand communities, the brand selected is the core element in the establishment of a community. Members follow up on the online brands which impress them the most. Many previous studies have found that brand loyalty focuses on constructs, such as perceived values, satisfaction and trust (He et al., 2012). It is these factors that drive sustainable performance of online brand communities. A review of the literature is summarized as follows:

Perceived Values from Online Brand Communities

The main component of assessment of the performance of an online brand community is shown in terms of its perceived values or the benefits that can be obtained from being a member of the community (Szmigin, Canning, & Reppel, 2005). Drawing upon previous studies, the present study focuses on the perceived values of the community members which can be classified into four perspectives (Chow & Shi, 2015; Sicilia & Palazón, 2008; Wirtz et al., 2013). First, functional value which has useful advantages, such as solving problems, asking for information, finding out details, evaluating before purchasing, and following up on any special offers. Second, hedonic value, which is obtained from the members' interests and the encouragement of any emotions or feelings of the members, such as excitement, fun, or entertainment. Third, social value, which is any stimulus to interaction among members in sharing ideas, information, or helping each other. Lastly, brand relationship value, which reflects the identity and traits of the brand. These four elements of perceived values can be measured by using a 5 point interval scale. Importantly, the perceived values lead to the satisfaction of members with the online brand community (Chow & Shi, 2015; Coulter et al., 2012; Jin et al., 2010; Tsai & Pai, 2013). Therefore, it can be hypothesized that

H₁: The factor of perceived values from an online brand community has a direct effect on satisfaction.

Satisfaction of Online Brand Communities

Satisfaction is defined in term of positive attitudes resulting from experiences in using products and services. It can be compared to the relationship between expectations and results. Additionally, it affects the long term relationship between consumer and brand. It also suggests desirable behaviors for an organization which is considering purchasing proposed products or services. Similarly, this can be represented as the satisfaction of members supporting the online brand community (Tsai & Pai, 2013). In the present study, the satisfaction of an online brand community is classified into three factors. First, satisfaction with the brand, which can be assessed in terms of satisfaction with brand performance resulting in seeking interaction between members who also prefer the same brand (Tsai, Huang, & Chiu, 2012). Second, the satisfaction with the other members can be assessed in terms of social interaction which involves communication, helping one another, and knowledge obtained from professionals who are also members of the community (Van Dolen, Dabholkar, & de Ruyter, 2007). Lastly, satisfaction with the administration results in higher expectations of the members in the community, for example, the administration can be seen to be taking care of members, responding to any questions or providing useful information to members as fast as possible. This includes stimulating members to communicate and to present information properly (Adjei, Noble, & Noble, 2012; Gamboa & Gonçalves, 2014). These factors in members' satisfaction can be measured by using a 5 point interval scale. Hence, the satisfaction of an online brand community relies on the trust of the members in a particular brand community (Jung, Kim, & Kim, 2014; Shao Yeh & Li, 2009). Therefore, it can be hypothesized that:

H₂: The factor of member satisfaction with an online brand community has a direct effect on trust.

Loyalty of Online Brand Communities

Brand communities emerged in the pre-Internet era. The members join the brand community because they are loyal to the brand, and are almost passionate about it. They have a face-to-face interaction where value creation takes place. Therefore, a brand often elicits high levels of involvement, loyalty and emotion among members. The emergence of online brand communities in modern society is an evolution of these brand communities. Members can remain anonymous when they join an online brand community. Moreover, interaction is not restricted by location or time, thus members' involvement can range from a very low to a very high level. So, enhancing members' loyalty to an online brand community is more difficult than it was for a brand community in the pre-Internet era (Wirtz et al., 2013).

To evaluate the success of online brand communities in the long term, it is necessary to consider the concept of relationship marketing. This focuses on establishing a relationship with the members of a community and encouraging a closer higher relationship that will lead to loyalty. The definition of the loyalty of an online brand community for this study is defined as the outcome of behavior in supporting an online brand community and the desire to establish a close and continuous relationship. Moreover, loyalty can be divided into three factors. First, a commitment to an online brand community means members maintain a

relationship with the online brand community which causes them to return to the community frequently (Kuo & Feng, 2013). Second, online brand community participation can be divided into interaction and cooperation between members in order to achieve joint success. It is defined as being more than only participation in any activities of the community (Algesheimer, Dholakia, & Herrmann, 2005). Third, word of mouth marketing (WOM) is employed with the online brand community. This is defined as the supporting social behavior by which positive communication is employed towards the online brand community, its friends and others. For example, this includes invitations to others to become members of the community (Marzocchi et al., 2013). This study measures three factors of loyalty by studying the members' intention to behave in supporting an online brand community by using a 5 point interval scale. Previously, there have been studies of the factors in members' satisfaction which affect the online brand community (Jin et al., 2010). Moreover, these factors also enhance member loyalty (McAlexander, Kim, & Roberts, 2003) and result in members returning to the community repeatedly (Jung et al., 2014). Therefore, it can be hypothesized that:

H₃: The factor of member satisfaction of an online brand community has a direct effect on loyalty.

Trust in an Online Brand Community

Trust is an important factor in order to establish a long term relationship between the marketer and the consumer. In particular, in an online market, it is able to reduce the risks to consumers (Schlosser, White, & Lloyd, 2006). Online brand community trust is a psychological trait of members of the community which is able to deliver credibility and allows member to share joint interests. Moreover, trust has also been associated with a set of the members' beliefs on the community management such as honesty, attention to requirements, and solving any problems (Hsu, Chiang, & Huang, 2012). The items of the members' trust are measured by using a 5 point interval scale. When an online brand community is able to establish the trust of its members, it results in preferable behaviors from members of that community. For example, these behaviors include the distribution of information to members, communicating to others outside the community, participating in any activities within the community, demonstrating a loyalty to the brand, showing an interest in following the activities of the community, and introducing others to the online brand community (Hsu et al., 2012; Tsai et al., 2012; Yeh & Choi, 2011). Therefore, it can be hypothesized that:

H₄: The factor of member trust in an online brand community has a direct effect on loyalty.

This study proposes a construct for the loyalty of the online brand community, including perceived value, satisfaction, and trust. However, studying the mediators is important in order to better understand how to enhance the members' loyalty to online brand communities. Previous studies found that the members' satisfaction has a mediating role in enhancing the factors affecting the perceived value of members' loyalty to an online brand community (Jin et al., 2010; Jung, et al., 2014). Moreover, an essential element for maintaining long-term relationships is trust. The members' trust in an online brand community encourages the influence of satisfaction with the members' loyalty to the communities (He et al., 2012; Jung, et al., 2014). Therefore, it can be hypothesized that:

H₅: The factor of perceived values from an online brand community has an indirect effect on loyalty which is mediated by satisfaction and trust.

From a review of the literature we can devise the conceptual model of the research as shown in Figure 1.

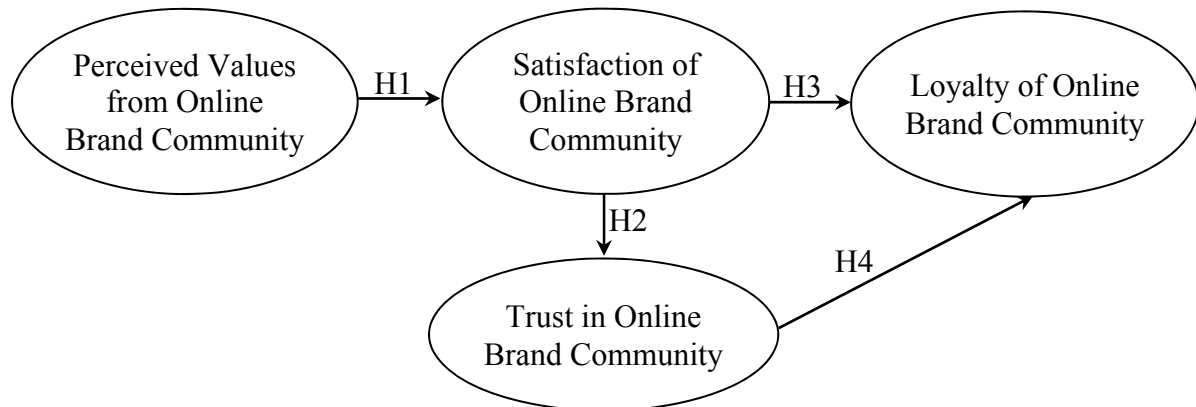


Figure 1. The Conceptual Model.

Methodology

The present research employed a quantitative approach by using a research survey. The data were gathered from samples who were members of automobile online brand communities in Thailand accessed on Facebook fan page because each business category has a different approach to the organization of a community (Chou, 2014). The automotive industry in Thailand is critical to creating economic value for the country. The value of exports from 2013 – 2016 have increased year by year (National Science and Technology Development Agency, online, 2016). Moreover, automobile fan pages have been cited as being the most accessed communities (Zocial Inc, online, 2015). The sample size was identified as 15 times the parameters for the structural equation model (Hair et al., 2010). There are a total of 24 parameters in this research which are composed of 4 loading estimates and 4 error estimates in the construct of perceived values, 3 loading estimates and 3 error estimates in the construct of satisfaction, 3 loading estimates and 3 error estimates in the construct of loyalty to an online brand community, and 4 path coefficients. Therefore, a reliable sample size should be at least $24 \times 15 = 360$. For the present research, 512 samples were gathered by probability sampling. A systematic random sampling procedure was employed by firstly rearranging the names of active members in automobile online brand communities on the basis of posts, likes, comments, and sharing. Then the number of entries on the name list and the number of elements corresponding to the names were selected (Latham, 2007). For example, if there are 300 people on the population list and 25 samples are to be selected, then every 12th name on the list is chosen. Thus the samples will appear on lines 12, 24, 36, and so on.

The research tool used was a questionnaire which was developed into 4 parts. Part 1 contains general information about the respondents and their behaviors as a member of an online brand community. Closed-ended questions were developed using a nominal and

ordinal scale. For parts 2-4, the questions were represented with a 5 point interval scale. The content validity was approved by 3 professional experts and revealed the index of item objective congruence (IOC) was at least 0.5 (Rovinelli & Hambleton, 1977). Reliability was tested by applying the construct reliability (CR) with a value of at least 0.70 (Hair et al., 2010). Briefly, in part 2, the construct of perceived value is composed of functional values (5 items, CR = 0.986), hedonic values (3 items, CR = 0.993), social values (4 items, CR = 0.994), and brand relationship values (5 items, CR = 0.994). In part 3, the construct of satisfaction with and trust in an online brand community is composed of satisfaction with a brand (3 items, CR = 0.992), satisfaction with other members (3 items, CR = 0.986), satisfaction with administrator (4 items, CR = 0.995), and trust (5 items, CR = 0.995). In part 4, the construct of loyalty to an online brand community is composed of commitment (2 items, CR = 0.992), participation (3 items, CR = 0.995), and Word of Mouth (4 items, CR = 0.992).

Results

Most of respondents were male (73.6 percent), 30-39 years of age (53.7 percent), held a Bachelor Degree (56.1 percent), and working in own business (37.1 percent). The online behavior results stated that the respondents have been following the online community for 1-3 years and less than 1 year (41.6 percent and 34.4 percent respectively). The participation behaviors in the online brand community indicated that the respondents sometimes liked the contents (35 percent), and were very seldom to participate in comment (32.8 percent) and share (33.6 percent). Table 1 outlines their demographic profiles and online behavior.

Table 1

Respondent Demographic Information and Behavior (N=512)

| Demographic | N | Percent | Online Behavior | N | Percent |
|-----------------------|-----|---------|---------------------------|-----|---------|
| Gender | | | The duration in following | | |
| Male | 377 | 73.6% | the online community | | |
| Female | 135 | 26.4% | Less than 1 year | 176 | 34.4% |
| Age | | | 1-3 years | 213 | 41.6% |
| 20-29 | 116 | 22.7% | More than 1 years | 123 | 24.2% |
| 30-39 | 275 | 53.7% | Participation frequency | | |
| 40-49 | 89 | 17.4% | Like | | |
| > 50 | 32 | 6.2% | Regularly | 92 | 18.0% |
| Education | | | Often | 103 | 20.1% |
| Below Bachelor Degree | 71 | 13.9% | Sometimes | 179 | 35.0% |
| Bachelor Degree | 287 | 56.1% | Very seldom | 118 | 23.0% |
| Graduate School | 154 | 30.1% | No | 20 | 3.9% |
| Occupation | | | Comment | | |
| Government official | 90 | 17.6% | Regularly | 24 | 4.7% |
| State Enterprise | 15 | 2.9% | Often | 55 | 10.7% |
| Employee | | | Sometimes | 143 | 27.9% |
| Employee | 158 | 30.9% | Very seldom | 168 | 32.8% |
| Own business | 190 | 37.1% | No | 122 | 23.8% |
| Student | 39 | 7.6% | | | |
| Other | 20 | 3.9% | | | |

Table 1 (Continued)

| Demographic | N | Percent | Online Behavior | N | Percent |
|-------------|---|---------|-----------------|-----|---------|
| | | | Share | | |
| | | | Regularly | 39 | 7.6% |
| | | | Often | 39 | 7.6% |
| | | | Sometimes | 160 | 31.3% |
| | | | Very seldom | 172 | 33.6% |
| | | | No | 102 | 19.9% |

Members of online brand communities perceived values by hedonic values ($\bar{x} = 3.41$) were high and the mean score of brand relationship values ($\bar{x} = 3.36$), functional values ($\bar{x} = 3.02$) and social values ($\bar{x} = 2.84$) were all medium. The mean score of member satisfaction of an online brand community were all medium by satisfaction with other members ($\bar{x} = 3.25$), satisfaction with administrator ($\bar{x} = 3.23$) and satisfaction with a brand ($\bar{x} = 3.21$), respectively. The members' trust in the community were high score ($\bar{x} = 3.48$). For the members' loyalty found that the mean score of members' commitment to the community were high ($\bar{x} = 3.64$). The other elements of loyalty were all medium by word of mouth ($\bar{x} = 3.36$) and participation in the community ($\bar{x} = 3.13$), respectively.

Part 1: Measurement Model

In confirmatory factor analysis (CFA) by Mplus 7.2 software program, the model fit with empirical data was examined by the criteria of χ^2/df less than 3 (Hair et al., 2010) or less than 5 (Schumacker & Lomax, 2004), the goodness of fit (CFI/TLI) ≥ 0.95 (Hair et al., 2010), and root mean square error of approximation (RMSEA/SRMR) ≤ 0.05 (Hair et al., 2010) or ≤ 0.08 (Hu & Bentler, 1995). In findings, firstly, the construct of perceived values of an online brand community fit with the empirical data by revealing $\chi^2 = 268.122$, $\text{df} = 99$, $\text{p-value} = 0.000$, $\chi^2/\text{df} = 2.71$, $\text{CFI} = 0.971$, $\text{TLI} = 0.960$, $\text{RMSEA} = 0.060$, and $\text{SRMR} = 0.035$. The factor loading of the first component was examined from 4 latent variables namely functional values (0.92), hedonic values (0.78), social values (0.74), and brand relationship values (0.79). The factor loading of the second component was between 0.59 and 0.88. Second, the construct of satisfaction of an online brand community fit with the empirical data by revealing $\chi^2 = 51.045$, $\text{df} = 24$, $\text{p-value} = 0.001$, $\chi^2/\text{df} = 2.13$, $\text{CFI} = 0.992$, $\text{TLI} = 0.985$, $\text{RMSEA} = 0.049$, and $\text{SRMR} = 0.019$. The factor loading of the first component was examined from 3 latent variables namely satisfaction with a brand (0.84), satisfaction with other members (0.94), and satisfaction with administrator (0.89). The factor loading of the second component was between 0.75 and 0.89. Third, the construct of trust in an online brand community fit with the empirical data by revealing $\chi^2 = 10.779$, $\text{df} = 3$, $\text{p-value} = 0.013$, $\chi^2/\text{df} = 3.59$, $\text{CFI} = 0.996$, $\text{TLI} = 0.986$, $\text{RMSEA} = 0.075$, and $\text{SRMR} = 0.019$. The factor loading of the first component was examined from 5 items that revealed factor loading between 0.76 and 0.93. Fourth, the construct of loyalty to an online brand community fit with the empirical data by revealing $\chi^2 = 55.429$, $\text{df} = 15$, $\text{p-value} = 0.000$, $\chi^2/\text{df} = 3.69$, $\text{CFI} = 0.990$, $\text{TLI} = 0.975$, $\text{RMSEA} = 0.076$, and $\text{SRMR} = 0.019$. The factor loading of the first component was examined from 3 latent variables namely commitment (0.85), engagement (0.91), and WOM (0.99). The factor loading of the second component was between 0.76 and 0.94, as shown in Table 2.

Table 2

Reliability and Factor Loadings of the Observed Variables

| Observation Variables | Item | Construct Reliability (CR) | Factor loading |
|--|------|----------------------------|-----------------|
| Perceived value ^a | | | |
| Functional value | 5 | 0.986 | 0.92** |
| Hedonic value | 3 | 0.993 | 0.78** |
| Social value | 4 | 0.994 | 0.74** |
| Brand relationship value | 5 | 0.994 | 0.79** |
| $\chi^2/df = 2.71$, CFI = 0.971, TLI = 0.960, RMSEA = 0.060, SRMR = 0.035 | | | |
| Satisfaction ^a | | | |
| Brand | 3 | 0.992 | 0.84** |
| Member | 3 | 0.986 | 0.94** |
| Admin | 4 | 0.995 | 0.89** |
| $\chi^2/df = 2.13$, CFI = 0.992, TLI = 0.985, RMSEA = 0.049, SRMR = 0.019. | | | |
| Trust ^b | 5 | 0.995 | 0.76** - 0.93** |
| $\chi^2/df = 3.59$, CFI = 0.996, TLI = 0.986, RMSEA = 0.075, and SRMR = 0.019 | | | |
| Loyalty ^a | | | |
| Commitment | 2 | 0.992 | 0.85** |
| Participation | 3 | 0.995 | 0.91** |
| WOM | 4 | 0.992 | 0.99** |
| $\chi^2/df = 3.69$, CFI = 0.990, TLI = 0.975, RMSEA = 0.076, SRMR = 0.019. | | | |

Notes. ^a = second order confirmatory factor analysis. ^b = first order confirmatory factor analysis. ** $p < .01$.

Table 3

Correlation among Observed Variables in the Structural Equation Model

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------------------|-------|-------|-------|-------|-------|-------|--------|-------|-------|------|
| Functional | 1.00 | | | | | | | | | |
| Hedonic | .59** | 1.00 | | | | | | | | |
| Social | .57** | .49** | 1.00 | | | | | | | |
| Brand relationship | .57** | .68** | .48** | 1.00 | | | | | | |
| Brand | .56** | .66** | .53** | .74** | 1.00 | | | | | |
| Member | .51** | .54** | .63** | .61** | .67** | 1.00 | | | | |
| Admin | .59** | .59** | .47** | .69** | .67** | .66** | 1.00 | | | |
| Commitment | .44** | .59** | .46** | .58** | .66** | .55** | .512** | 1.00 | | |
| Participation | .52** | .50** | .70** | .53** | .64** | .67** | .51** | .67** | 1.00 | |
| WOM | .48** | .58** | .52** | .59** | .67** | .67** | .56** | .75** | .76** | 1.00 |
| Skewness | .47 | .30 | .29 | -.11 | -.02 | .01 | .04 | -.17 | .01 | -.06 |
| Kurtosis | .06 | -.07 | -.04 | -.03 | .03 | -.07 | -.13 | -.39 | -.31 | -.22 |

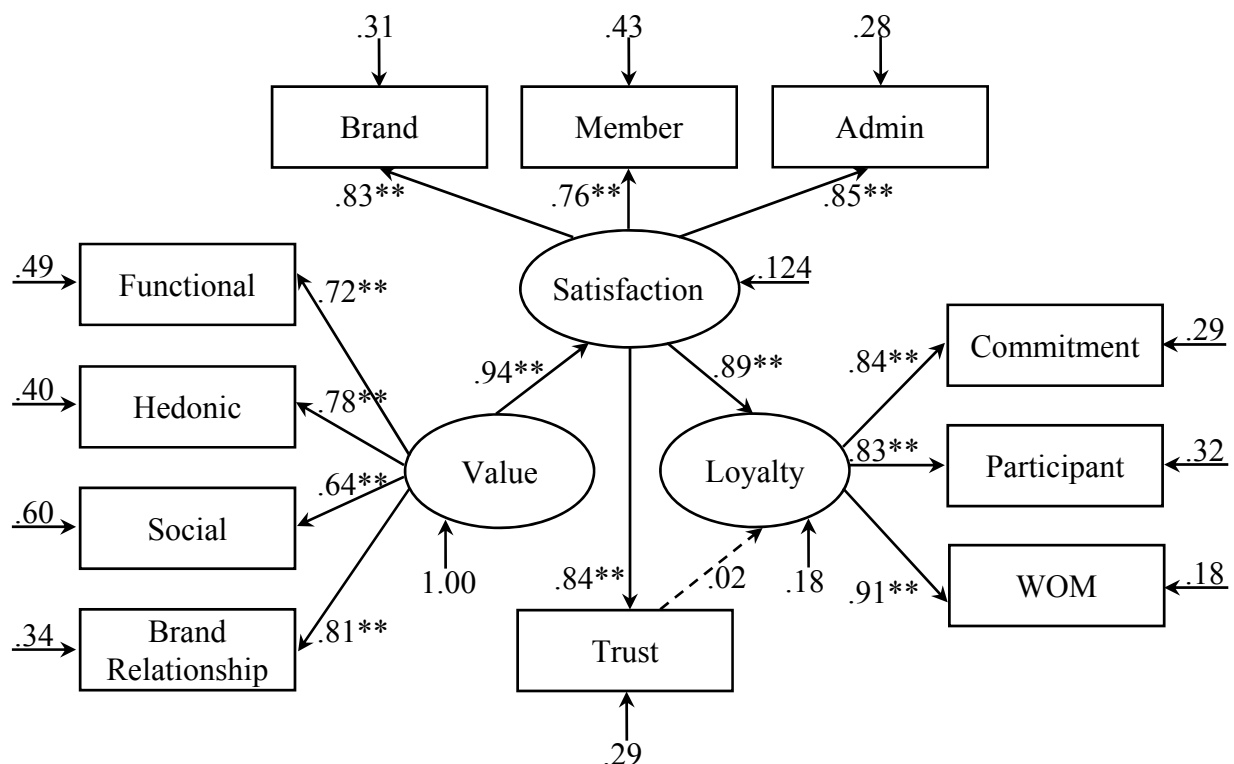
Notes. 1 = Functional. 2 = Hedonic. 3 = Social. 4 = Brand relationship. 5 = Brand. 6 = Member. 7 = Admin. 8 = Commitment. 9 = Participation. 10 = WOM. ** $p < .01$.

Part 2: Structural Model

By examination of the relationship between the observed variables, namely, functional values, hedonic values, social values, brand relationship values, satisfaction with a brand, satisfaction with other members, satisfaction with administrators, commitment, participation,

and the WOM correlation revealed between 0.44 and 0.76 which does not exceed 0.8 which is statistically acceptable (Field, 2005). In examining the data distribution of each item, skewness and kurtosis were considered. All items revealed the skewness between -0.17 and 0.47 which did not exceed ± 1 (Bulmer, 1979), and the kurtosis was between -0.39 and 0.06 which did not exceed ± 3 (Balanda & MacGillivray, 1988), as shown in Table 3. Following these calculations, the data was analyzed according to the structural equation model.

According to the data analysis, the structural model of loyalty to online brand communities fit with the empirical data under the condition of $\chi^2 = 44.761$, $df = 20$, $p\text{-value} = 0.001$, $\chi^2/df = 2.24$ less than 3, CFI = 0.995 and TLI = 0.985 exceeds 0.95, RMSEA = 0.048, and SRMR = 0.018 less than 0.05 (Hair et al., 2010). Furthermore, the perceived values of the online brand community has a direct effect on satisfaction ($\beta = 0.94$, $p < 0.01$). This means that a member who obtains higher values from a community is more satisfied with the online brand community. Satisfaction with an online brand community has a direct effect on trust ($\beta = 0.84$, $p < 0.01$). Thus, higher satisfaction of the members with an online brand community also results in greater trust. Additionally, satisfaction with an online brand community has a direct effect on loyalty ($\beta = 0.89$, $p < 0.01$). Consequently, it can be assumed that the greater the satisfaction with an online brand community, the greater the loyalty of members to that online brand community. Unfortunately, trust in an online brand community does not have a direct effect on loyalty. The analysis of the indirect effects found that the higher the perceived values of the members the more their loyalty to an online brand community was enhanced through the mediator which is the members' satisfaction ($\beta = 0.83$, $p < 0.01$), but not their trust. Therefore, the analysis shows that H_1 , H_2 , H_3 and H_5 are supported, but H_4 is not, as shown in Figure 2 and Table 4.



Note. $\chi^2 = 44.761$. $I = 20$. $p\text{-value} = 0.001$. $\chi^2/df = 2.24$. CFI = 0.995. TLI = 0.985. RMSEA = 0.048. SRMR = 0.018 (standardized estimates).

Figure 2. Structural Model of Loyalty to an Online Brand Community.

Table 4

Results for the Hypotheses

| Causal Path | Estimate (β) | R^2 | Hypotheses test |
|--|-------------------------|-------|-----------------------|
| H ₁ : Perceived value → Satisfaction. | .94** | 0.88 | Accepted |
| H ₂ : Satisfaction → Trust. | .84** | 0.71 | Accepted |
| H ₃ : Satisfaction → Loyalty. | .89** | 0.83 | Accepted |
| H ₄ : Trust → Loyalty. | .02 | | Rejected |
| H ₅ : Perceived value → Loyalty | .32 | | |
| Perceived value → Satisfaction → Loyalty | .83** | - | Partially Accepted |
| Perceived value → Satisfaction → Trust → Loyalty | .02 | | |

Note. ** $p < .01$.

Discussion

The perceived values of members in joining an online brand community are an important factor in deriving satisfaction. Members of an online brand community, such as Facebook fan page have perceived values of brands relationship. The content of the brand represents and automobile's brands and supports a fashionable image. Hedonic values are perceived to be at a lower level. The content shown is attractive to members and leads to excitement and entertainment. Apart from the functional values, the members also know that following the community closely enables them to get better services by receiving special offers and gifts. With social values, members are interested in being able to share ideas with other members and to get positive feedback from the community. The four factors of perceived values are found in of brand relationship values (Wirtz et al., 2013), hedonic values (Coulter et al., 2012), functional values (Chow & Shi, 2015; Jin et al., 2010; Jung et al., 2014), and social values (Tsai & Pai, 2013), all of which affect the satisfaction of members with an online brand community. Interestingly, creating contents to present all four values encourages greater satisfaction of members. The satisfaction of an online brand community can be divided into three aspects. It was found that members were most satisfied with administrator when accurate information was presented, when communication was encouraged, and when answers were given to any questions from members as fast as possible all of which has an effect on trust. Next, satisfaction with a brand was considered which shows that members are satisfied with the establishment and maintenance of the relationship between members and the brand, when it fulfills the expectations of its members. Lastly, satisfaction with other members regarding information and professional expertise, with helping each other, and with participation in activities are important. This means that the greater the satisfaction the stronger the trust of the members in the community. Members are able to appreciate honesty, attention to requirements, and solving any problems. These findings are similar to the study of Jung et al. (2014) and Shao Yeh and Li (2009). They summarized that satisfaction affects the level of trust of the members in an online brand community. Moreover, with greater satisfaction, there is greater loyalty to an online brand community as well. Members enjoy communicating positively and also introducing and inviting others to join the community. Commitment is reinforced by being a member and following the community. In addition, members want to participate in the community by sharing information and helping each other, and joining any activities that take place within

the community. This is similar to the conclusion of Jin et al. (2010), Jung et al. (2014), and McAlexander et al. (2003), who found that the level of satisfaction of members in a community is affected by their loyalty to an online brand community, which is demonstrated by their returning regularly to the community. However, trust does not lead loyalty of an online brand community. It may be that when a community is established by a marketer it results in a lower level of trust than when it is established by the consumers themselves. This point is also mentioned by D. Lee et al. (2011) and Zaglia (2013). They state that members seem to have a greater trust in the administrators and form relationships with others in the online brand community if it is created by the consumers. As a result communities which are established by the consumers will obtain a greater level of loyalty.

Conclusion

The successful management of online automobile brand communities through Facebook by applying the concept of brand loyalty depends on whether the marketer is able to represent the values of the members in the community. The presentation of content should reflect all four values, especially the brand relationship, as well as the hedonic, functional, and social values of its members, respectively. This leads to member satisfaction. Members will be satisfied with three aspects of satisfaction, if the administrator presents information accurately the members, if questions are answered as fast as possible, and if communication is encouraged between members. Furthermore, satisfaction with the brand results from a good relationship with its members and responding to their expectations where possible. Moreover, satisfaction with other members depends on their knowledge and professional expertise, their readiness in helping each other, and answering any questions. All these factors lead to the loyalty of the members of a community and it also encourages loyalty through positive communication with others. Thus, better relationships will develop and members will be more inclined to follow the online brand community on a regular basis. Thus, participation in the activities of an online brand community is a key to the sustainable management of an online brand community. However, the current study has some limitations. First, the selection of respondents is bound to Facebook which is a type of social media. The results cannot be used to refer to the management of other online brand communities, such as Instagram, YouTube, and Twitter etc. Second, automobile brands were chosen to study how to enhance members' loyalty to an online brand community. Consequently, it is not possible to make any generalizations which would apply to other business brands.

Recommendations

Marketers have to be responsible for representing the content of an online brand community to the members to obtain all four aspects of the given values.

First, they have to show those values are capable of establishing good relationships between the brand and the members in the community. The marketer should understand the characteristics of an automobile brand, firstly, those characteristics which are fashionable, popular and attractive. After identifying the characteristics of a brand, it is then necessary to design appropriate wordings, color, and picture layout to match the content. This will help to support the perceived values of the members belonging to a brand.

Second, to represent the hedonic values, the contents can be displayed to the members via pictures or videos that are colorful and attractive and can be used to replace some of the text. Moreover, it is not only necessary to focus on products or services but also to offer advantages to the members. The content itself should be easy to understand, be fun, and it should not appear to persuade members to buy a product or a service.

Third, to provide useful information by including detailed information of products or technical methods for solving possible future problems, some promotions can be offered to members to encourage their participation in activities for a limited time. Special offers can be advertised, such as discounts, rewards, or gifts.

Finally, it is a good idea to represent the values to stimulate interaction among members in the community. The content can display questions which stimulate participation. Expressing ideas, playing games, and sharing photos are all interesting activities. Furthermore, to allow all members to post things for free in order to share or ask each other questions concerning products and services are advantageous.

In addition, increasing members' satisfaction should be considered because it has a significant mediator role. Especially, assignment duties for administrators to post content at the right times, to present information accurately, to answer any questions as quickly as possible, and to be an intermediary for stimulating conversation among the members. These are important approaches to raising the level of the members' satisfaction which leads to the enhancement of members' loyalty to the online automobile brand communities.

For future research, trust does not support loyalty of the members in an online brand community. This might be because some important factors, such as social identity, self-efficiency, and personal characteristics (e.g. extroverts/introverts) were not included. These factors may be the mediators or moderators which help to develop loyalty to an online brand community. In particular, this study has focused only on online automobile brand communities on Facebook fan pages which are established by a marketer, so other kinds of businesses and different social network sites should be investigated further. Alternatively, it would be useful to examine all the factors leading to loyalty and also what constitutes the effective management of an online brand community.

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