

Online reviews and its impact on brand equity

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Abstract

In the era of online social media, marketers are gradually losing their control over brand management. Through online reviews consumers share their brand usage experiences. Online reviews are considered as more credible compared to other channels of information. Therefore, this study attempts to assess the effect of credible online reviews on brand equity dimensions, namely, brand awareness, brand associations (in terms of perceived value, brand personality, and organizational associations), and perceived quality. The purposes of the present study is to examine the objective and subjective experiences of the consumers. To examine the objective experiences of the consumers, the present study uses quantitative techniques and to examine the subjective experiences of the consumers, the present study uses qualitative techniques. For quantitative study, structural equation modeling has been performed and data is collected from select Facebook brand pages on 956 respondents. For qualitative study, netnography is adopted. "Apple Users India" brand community is considered for netnography. Both quantitative and qualitative studies reveal that online reviews have significant positive effect on brand equity dimensions.

Keywords: Credible online reviews; Brand equity; Brand pages; Brand community; Structural equation modeling; Netnography.

Introduction

In the era of online social media, marketers are gradually losing their control over brand management (Bruhn *et al.*, 2012). Consumers are generally writing online reviews in various social media platforms and sharing their brand usage experiences. These online reviews are playing a significant role in influencing consumer purchase behaviour (Cheung *et al.*, 2009; Sen and Lerman, 2007). Online reviews on products are found to be more influential than advertisements (Trusov *et al.*, 2009) because online reviews are perceived to be more

credible compared to other sources of information (Gruen *et al.*, 2006). Therefore, marketers are giving importance to online social media communication in their marketing mix to promote brands (Ho-Dac *et al.*, 2013).

Online reviews on brands create a distinct place for the marketers in consumers' minds (Bambauer-Sachse and Mangold, 2011). This study follows attribution theory to understand the effects of online reviews on brands. Attribution theory explains "...the issue of how people infer, from limited available evidence, unobservable attributes or dispositions about the objects and organisms in their environment. As such, they are theories about how people go beyond the directly observable "data" to infer further elements....focal object" (Burnkrant, 1975, p. 465). Attribution theory suggests that people generally have the tendency to give meaning to their environment. When consumers come across various online reviews on brands then they try to draw some conclusion about the brand's overall value (Bruhn *et al.*, 2012). This leads to the concept of brand equity.

Brand equity is " . . . the aggregation of all accumulated attitudes and behavior patterns in the extended minds of consumers, distribution channels and influence agents, which will enhance future profits and long term cash flow" (Wood, 2000, p. 663). Brand equity gets a significant position in the business research as it gives competitive advantages to a brand over its competitors (de Oliveira *et al.*, 2015). Researchers have worked on credibility of online reviews, but less research has been documented on evaluation of the effects of credible online reviews on brands. Therefore, the present study attempts to fill this gap in online marketing literature and tries to assess the effects of credible online reviews on brand equity dimensions. Therefore, the purposes of the present study are

1. To examine the objective experiences of the consumers. To meet this purpose the present study uses quantitative techniques.

2. 2. To examine the subjective experiences of the consumers. To meet this purpose the present study uses qualitative techniques.

Quantitative techniques can help generalize the study results as they are usually based on large samples (Hoepfl, 1997). On the other hand, qualitative techniques can identify the subjective experiences of the consumers (Munhall, 2012). In the present study, for the quantitative part, data is collected from 956 respondents (through questionnaire survey instrument) from select e-commerce brand pages in Facebook. The study performs reliability for the variable. To check the unidimensionality of the variables, exploratory factor analysis has been carried out. Confirmatory factor analysis and structural equations modeling has been performed to determine the measurement model, structural model and to test the hypotheses. For the qualitative part, netnography technique has been performed. "Apple Users India" brand community is considered for the netnography study.

The remaining of the paper is organized as follows. The next section of the paper deals with literature review and proposes a set of hypotheses, followed by section explaining the methodology. The second last section deals with results and discussions. The last section concludes with the implications of the study along with limitations of the study and future directions for researchers.

Literature Review

Credible online reviews

Credibility can be described as "not as an objective property of the source [of information], but as a receiver perception" (Gunther, 1992, p. 148). Freeman and Spyridakis (2004) documented that credibility "is a perceived quality; it doesn't reside in an object, a person, or a piece of information" (p. 240). Credible online reviews can be defined as the extent to which the consumers perceive the reviews as truthful, logical and believable (Cheung *et al.*, 2009). Therefore, this study considers credibility means the perception of the consumers on

online reviews rather than the direct measures of the reviews' reality. Credible online reviews facilitates the consumers to get knowledge on products (Wathen and Burkell, 2002). If people consider the reviews as credible then they likely to adopt the reviews and that effect their purchasing behaviour (Tseng and Fogg, 1999).

Attribution Theory

Attribution theory can be described as "a theory that describes the cognitive processes by which people determine the causes of behavior and events in their world" (Mullen and Johnson, 2013, p. 174). Heider (1958) first introduced the concept of attribution theory in his study on psychology of interpersonal relationship. This theory focuses on the people's reactions on events and its effect on their behaviour (Heider, 2013). This study follows attribution theory to examine the effect of product reviews on brands. Online product reviews affect the consumers' perception on brands (Laczniak *et al.*, 2001). Attribution theory explains that people try to give meaning to the attributes that they come across. According to the theory, people gather information and try to form a causal judgment. In this study, attribution theory is utilized to explain the relationship between credible online reviews and brand equity. In the present study, online reviews (events) encourage the consumers to form a picture of the brand in their minds (reaction),

Brand Equity

Brand equity can be defined as "a set of brand assets and liabilities linked to a brand, its name and symbol, that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customers" (Aaker, 1991, p. 15). In other words, brand equity is "the effect of brand knowledge on consumer response to the brand" (Washburn *et al.*, p. 592). Christodoulides and de Chernatony (2010) suggested there are two approaches to evaluate brand equity, firm based brand equity (FBBE) and customer based brand equity (CBBE).

FBBE measured by either product market outcomes like relative price, price premium or financial market outcomes like discounted cash flow of licenses and royalties and purchase price of the brand (Atilgan *et al.*, 2009). On the other hand, CBBE is measured by the various dimensions of brand value (Christodoulides and de Chernatony, 2010). FBBE is measured as a separate asset by determining the market value of the brand from firm's perspective whereas, CBBE is determined by measuring the perception of the consumers towards a particular brand (Christodoulides and de Chernatony, 2010). Previous studies reported that FBBE simply considers financial performance of the brand whereas, CBBE looks various dimensions that effect brand equity (Keller, 1993; Tong and Hawley, 2009). As CBBE is the most favored approach to evaluate brand equity (Chaudhuri, 1995; Chieng and Goi, 2011; Vázquez *et al.*, 2002; Winters, 1991). Therefore, this study also considers CBBE approach to determine brand equity.

Customer based brand equity (CBBE)

Aaker, (1991) proposed five dimensions that effect brand equity, i.e. brand awareness, brand associations, perceived quality, brand loyalty and other proprietary brand assets. Keller (1993) reported that brand knowledge is the dimension of brand equity. Brand knowledge consists of brand image and brand awareness (Keller, 1993). However, Keller's (1993) description of brand image is same as brand associations described by Aaker's (1991). Since, Aaker's (1991) brand equity is one of the most accepted brand equity framework (Buil *et al.*, 2008) therefore, this study considers Aaker's (1991) brand equity dimensions. Pappu *et al.* (2005) reported that Aaker's (1991) brand equity dimensions are valid. They tested brand equity dimensions on two product categories, namely, cars and televisions in the context of Australia. Buil *et al.*(2008) tested Aaker's (1991) brand equity dimensions in UK and Spain.

Their results also provide evidences for the validity of Aaker's (1991) brand equity dimensions.

The present study is about the effect of credible online reviews on brand equity dimensions. The fourth and fifth dimensions of the Aaker's (1991) brand equity, namely, brand loyalty and other proprietary brand assets are out of scope. Brand loyalty takes place when consumer buys a particular brand and get interested for repeat purchase (Aaker, 2009; Keller *et al.*, 2011). But in the present study, product usage is not considered. Hence, the brand loyalty dimension is outside the scope of the study. The fifth dimension, namely, other proprietary brand assets which deals with patents, channel relationships and trademarks is not directly connected to consumers' perception. Hence, the other proprietary brand assets is outside the scope of the study. Therefore, the present study is considered Aaker's (1991) three brand equity dimensions, namely, brand awareness, brand associations and perceived quality.

Brand awareness. Brand awareness can be defined as "the ability of a potential buyer to recognize or recall that a brand is a member of a certain product category" (Aaker, 1991, p. 61). Brand awareness is the capability of the consumers to identify and remember the brand under different circumstances. Brand awareness strengthen the brand's position in the consumers' mind (Aaker, 1996; Buil *et al.*, 2008). Online product reviews facilitates the consumers to get aware of brands. Thus, the first hypothesis is formulated as:

H1. Credible online reviews have positive effect on brand awareness.

Brand associations. Brand associations, refers to " anything linked to the memory of a brand" (Aaker, 1991, p. 109). Brand associations collectively create brand image (Keller, 1993). Higher degree of brand association strengthen customers' relationship with the brand (Buil *et al.*, 2013). Previous studies classified brand associations into three dimensions, namely, perceived value, brand personality and organizational associations (Aaker, 1996;

Buil *et al.*, 2008; Buil *et al.*, 2013; Chen, 2001; Pappu *et al.*, 2005). Perceived value can be defined as the perception of the consumers on products' cost efficiency (Buil *et al.*, 2008). Perceived value refers to the degree of consumers' opinion towards product price in terms of its utility. Brand personality is the degree to which consumers' feel that the product is suitable for their need (Buil *et al.*, 2013). Organizational associations refers to the consumers' understanding on product's manufacturer (Buil *et al.*, 2008). Online product reviews facilitates the customers to analyze the products' utility in terms of its price. Through online reviews customers can get information whether a particular product can satisfy their needs. Moreover, online reviews can give information on products' manufacturer and their unique features. Thus, the following hypotheses are proposed:

H2a. Credible online reviews have positive effect on perceived value.

H2b. Credible online reviews have positive effect on brand personality.

H2c. Credible online reviews have positive effect on organizational associations.

Perceived quality. Perceived quality is the "the consumer's judgment about a product's overall excellence or superiority" (Zeithaml, 1988, p. 3). It is the subjective quality of the product as per consumers' perception (Buil *et al.*, 2008). Through online reviews consumers can get insights on brands. Thus, this study proposes that:

H3. Credible online reviews have positive effect on perceived quality.

Thus, based on the above literature review and hypotheses formulation, the following is the proposed research model of this study.

[insert Figure 1: The research model of this study here]

Methodology

To examine the objective experiences of the consumers (first purpose) the present study uses quantitative techniques.

Quantitative study

Consumer electronic products

Product category is one of the significant factor that affects the credibility evaluation of online reviews (Mudambi and Schuff, 2010). Consumer electronics considered as highest reviewed product category (Chan and Ngai, 2011). Consumers are more prone towards online reviews on consumer electronics because companies frequently releases updated versions consumer electronics products. Therefore, consumers are more interested to update themselves before purchase, to take right purchase decisions (Park and Kim, 2008). Hence, online reviews is an important determinant for brand evaluation in the context of consumer electronic products.

This study considers online selling product category because those who buys online products they generally seek online product reviews (Hansen and Møller Jensen, 2009). PricewaterhouseCoopers (PWC) report in the year of 2014 reveals that in the context of online shopping, consumer electronics is the highest online selling product category in India (PWC, 2014). Consumer electronics secured 34% market share in online selling in India. Therefore, this study considers consumer electronic products for the present study.

Brand pages of e-commerce sites in Facebook

The present study considers e-commerce sites because e-commerce sites are one of the very important channel of online sales (Goldsmith and Flynn, 2004). Department of Consumer Affairs, Government of India says that in India top five e-commerce sites are Flipkart, Jabong, Myntra, Snapdeal and Amazon India (DCA, 2014). But Jabong has very limited consumer electronics product lines and Myntra concentrates only on apparel. Hence, this study considers only three e-commerce sites, namely, Flipkart, Snapdeal and Amazon India.

India is the world's second largest Facebook user (Dhir *et al.*, 2016). Consumers in India preferred Facebook social media platform over any other social media platform (E&Y, 2015).

In Facebook, Flipkart, Snapdeal and Amazon India's brand pages are exist. All these brand pages are authenticated by the Facebook which means these brand pages are real e-commerce sites' brand pages. Various customers of e-commerce sites' write reviews in the e-commerce sites' brand pages. Hence, to get respondents (customers of Flipkart, Snapdeal and Amazon India) this study considers Facebook's Flipkart, Snapdeal and Amazon India's brand pages.

Measures

A literature review was carried out to determine the best possible way to measure each variable. Items proposed by Cheung *et al.* (2009) were followed and modified to measure credible online reviews. This study followed Yoo *et al.* (2000) and Buil *et al.* (2013) studies and modified in online review context to measure brand awareness. This study followed Aaker (1996), Buil *et al.* (2008) and Buil *et al.* (2013) studies and modified in online review context to measure three dimensions of brand associations, namely, perceived value, brand personality and organizational associations. Pappu *et al.* (2005) study was followed and modified to determine the items that measure perceived quality. All the variables were measured using 5 point Likert scale with 1= strongly disagree and 5= strongly agree.

Pilot study

Pilot study was conducted offline to determine the questionnaire and to select the consumer electronic brands for the present study. To check the reliability of the variables, Cronbach's alpha was determined for each variable. Exploratory factor analysis (principle component analysis extraction method and varimax rotation method) was conducted to check the unidimensionality of the variables. For pilot study, 138 respondents were considered.

Data Collection procedure for final study

The survey tool (questionnaire) was prepared in Google docs. The link of the questionnaire was posted in the message box of the respondents of Flipkart, Snapdeal and Amazon India brand pages in Facebook.

Sample Size for final study

Internet and mobile association of India (IAMAI) report reveals that 40 million Indian consumers use online reviews (IAMAI, 2015).

To determine the sample size, this study followed Slovin's (1960) formula

Slovin's formula $n = N / (1 + N \times e^2)$

n = sample size, N = total population and e = margin of error. This study determined its sample size with 95% confidence level. Hence, margin of error is 5%.

$40 \text{ millions} / (1 + 40 \text{ millions} \times 0.05^2) = 400$.

To generalize the study minimum sample size should be 400. This study considers 956 respondents which is well above the minimum sample size.

Final study

For the final study, 956 respondents were considered. Reliability alpha was determined for each variable. Structural equations modeling (SEM) was performed to determine the relationships between the variables. SEM was used for this study because SEM can directly measure the relationships between latent and observed variables (Hair *et al.*, 2009). Moreover, it can also measure error variance and allows for modifications.

Qualitative study

To examine the subjective experiences of the consumers (second purpose) the present study uses qualitative techniques.

Qualitative study has been performed to complement the results of the quantitative study. Qualitative study examines the subjective experiences of the consumers (Sloan *et al.*, 2015). Qualitative study facilitates the researchers to get an insight on the deep emotions and feelings of the consumers (Carù and Cova, 2008). This study follows netnography to understand the reasons behind the effect of credible online reviews on brand equity

dimensions. Netnography is the online ethnography technique which is used to study the consumers' behaviour in various online brand communities (Rageh *et al.*, 2013). "It is a combination of more rigorous online guidelines combined with an innate flexibility" (Kozinets, 2002, p. 64). Therefore, netnography is the suitable technique to analyze the effect of credible online reviews on brand equity dimensions.

As mentioned earlier, this study considers Facebook social media platform because Facebook is the highest preferred social media platform by the Indians (E&Y, 2015).

It should be noted that the survey tool (questionnaire) that was used for quantitative study, two extra questions were asked to identify their most preferred Indian brand community. The two questions were, 1- Are you a member of any Indian brand community which is present in Facebook? 2- If you are a member of various Indian brand communities, then in which Indian brand community you recommend the most?

Thus, the present study selected the brand community for which the respondents gave highest preference is "Apple Users India". Then one author of the present study joined "Apple Users India" brand community.

The next step is to decide whether "Apple Users India" is a ideal brand community. Muniz and O'Guinn (2001) says that an ideal brand community should possess three brand community markers. Hence, "Apple Users India" was tested against Muniz and O'Guinn's brand community markers to check its validity as a brand community.

Muniz and O'Guinn's brand community markers

Brand communities are a exclusive form of consumer communities. Each brand community has three community markers, namely, consciousness of kind, shared rituals and tradition, and moral responsibility (Muniz and O'Guinn, 2001).

- 1- The first marker "Consciousness of kind" can be defined as, members' sense of belongingness among each other (Algesheimer *et al.*, 2005). Generally members of the community separate themselves from outsiders (Bagozzi and Dholakia, 2006).
- 2- The second marker "Shared rituals and traditions" can be explained as members of the community possess proud feeling as they are the members of a particular brand community and they have their own meaning of the community experience (Muniz and O'Guinn, 2001). Generally the members of the community share brand related information and they share similar kind of values and behaviour within the brand community (Casaló *et al.*, 2008).
- 3- The third marker "Moral responsibility" can be defined as members of the community morally committed to the other members of the same community (Muniz and O'Guinn, 2001). Community members generally help the other members of the community by giving them brand usage information and create new members in the community (Casaló *et al.*, 2008).

If the highest preferred brand community, namely, "Apple Users India" brand community is found ideal brand community then this study will follow the Kozinets', (2002, p. 63) guidelines to conduct netnography study.

A. *Entrée: Kozinets guidelines*

Kozinets, (2002) proposes six guidelines to evaluate the appropriateness of a brand community for netnography. They are:

1. Relevant: The proposed brand community (highest preferred brand community in this study) should be related to the research questions.
2. Active: The activity within the site should be high.

3. Interactive: There should be a two-way flow in the communications between the participants.
4. Substantial: There should be a large number of communicators.
5. Heterogeneous: There should be diverse participants.
6. Data-rich: Data should be detailed and descriptively rich.

B. Data collection:

The quotes, reviews or posting of the "Apple Users India" brand community members were observed and copied directly.

C. Analysis and interpretation:

The quotes, reviews or posting of the "Apple Users India" brand community members were analysed and interpreted.

It should be noted that, in quantitative study data is collected from select e-commerce brand pages where consumers' product reviews are present. In qualitative study, brand community is taken into consideration where consumers' product reviews are also present. The objective of the present study is to examine the effect of credible online reviews on brand equity dimensions. Therefore, in both the context, consumers' online product reviews are taken into consideration to evaluate its effect on brand equity dimensions.

Results and Discussions

Quantitative study

The questionnaire was discussed with three experts in online communication field as recommended by Zaichkowsky (1985) for its content validity. Moreover, the questionnaire

was discussed with two academicians to ensure each item's specificity, clarity and representativeness. Then to detect the unclear and difficult questions an offline pilot study has been conducted with 138 samples. After that the variable scales were purified and used for final data collection.

Pilot study

Offline pilot study was conducted with 138 respondents. The various consumer electronics brands' online reviews seen by the respondents in last one year were HP, Micromax, Lenevo, LG, Samsung, Canon, Nikon, Sony, Dell, Asus, Toshiba, Google, Microsoft, Karbonn, Motorola, HTC, Xiaomi and Acer. Therefore, the present study considers all those brands for final study.

The reliability alpha (Cronbach's alpha) for all the six variables, namely, credible online reviews, brand awareness, perceived value, brand personality, organizational associations and perceived quality were in the range of 0.722 to 0.900 which were above 0.7. Hence, the reliability results were acceptable (Nunally, 1978, p. 245). To evaluate the unidimensionality of the variables, exploratory factor analysis was performed with principal component analysis extraction method and varimax rotation method. Exploratory factor analysis shows six different factors with Eigen values more than 1. The sample adequacy test like Kaiser-Meyer-Olkin test (KMO) value was 0.7 which is well above 0.5 (Malhotra & Dash, 2011, p. 590). Hence, it is acceptable.

Final study

Questionnaire was posted in the message box of 1500 people chosen randomly. Of these 956 responded. Among 956 respondents, 729 (76%) were males and 227 (24%) were females. Of the total respondents, 415 were 18 to 29 years old, 296 were 30 to 39 years old and 245 were

more than 39 years old. Among the 956 respondents, 43 were diploma holders, 112 were undergraduates, 546 were graduates and 255 were postgraduates.

In the questionnaire, instruction was given to the respondents that recently did they saw or considered any online reviews on TV, Mobile phones, camcorder, digital cameras, CD and DVD players, Laptop, Tablets, mobile or laptop accessories, etc. which are the products of these brands' "HP, Apple, Micromax, Lenevo, LG, Samsung, Canon, Nikon, Sony, Dell, Asus, Toshiba, Google, Microsoft, Karbonn, Motorola, HTC, Xiaomi and Acer"? If yes, then answer the questionnaire. Here, brand X means the brand's online reviews that they saw or considered.

The reliability alpha (Cronbach's alpha) of all the variables were in the range of 0.816 to 0.902. The Cronbach's alpha results were more than 0.7 as recommended by Nunally (1978).

Measurement model

The measurement model was determined using maximum likelihood method since it gives valid and stable results (Hair *et al.*, 2009). In the present study, various indices of measurement model were (1) normed chi square (χ^2) with a value of 2.399 which was well within the acceptable range of 3 as recommended by Hair *et al.* (2009); (2) goodness-of-fit index (GFI) with a value of 0.968; (3) comparative fit index (CFI) with a value of 0.983; (4) Tucker- Lewis index (TLI) value was 0.978. All these indices were within the recommended acceptable value of 0.90 or above (Hair *et al.*, 2009). (5) The value of the adjusted goodness-of-fit index (AGFI) was 0.955 which was well above the recommended level of 0.80 (Hair *et al.*, 2009) and (6) root mean square error of approximation (RMSEA) with a value of 0.038 which was within the acceptable cut-off level of 0.08 (Hair *et al.*, 2009). All of these indices were within acceptable ranges as defined by Hair *et al.* (2009).

Convergent validity

Factor loadings of all the variables were more than 0.5 (see Table 1). Average variance extracted (AVE) was more than 0.5 and construct reliability (CR) was more than 0.7, all within acceptable ranges (Hair et al., 2009).

Table 1: Convergent validity table.

Variable	Measurement Instruments	Factor Loadings	Cronbach's Alpha	Construct Reliability (CR)	Average Variance Extracted (AVE)	Maximum Shared Squared Variance (MSV)	Average Squared Shared Variance (ASV)
Credible online reviews	Credible1	0.876	0.902	0.905	0.760	0.133	0.056
	Credible2	0.845					
	Credible3	0.893					
Brand awareness	Awareness1	0.974	0.851	0.872	0.704	0.035	0.020
	Awareness2	0.582					
	Awareness3	0.908					
Perceived Value	Value1	0.833	0.851	0.853	0.659	0.060	0.026
	Value2	0.850					
	Value3	0.749					
Brand personality	Personality1	0.970	0.848	0.870	0.698	0.023	0.018
	Personality2	0.598					
	Personality3	0.892					
Organizational Associations	Orgn.1	0.817	0.884	0.887	0.726	0.032	0.019
	Orgn.2	0.763					
	Orgn.3	0.964					
Perceived quality	Quality1	0.858	0.816	0.821	0.606	0.133	0.036
	Quality2	0.740					
	Quality3	0.731					

Discriminant validity

Square root of AVE was higher than all inter constructs correlation (see Table 2). The average variance extracted (AVE) by the underlying latent construct is higher than the maximum and average shared variance of a latent variable means, $AVE > MSV$ and $ASV < AVE$ (see Table 1). Hence, the results are accepted (Hair et al., 2009).

Table 2. Square root of AVE and inter construct correlation estimates.

	Organizational associations	Credible online reviews	Perceived quality	Perceived value	Awareness	Brand personality
Organizational associations	0.852*					
Credible online reviews	0.180	0.872*				
Perceived quality	0.040	0.365	0.778*			
Perceived value	0.088	0.244	0.185	0.812*		
Awareness	0.169	0.188	0.084	0.084	0.839*	
Brand personality	0.150	0.139	0.056	0.148	0.149	0.835*

*Diagonal bold figures are the square root of AVE. Off-diagonal figures are the correlations between the constructs.

Structural Model

In the present study, various indices of structural model were (1) normed chi square (χ^2) with a value of 2.684 which was well within the acceptable range of 3 as recommended by Hair et al. (2009); (2) Goodness-of-fit index (GFI) with a value of 0.960; (3) Comparative fit index (CFI) with a value of 0.978; (4) Tucker-Lewis index (TLI) value was 0.974. All these indices

were within the recommended acceptable value of 0.90 or above (Hair et al., 2009). (5) the value of the adjusted goodness-of-fit index (AGFI) was 0.948 which was well above recommended level of 0.80 (Hair et al., 2009) and; (6) root mean square error of approximation (RMSEA) with a value of 0.042 which was within the acceptable cut-off level of 0.08 (Hair et al., 2009). All of these indices were within acceptable ranges as defined by Hair et al. (2009).

Table 3. Results of Significance Test for Paths of the Model.

Path	Standardised Coefficient	t value	Hypot hesis	Results
Credible online reviews → Brand awareness	0.211***	5.648	H1	Supported
Credible online reviews → Perceived value	0.179***	6.874	H2a	Supported
Credible online reviews → Brand personality	0.161***	4.193	H2b	Supported
Credible online reviews → Organizational Associations	0.168***	5.215	H2c	Supported
Credible online reviews → Perceived quality	0.250***	10.095	H3	Supported

*** Significance at the $p < 0.001$ level

Thus, quantitative study reveals that online reviews do effect brand awareness, perceived value, brand personality, organizational associations and perceived quality significantly. On the contrary, Christodoulides *et al.* (2015) reported that

Qualitative study

"Apple Users India" brand community on Facebook was selected for netnography study as it got the highest preference by the respondents of the quantitative study. In order to read the online reviews posted on the community, one of the researchers of the present study joined the brand community. Then, the online posts and comments of almost six months (12/02/2016 to 01/07/2016) present in the online brand community were analyzed.

Muniz and O'Guinn's brand community markers:

Consciousness of Kind: Members of the community generally use "we" or "us" which shows their sense of belongingness. For example,

"When we can upgrade to iOS 10 ?"

"....we can hide photos and videos using 3rd party apps but cannot lock any app"

Shared Rituals and Traditions: Members of the community generally share similar kind of behaviour within the community. Members of the "Apple Users India" brand community use hashtags. For example, #iPhone5, #MacBookPro, #iPad3, #Jobs, #AppDevelopment, #iNews etc. Through these hastags, the other members of the brand community can understand the topic being discussed in the particular post.

If members of the community have any queries regarding apple brands, generally they write "thanks in advance" or "TIA" after their questions.

Moral Responsibility: Members of the community morally support each other. If any member asks for help regarding the product then the other members show their support. For example, One member posted,

"neiphone5 My phone was behaving weird as the ringer button would Go from silent to General and vice versa without me changing it. Battery would go off from 60 to 1 directly....

and also battery drain was crazy....

Please tell me what should I do ??"

Reply from another member was,

"you have to cross check with some otherservicing Center. Why don't you go to check with them then u can decide."

One member posted,

"There is an iPhone 4 for my hubby abd 6 for myself. I find that all the Sms I send to my hubby come to my phone . And most times the Sms changes to iMessage and I have to struggle to change it to Sms. Is is because I have the same account for both instruments? How can I stop this?"

Another member replied,

"Off I messages".

Reply from still another member was,

"Just log out of the Apple ID on ur phone and create a new login ID for urself".

Thus, "Apple Users India" brand community has all the three brand community markers proposed by Muniz and O'Guinn (2001). Hence, "Apple Users India" is an ideal brand community.

The next step is to analyze whether brand community follows guidelines provided by Kozinets, (2002) with regards to suitability of the brand community for conducting netnography.

Entrée Kozinet's guidelines:

1. Relevant: "Apple Users India" brand community is focused on Apple products which are under consumer electronics products category. In the brand community, members are giving and seeking reviews on brand. Hence, the brand community is relevant.
2. Active: The activity within the community is high. Each day members generally post 7 to 10 comments.
3. Interactive: Brand community members are very interactive.

4. Substantial: In the brand community there are several communicators. The total number of members of the brand community is 6302. The number of communicators in a day are generally more than eight.
5. Heterogeneous: Members of the community are from different parts of the country. In their profiles it shows that they are staying in different states of India.
6. Data-rich: Online reviews in the community are detailed and descriptively rich. Members' comments are self-explanatory. Members each post usually more than 10 words.

Hence, "Apple Users India" brand community follows all the guidelines proposed by Kozinets, (2002). Therefore, "Apple Users India" brand community is suitable for conducting netnography.

Evidences of brand equity dimensions:

Brand awareness: One of the members tries to make other members of the community aware about new update of iOS9.3.2.

"#Apple has released HYiOS9.3.2 update for iPhone, iPad and iPod Touch devices. This fixes several minor bugs, including fix for a bug in iPhone SE, which could experience audio quality issues when paired to Bluetooth headsets."

In response to the above post some other members of the community liked that post.

One of the members wrote on the community regarding his eagerness to buy iPhone 7.

"Guys any update on Iphone 7 release.? Eagerly waiting."

After two months one of the members mentioned that iPhone 7 and iPhone 7 plus were going to be introduced in India during September, 2016. Moreover, he mentioned various features of iPhone 7 and iPhone 7 plus.

" HYApple is all set to unveil its next gen HYiPhones in September. It will release in the week September 12th,..... after the pre-orders began on September 12th. ...This year Apple is expected to unveil the iPhone 7 and iPhone 7 Plus smartphones....the design of the new iPhones will remain unchanged, but the 3.5mm headphone jack will be removed, The iPhone 7 Plus is rumored to feature 12-megapixel dual-camera sensors, while both models are expected to feature a larger camera module. The iPhone 7 Plus is expected to pack 3GB of RAM..... Latest report suggests that Apple will ship Lightning-to-3.5mm headphone jack dongle in the box. Apple is expected to announce the exact date for the iPhone event by the end of August."

Some other members of the community liked that particular post.

One member shared information on Reliance Jio sim card and its facilities on VoLTE enabled iPhones.

" HYRelianceJio is planning to offer the same to select HYApple iPhones. The offer is likely to be announced next week. Reliance Jio will extend the offer to users of VoLTE enabled iPhones, which includes the iPhone 6,iPhone 6s,iPhone 6 Plus,iPhone 6s Plus and iPhone SE.

The offer will include unlimited voice calls, SMS, data and entertainment services that includes live TV streaming, video on demand and music on demand.... The offer will include unlimited voice calls, SMS, data and entertainment services that includes live TV streaming, video on demand and music on demand.... "

On the basis of the above information other members of the community liked that post and asked further queries. For example,

"Can we expect subsidized iPhone's thru JIO..?!?"

One more member responded,

"Yes.....Jio is going to sell iPhones on much cheaper rate with network locked status with
 JIO"

Thus, the above posts prove that through online reviews other members can become aware of new features of the product or new model of the brand.

By analyzing the posts of the members, the marketers may be able to identify those members who are active and knowledgeable. They are more likely to be the leaders within the brand community and through them they can advertise their products. Marketers can target these leaders and influence them by giving coupons, incentives etc. to turn them into the company's advertiser. Marketers can run educational campaigns about the brands, which can encourage the leaders and it will satisfy customers' informational need. Through the online reviews, consumers' subjective feelings towards iPhone7, Reliance JIO SIM card, iOS9.3.2 upgrades are revealed. These feelings can be utilized by marketers to design appropriate advertising campaigns.

Perceived Value: One member commented on the products' value, like

"amazon offering 11% off on imac"

Another member replied,

"buying from amazon is fine as macs come with a worldwide warranty. Buy the apple care extension though so you get a year extra"

One member posted on value of new Mac in Amazon e-commerce site.

"Why Amazon is quoting less price than Apple outlets(close to 6k)? Does Amazon provide good quality new Mac with same warranty?"

Another member replied.

"Yes it does...I have got it serviced in India after purchasing it in d US"

Still another member replied.

"Yes, it has a one year international warranty."

However, another member posted negative comment on that.

"No Do Not go with Online Chaps Company's Do Not Provide direct Support if you Purchase
In Online"

One member posted negative comments regarding value of macbook pro.

"My sparingly used, one and half year old macbook pro developed a flickering screen. When i took it to the 'Ample' service centre, they took 2 days time to diagnose that the power button is 'faulty' and the battery 'failed its test'. A quote for Rs.29000 was given (about 18000 for the keyboard panel... because ONLY the power button cannot be replaced and 9800 for the battery- both of which are in multiples of the same, original, available on the net.. procured from US or Canada!- BUT THEY DON'T GIVE YOU SERVICE, IF YOU PROCURE THE SPARES) The retail sales, gives zero value to systems that can't be switched on, for exchange offers.. which means that i spend 29k to get 13k off (exchange price}, for any new mac.. while the same model as mine is available at 60000!!! Are you KIDDING me??!!.. Moral: An (non-sturdy) apple product is a use and throw piece.. I AM THROWING MINE... NEVER TO GO BACK... MY DELL IS 8 YEARS OLD AND STILL SERVING !!!"

From the above posts consumers' perceived values towards apple products are revealed. The customers of 'Apple' product seem to be skeptical of the lower prices or discounts offered by ecommerce sites. Consumers' are more inclined towards apple care protection plan than any discount given on apple products. Though discounts on apple products are lucrative but consumers are more interested in global apple product protection.

Brand Personality: One of the members of the brand community asked to the other members about their expectations from iPhone 7.

"What exciting features do you expect in iPhone 7."

In response to the above post some of the members replied with their expectations.

One of the member replied that he needs water proof apple mobile phone with wireless charging facility.

"water proof officially, wireless charging"

Another member replied that he need more better features compared to iPhone 6 and iPhone 6 plus.

"...Updated CPU, more RAM...thinner phone."

One more member replied that he need bigger screen size apple mobile.

"just 2 inch bigger"

One member asked about Macbook that will support 128 GB flash storage.

"Quick question!!! I am planning to buy macbook but question to you all is should i go for macbook pro or macbook air. Please suggest which model can i go for macbook pro MD101 or Macbook air MJVE2 with 128GB flash storage??"

One member asked which App can record all incoming and outgoing calls.

"A simple call recorder????? For all the out and in calls???? Any app that WORKS?"

One members asked about iMac which is in 5k mid range.

"Hey i would like buy new imac 5k mid range can you tell where shoud i buy it ??And which ram shud i buy for this beast." (*sic*)

One member asked regarding Apple protection plan.

" Is it worth buying Apple Protection plan extended warranty for Retina Macbook Pro?"

From the above post, marketers can get aware of consumers' need like 6 inch screen, wireless charging, apple protection plan, 128 GB flash storage, etc. Hence, marketers should concentrate on research and development (R&D) and try to satisfy the consumers' need.

Organizational associations: One member asked regarding antivirus.

"Does Macs need antivirus?"

Another member replied,

"Mac doesn't require antivirus."

To resolve the query of a member, another member of the community mentioned in his comments about the superiority of iOS over android.

"IOS don't work like android. For downloading files you can use chrome etc. once downloaded open with the app you want to use."

One member reveals the features that available on iOS office app.

"#Office apps on HYiPhone and HYiPad. The latest update will allow users to take advantage of the new features present on the iPhone, iPad and iOS 9. Office apps will now support the pressure sensitive 3D Touch functionality that we saw on the new iPhone 6s and 6s plus.... Office apps like Word, Excel, and PowerPoint have all been updated with the new tools. In addition, all these three apps on the iPad have received a new Draw tab. The drawing tools in this tab allows iPad users to use a pen, finger, or Apple Pencil to write and draw on various documents. Moving on, all the three Office apps also get compatibility with iOS 9's Spotlight Search tool. Fonts can now be downloaded on-demand, and when running a Spotlight search, results should include recently-opened Office files. Word, Excel, and PowerPoint are free to download from the iTunes App Store...."

On the basis of the above information, some of the members liked that particular post.

Online reviews disclose various unique features of apple products that motivate the members to stick with the brand. On the basis of the online reviews it seems that community members have that trust on apple operating system (iOS) that iOS doesn't need antivirus. Community members feel that iOS is superior than android. Moreover, they feel that apple's office app has unique features. Marketers should inform others consumers about apple's uniqueness through its marketing activities.

Perceived quality: One member asked regarding iMac's performance.

"I have an iMac, I just want to know for how long can I keep it on without shutting it down."

Another member replied,

"Forever".

Still another member replied,

"I never shutdown m office iMac and it running perfect".

One of the members of the community asked the performance of iOS10.

"How's iOS 10"

One of the members looks for information regarding iOS 10 compatibility on ipad mini.

"Can anyone help me to know wether ios10 can be installed on ipad mini 1st generation?"

The above posts reveals that members have that trust on apple products' performance and their comments on apple's shows their perception towards apple products. They feel that apple's quality is very good. From the above posts it seems that people need more information on iOS 10. Marketers should come out with a marketing strategy that enriches the people's knowledge on apple iOS 10. Marketers should provide information on apple's performance to consumers through various marketing activities. Marketers can come out with

an advertisement where actual apple consumers sharing their opinion on apple products' performance. This will facilitates the marketers to get consumers' faith on apple products.

Conclusion

The purpose of the paper was to examine the effect of online credible reviews on brand equity dimensions. The study followed mixed method approach. The results of both the quantitative and qualitative analyses found that online reviews have significant positive effect on brand equity dimensions. Implications and managerial practices are as addressed below.

This study can be treated as an evidence of the fact that online credible reviews affect brand equity dimensions in the context of consumer electronic products in India. Thus, the study extends brand related literature. From the results of the study we can understand that online credible reviews affect consumers' brand decision. Online reviews have a decisive role on brands in the context of consumer electronic products in India. Marketers should include social media marketing strategy in their marketing mix. Marketers should provide good quality products but at the same time this should be highlighted in the social media. From the quantitative study results marketers can understand the importance of online reviews on brand equity and from the qualitative study marketer can identify the leader who can advertise for the company free of cost. Qualitative study reveals various subjective experiences of the consumers like, consumers' need etc. Marketers should provide more information to the people about apple product's uniqueness, performance and quality through educational campaign, advertisement etc.

This study was limited to Facebook social media. Other studies can consider different social media platforms like Twitter. Again, the study considered only consumer electronic product category. Further studies can look into other product categories.

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Appendix: Scale used for the study

Online Credible Reviews:

Credible1- Online comments on brand X's products are factual.

Credible2- Online comments on brand X's products are logical.

Credible3- Online comments on brand X's products are accurate.

Brand awareness:

Awareness1- My consciousness improves on brand X's products after reading
online reviews.

Awareness2: My understanding improves on brand X's products after reading
online reviews.

Awareness3: My knowledge improves on brand X's products after reading online
reviews.

Brand associations:

Perceived Value:

Value1 : Online reviews help me to buy those products which are cost efficient.

Value2 : Online reviews help me in deciding what products to buy which I would get
much more than my money's worth.

Value3 : Online reviews makes it easier for me to buy those products which would be a
value for money.

Brand Personality:

Personality1: Online reviews give me a clear picture of the type of person who would use
a particular product.

Personality2: Online reviews give me an idea which products suits my needs.

Personality3: Online reviews guide me in selecting those products which takes care of my requirements.

Organizational associations:

Orgn.1: Online reviews help me to get an understanding on products' manufacturer.

Orgn.2: Looking at the products' reviews help me to develop trust with the manufacturer.

Orgn.3: Going through the online reviews of the products help me in knowing the manufacturer of the products.

Perceived quality:

Quality1: Online reviews facilitates me to assess the quality of brand X's products.

Quality2: Online reviews facilitates me to determine the quality of brand X's products.

Quality3: Online reviews facilitates me to evaluate the quality of brand X's products.

Figure 1: The research model of this study

