Social Media Value Creation Practices and Interactivity of Electronic Word of Mouth Systems

Rojiar Pir Mohammadiania*

*Corresponding Author, Assistant Prof., Department of Computer Engineering, University of Kurdistan, Sanandaj, Iran. E-mail: r.pirmohamadiani@uok.ac.ir

Hossein Abbasimehrb

Associate Prof., Department of Information Technology and Computer Engineering, Azarbaijan Shahid Madani University, Tabriz, Iran.

Zaki Malikc

Associate Prof., Department of Business Analytics, Texas A & M University – Commerce, Texas, USA. E-mail: zaki.malik@tamuc.edu

Abstract

The main drivers of value creation in a 'brand community' are social networking, community engagement, impression management, and brand use. Marketers are therefore interested in determining which factors affect the value creation practices. This study examines the impact of the Interactivity of Electronic Word of Mouth (EWOM) systems on value creation practices in a brand community, which in turn influences the loyalty of the customers. In this regard, a conceptual model was developed and tested by the researchers of the current study. The results indicate that perceptions of the users regarding the interactivity of EWOM systems, highly impact only three of the four value creation practices including community engagement practices, impression management practices, and brand use practices. Furthermore, the researchers found that collective value creation practices could significantly and directly enhance brand loyalty. Several theoretical contributions and managerial implications were also discussed.

Keywords: Social Media, Value Creation, Social Media Marketing, Consumer Engagement, Online Shopping.

Introduction

The marketing communications environment has changed enormously with the advent of social media. Via social media, which includes blogs, microblogs, content communities, and social networks (SNS), consumers have more ways to interact with companies and brands, and can gather and disseminate product information (Colicev and O'Connor, 2016). Several companies are using social networking sites to support the creation and development of their brand communities (Stelzner, 2015; Kaplan and Haenlein, 2010). These electronic words of mouth (EWOM) channels enable the consumers to discover and discuss products actively (Qualman, 2013; Phua et al., 2016) (Laroche et al., 2012; Dellarocas et.al, 2010), and have thus become an important platform for placing a variety of value creation practices (Luo et al., 2015).

Many users not only share their opinions but also make recommendations for certain products and services to others (Zheng et al., 2013). User activity in social media straightforwardly influences the adoption of individual innovations and merchandise (Li et al., 2010). In addition, users' views of the items have been affected through online client audits (Vivek, et al., 2014; Yoo, et al., 2015). Consequently, through their associations with others, customers wield a great deal of power, participating in activities that may increase – or cut back – a brand's gain (Colicev and Connor, 2016).

The emergence of the EWOM channels is considered a critical platform for value creation activities (Luo et al., 2016). In this regard, some works have investigated the growing importance of EWOM on business performance and customer purchase behavior. For example, studies range from examining the motivations for EWOM participation (Chi, 2011; Kwon et al., 2014; Muntinga et al., 2011; Taylor et al., 2012; Cheung and Lee, 2012) to studying the influence of EWOM as an information source for customers (Baber et al., 2016; Kautsar et al., 2012; Llamero, 2014; Xu, 2014). Others focus on the relationship between brand trust and value creation (Cheung et al., 2020; Nam et al., 2020; Carlson et al., 2019; Seifert et al., 2019; Yoo et al., 2015; Colicev et al., 2016; Luo et al., 2016; Laroche et al., 2012).

To the best of the authors' knowledge, previous studies have largely neglected the characteristics of EWOM information and the systems that support the delivery of

information as a communication channel. To overcome this deficiency, the researchers sought to study the issue from the perspective of interactivity, to show that EWOM systems can be considered a unique channel to enhance the interactivity of an entire brand community. Interactivity is a vital concept in computer-mediated communication as it covers several aspects including user-to-user, user-to-document, and also user-to-system linkages (Zhao and Lu, 2010). So far, it seems that no study has investigated how the interactivity of EWOM could affect value creation practices. Little is known about the effect of the interactivity of EWOM on value creation practices, and several questions remain unanswered. Two primary questions are: (1) How does the interactivity of EWOM systems influence customer value creation practices in social media? (2) What is the inter-relationship between value creation and EWOM within the SNS context (or) how does the interactivity of EWOM influences the loyalty of users through value creation in brand communities? To answer these questions, the researchers propose a conceptual model through three theoretical lenses: the interactivity theory of EWOM, the value creation practices of customers, and loyalty. The model can be used to investigate how the interactivity of an EWOM system in the social media-based brand community leads to customer value creation practices; which in turn leads to brand loyalty. To test the proposed conceptual framework, the required data was collected from the users of different social media platforms (Facebook, Twitter, and Instagram). It was believed that the interactivity of the EWOM system plays a key role in value creation practices, a topic that has not received due attention in previous studies. This study differs from those conducted previously because: First, the impact of interactivity of EWOM on value creation is considered as the main contributor for the first time. Second, most of the past studies use blogs and e-Forums (Kozinets, de Valck, Wojnicki, and Wilner (2010); Dellarocas (2003)) as the EWOM platforms in their examinations (Chan and Ngai (2011)). However, this study uses SNSs as the platform for this study to fill the gap. Third, the analyses of sub-dimensions of interactivity give organizations important insight. This study offers implications for both theory and practice. It tries to advance the literature by highlighting the relationship between the interactivity of EWOM systems, customer creation value, and loyalty. Practitioners can also develop a deeper understanding of developing an SNS-based customer relationship management strategy from this piece of research.

In the second section of the present study, some related works are reviewed to lay the foundation for this study. The proposed model follows in the third section. The fourth section includes the research methodology and the test results are presented in the fifth. Finally, in the sixth section, the findings and research implications are discussed.

Literature Review

Interactivity of EWOM

EWOM information is delivered and placed by EWOM systems as technological media, where the brand community organizer provides interpersonal services (Yoo et al., 2015). Most EWOM studies have attempted to explore the consequences of EWOM. In these works, the results of EWOM, such as the volume (number) of online reviews and their impact on revenue are mainly investigated. Several studies have also examined motivations for EWOM participation (Chi, 2011; Kwon et al., 2014; Muntinga et al., 2011; Taylor et al., 2012; Cheung and Lee, 2012), or the role of EWOM as the primary source for providing data for customers (Baber et al., 2016; Kautsar et al., 2012; Llamero, 2014; Xu, 2014). In most previous works the feature that EWOM systems support the conveyance of data as a communication channel is usually overlooked. The importance of this issue is addressed in this work, using the perspective of interactivity.

Consumers' perceived interactivity of EWOM systems is influenced by a brand community organizer's quick reply to a customer's request, and the quality and quantity of the content (Liu and Park, 2015). This interactivity perception results from communication through computer-mediated communication technologies such as blog reviews and tweeting (Zhao and Lu, 2010). According to Thorson et al. (2006), interactivity can be characterized as the degree to which clients understand their involvement as a reenactment of interpersonal interaction and sense they are within the nearness of a social other.

Despite the emerging role of social media, little is known about how different dimensions of interactivity in brand communities based on social media affect customer value creation practices. This study shows that EWOM systems are unique channels that could enhance the interactivity of an entire brand community.

Value Creation

Value co-creation is a new research topic in IS (Gnyawali et al., 2010), marketing (Vargo, Maglio, & Akaka, 2008), and service science and innovation management (Kohler, Fueller, Stieger, & Matzler, 2011; Maglio & Spohrer, 2008; Perks,Gruber, & Edvardsson, 2012; Wu & Wu, 2011). The concept of value co-creation was developed by Prahalad and Ramaswamy (2004). They suggest that the value of a service or a product is not created by the manufacturer/supplier solely, but co-created by the manufacturer/supplier and the consumer of the product or the service (To & Ho, 2014). Marketing researchers have thus developed models to investigate how customers and users are seen as active participants in the design of personalized products, services, and experiences (Prahalad and Ramaswamy, 2004; Payne et al.,2008). But providing platforms for "User Generated Content" and "Connected Networks" are the main differentiators of social media compared to other traditional communication

channels (Weinberg & Berger, 2011). The combination of both brand community and social media brings out the brand community based on social media, which enable consumers to become contributors, making them value the community/business/product even more than just participating in the firm's innovation processes (Franke & Piller, 2004; Schau et al., 2009; Kolbitsch & Maurer, 2006; Tapscott & Williams, 2007).

Schau et al. (2009) suggest four categories of practices through which customers co-create value in brand communities. Ng et al. (2010) also use a multi-attribute construct with seven dimensions to study the value co-creation process of business-to-business services. However, the impact of the different factors, especially, the interactivity of EWOM is ignored. The objective of this study is to fill this gap.

Research Model

The proposed model includes interactivity of the EWOM systems, value creation practices, and brand loyalty as constructs to address the research questions shown in Figure 1. The researchers of the present study assume that EWOM interactivity would influence the value creation practices, which consequently influences brand loyalty. Attitudes towards the brand (that lead to brand loyalty) develop initially in a cognitive way, then in an emotional manner, next in a conative manner, and finally behaviorally (Kuzgun, 2012). The cognitive phase involves how customers think about the brand page and its attached services (Choe et al., 2009). During this process, the quality of the EWOM systems in the brand community is perceived and evaluated by customers (Chang et al., 2013). Then how customers interact with a brand, affects value creation. Hence, by adopting the value creation practices construct the emotional phase of the loyalty framework can be described. Finally, brand loyalty is employed to illustrate the conative phase of loyalty.
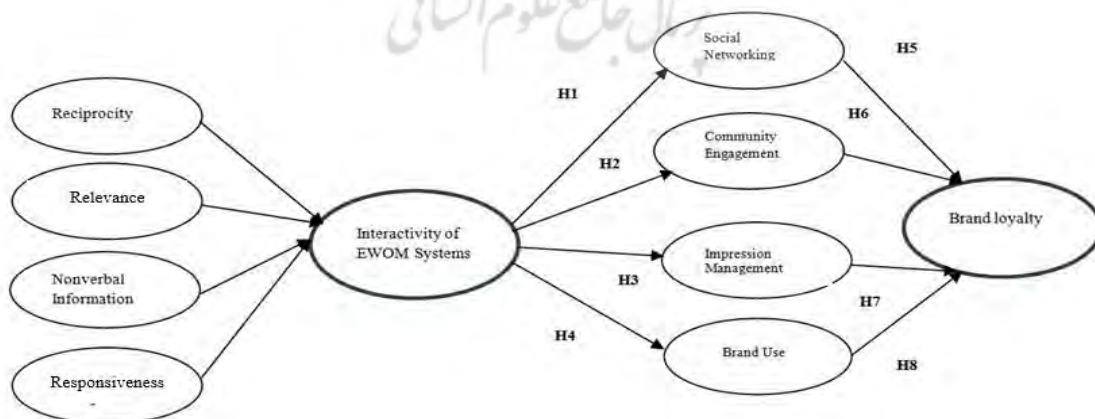

Figure 1. Proposed Model - Impact of EWOM System's Interactivity on Brand Loyalty

Interactivity of EWOM Systems

The interactivity of EWOM systems is based on four facets: reciprocity, relevance, nonverbal information, and responsiveness (Johnson et al. 2006; Yoo et al., 2015).

Reciprocity refers to consumer opportunities to interact and share information. However, some online brand communities erase negative customer reviews since they fear negative effects on performance. In this case, it appears that the traded and shared data is probably to be seen as more reliable than manipulative data (Phua et al., 2016).

Relevance is the degree of relevance between a customer's query and the information that s/he obtains as a result of submitting that query. For example, if EWOM information in a brand community is not trustworthy and lacks relevance, (i.e. too basic, and repetitive), then EWOM responsiveness is low. Low relevance mitigates interactivity and leads to low user engagement in a brand community (Johnson et al. 2006). Hence, online brand communities should apply filtering or recommendation mechanisms to provide more relevant EWOM information to their customers.

Non-verbal information such as images or video clips may add richness to the established text, resulting in greater information (Kaplan &Haenlein, 2010). Zheng et al. (2013) demonstrated that increased media richness results in reduced uncertainty, which in turn increases customer satisfaction. Online support communities can enable organizations to interact with networks of customers to solve problems during service and support encounters and create and disseminate knowledge from these interactions throughout the organization (Bagozzi & Dholakia, 2006; Trainor, 2012).

Responsiveness refers to how fast the response is. Interactivity is achieved when users are provided with immediate feedback and perceive that a mediated environment is modified based on their input (Klein, 2003). Speed of response has been considered by many researchers to be an aspect of interactivity. Speed of response is high when replies from other customers are added quickly after a customer posts a compliment or question.

Through these four factors, the interactivity from the user-to-user dimension which focuses on the interpersonal communication perspective and the responsiveness to the content posted by the user (user-to-document), and also the user-to-system dimension that emphasizes the technology characteristics can be examined (Zhao and Lu, 2010).

Value Creation and EWOM Systems

There are four categories of practices including social networking, brand use, impression management, and community engagement through which customers co-create value in brand communities.

Social networking sites enable consumers to become contributors, making them value the community/business/product even more (Kolbitsch and Maurer, 2006; Luo et al. 2015). Thus creating, improving, and keeping up relationships between the brand community individuals are concentrated in social networking practices. There are three different ways of social networking practices that can progress similarities among members, and the homogeneity of brand communities; namely welcoming, empathizing, and governing. (Laroche, et al., 2012).

According to Schau et al. (2009), brand use practices identify with the members' propensity to help other members with more up-to-date, enhanced, and improved approaches to using the focal brand. They basically include communicating effectively and efficiently from one member to another in relation to customizing the product for better applicability to their needs. Firms can use these communications effectively and efficiently to develop new ideas for their product and service (Ng et al. 2010). Brand use practices also relate to the feelings of one member towards helping or assisting other members who are relatively new to the community.

Impression management practices include a variety of specific activities, such as evangelizing and justifying through which customers preach the brand, share the good news about it, and bring some arguments to encourage others to use the brand i.e. referrals and recommendations (Chatterjee, 2011).Similarly, the PTAT metric is defined to measure theusers' voluntary engagement in the form of storytelling about a brand. According to Mazin (2011), 41% of Facebook users regularly share stories about brands, making PTAT an important metric for measuring user activity (Turri et al. 2013). Online communities foster impressionable facts about the brand through word-of-mouth communications and by sharing their personal experiences about the product and services.

Community engagement practices, as another important factor of value creation practices, is the process of working collaboratively with relevant partners who share common goals and interests (Schau et al. 2009). The most expected consumers to engage with brand communities more are those who participate in brand-related activities, actively upload user-generated content, spread EWOM, and stay on as brand "followers" for a longer period of time (Jin and Phua, 2014; Sung et al., 2010). However, the impact of certain antecedent factors, such as the interactivity of EWOM on value creation practices, has been largely overlooked. The objective of this study is also to fill this gap.

The value of a brand is created in a community when consumers begin to associate with and utilize social media to investigate the product and give feedback on it. EWOM systems on social media provide a platform with a high level of interactivity for clients (Colicev and O'Connor, 2016). The quality and quantity of the content and its attached services (e.g., EWOM systems) influence consumers' perceived interactivity with the EWOM system (Liu and Park, 2015). In the study conducted by Zhao and Lu (2010), it was shown that user

satisfaction toward micro-blogging services was positively affected by perceived interactivity. Interactivity has a strong effect on users' engagement with brand communities, and the propensity to seek, give and pass along opinions about brands on the sites (Chu and Kim, 2011; Shan and King, 2015). Therefore, customers' interaction with a brand can be supposed to be a value creation practice. Therefore, the interactivity of EWOM is considered as a primary factor that influences the level of involvement of the consumer, to create value. This forms the basis of the following hypotheses:

H1: Social networking practices are positively influenced by the interactivity of EWOM.
H2: Community engagement practices are positively influenced by the interactivity of EWOM.
H3: Impression management practices are positively influenced by the interactivity of EWOM.
H4: Brand use practices are positively influenced by the interactivity of EWOM.

Value Creation and Brand Loyalty

Previous research on social networks in consumer marketing shows that both clients and sellers benefit through the client's agreement on the value creation process. User actions on social media incorporate an assortment of particular activities, such as welcoming, empathizing, milestoning, documenting, evangelizing, justifying, customizing, commoditizing, etc (Schau et al., 2009). This frames a solid and valid source of brand-related data for other clients, encouraging users to interact and potentially to influence the preferences and purchase decisions of the buyer (Luo et al. 2013a). In particular, opinion leaders maximize marketing campaign productivity by optimizing the dissemination of viral messages through the network (Gohari & Mohammadi, 2014; Song, Wang, Feng, Wang, & Yu, 2012; Xu, Guo, Li, Lau, & Liao, 2012). As a result, the company picks up heightening competitive merits while the clients are also pleased, which leads to being faithful to the company. Customers actively cope with brand pages that demonstrate greater brand loyalty over a longer period of time (Hollebeek et al., 2014; Kwon et al., 2014; Yadav et al. 2013). Furthermore, the brand's products are more likely purchased when consumers are intensely dedicated to a brand community (Kilambi et al., 2013; Muniz and Schau, 2007; Scarpi, 2010).

Little empirical research has addressed the customer's role in the creation of value and its subsequent effect on online shopping outcomes (Payne et al., 2008; Vargo et al., 2008). See-To and Ho (2014) stated that value creation in social network sites' fan pages has an impact on purchase intentions. Turri et al. (2013) define metrics for measuring user activity in social media (primarily Facebook), and show that content creators typically exhibit the highest level of loyalty. This implies that co-creation practices are not simply associated with social media capability, but also constitute a valuable asset for increasing loyalty. Phua et al., (2016) show that individuals who most frequently use social networks to follow brands, and are members

of brand communities on these platforms, would differ significantly on brand community-related outcomes. This forms the basis of the following hypotheses:

H5: Social networking practices positively influence brand loyalty.

H6: Community engagement practices positively influence brand loyalty.

H7: Impression management practices positively influence brand loyalty.

H8: Brand use practices positively influence brand loyalty

Methodology

Participants

In this study, an electronic questionnaire containing 31 questions was created using Qualtrics. Participants were first asked to write the name of one favorite online brand community they frequently followed, and select only one social network site from a drop-down list (including Facebook, Twitter, and Instagram) that this brand community belongs to. The subsequent questions were then answered based on their use of this one specific brand community. A total of 296 responses were collected, with 273 responses used due to missing values issues. In terms of gender, the distribution of the sample was 54.89% male and 45.11% female. Most of the users were in the age range between 20 to 29 (58.33%), followed by those in the range between 30 to 39 (30.47%), and those in the age 40+ (11.2%). Of the respondents, 67.66% were members of Facebook, 18.05% of Twitter, and 14.29% of Instagram.

Measurement Development

All measures were drawn from previously used scales that were empirically validated in published research and modified to suit the study. As shown in Figure 1, the interactivity of EWOM contains four different dimensions: reciprocity, responsiveness, nonverbal information, and relevance (Johnson et al. 2006). The items of social networking, community engagement, impression management, and brand use practices were constructed from the definition given by Schau et al. (2009). We measured social networking practices using a 5-item scale, community engagement practices using a 4-item scale, impression management practices using a 3-item scale, and brand use practices using a 2-item scale developed by Laroche et al. (2012). As for brand loyalty, the concept drawn from Anderson and Srinivasan (2003) and Delgado-Ballester, et al. was utilized (2003). It was measured on a 3-item scale. To check the validity and reliability of the measurement items, a pretest with 30 respondents was conducted. The results of the pilot test were acceptable in terms of reliability and validity.

Results and Discussion

Assessment Measures

We tested the proposed hypotheses using the partial least squares (PLS) method. The advantage of the PLS method is that it is far less restrictive in its distributional assumptions and does not require normally distributed data (Fornell and Cha, 1994). Smart PLS was specifically employed to estimate both the measurement model and structural model simultaneously (Ringle et al, 2005). The structural model specified the relations between latent constructs. The measurement model was tested through the assessment of the validity and reliability of the construct measures in the model. This ensured that only reliable and valid construct measures were used for assessing the nature of relationships in the overall model (Hulland, 1999). In this regard, we first conducted a confirmatory factor analysis (CFA) for sanitizing and validating the measures. The loadings of individual items that demonstrate acceptable levels had to be 0.6 or greater (Geffen and Straub, 2005). As indicated in Table 1, loadings for all measurement items were above 0.7, indicating all items loaded significantly on their respective latent factors. Second, Cronbach's Alpha was assessed to evaluate internal consistency. The results indicate that Cronbach's Alpha ranges from 0.63 to 0.87, implying that the data exhibits high levels of reliability and appropriate internal consistency.

Reliability and convergent validity of the factors were further checked using composite reliability (CR) and average variance extracted (AVE). AVEs greater than 0.50 indicate that latent variables explain over 50% of the variation in the measurement items so that the constructs have convergent validity (Geffen and Straub, 2000). Composite reliability is an indicator of how well constructs in the measurement model are described by the indicators. The values of CR and AVE, more than 0.60 and 0.50 respectively, refer to the appropriate construct reliability and convergent validity (Fornell and Larcker, 1981). The CRs ranged from 0.76 to 0.92, exceeding the threshold of 0.6. The AVEs ranged from 0.51 to 0.80, which were above the acceptability value of 0.5 (Fornell and Larcker, 1981).

Table 1. Hypotheses Assessment Measures

Variable	Items	Factor Loadings	Mean	S.D.	Cronbach's Alpha	AVE	CR
	RC1	0.82	3.74	0.99			
Reciprocity	RC2	0.79	3.78	1.002	0.74	0.65	0.85
	RC3	0.81	3.22	1.09			
	RP1	0.81	2.98	1.10			
	RP2	0.85	3.10	1.12			.
Relevance	RP3	0.84	3.15	1.06	0.87	0.72	0.91
	RP4	0.87	3.01	1.16			
	NV1	0.73	3.07	1.10			
Nonverbal Information	NV2	0.66	2.88	1.12	0.63	0.51	0.76
	NV3	0.76	2.94	1.13			

	SR1	0.72	3.18	1.04			
Responsiveness	SR2	0.83	3.21	1.07	0.72	0.64	0.84
	SR3	0.84	2.99	1.10			
	SN1	0.69	3.22	1.12			
	SN2	0.67	3.41	1.04			
Social Networking	SN3	0.72	3.87	0.92	0.77	0.51	0.84
	SN4	0.78	3.53	1.04			
	SN5	0.71	3.62	1.06			
	CE1	0.84	2.79	1.05			
Community Engagement	CE2	0.86	2.78	1.06	0.75	0.67	0.86
	CE3	0.76	2.64	1.17			
	IM1	0.76	2.91	1.16			
Impression Management	IM2	0.82	3.08	1.19	0.74	0.66	0.85
.	IM3	0.85	2.98	1.04			
	BU1	0.87	3.07	1.14			
Brand Use	BU2	0.92	2.95	1.23	0.87	0.80	0.92
	BU3	0.89	3.07	1.18			
	BL1	0.79	2.64	1.24			
Brand Loyalty	BL2	0.88	2.75	0.95	0.83	0.74	0.90
	BL3	0.91	2.83	0.99			

To estimate discriminate validity, we compared the value of the square root of the AVE of each latent variable to the correlation coefficients between each latent variable (Chin, 1998). That is, the amount of variance shared between a latent variable and its block of indicators should be greater than the shared variation between the latent variables, accordingly demonstrating that strong discriminate validity does exist (Geffen and Straub, 2005). According to Table 2, all dimensions have the highest factor loadings on their constructs, and the minimum cross-loadings of their constructs is more than 0.1, indicating that the research constructs had strong discriminant validity.

Table 2. Cross-loading values

	RC	RE	NV	RP	SN	CE	IM	BU	BL
RC1	0.82	0.52	0.45	0.31	0.42	0.30	0.22	0.34	0.30
RC2	0.79	0.52	0.36	0.21	0.29	0.19	0.23	0.23	0.19
RC3	0.81	0.70	0.42	0.43	0.43	0.41	0.34	0.40	0.42
RE1	0.59	0.81	0.51	0.54	0.42	0.46	0.46	0.44	0.40
RE2	0.56	0.85	0.64	0.53	0.45	0.60	0.56	0.43	0.46
RE3	0.65	0.84	0.51	0.49	0.40	0.54	0.47	0.36	0.43
RE4	0.66	0.87	0.49	0.50	0.40	0.47	0.42	0.39	0.44
NV1	0.37	0.42	0.73	0.62	0.33	0.43	0.47	0.40	0.32
NV2	0.33	0.41	0.66	0.25	0.34	0.49	0.38	0.19	0.28
NV3	0.41	0.53	0.76	0.47	0.31	0.49	0.59	0.43	0.41
RP 1	0.11	0.34	0.45	0.72	0.32	0.38	0.40	0.25	0.17
RP 2	0.34	0.52	0.52	0.83	0.45	0.44	0.52	0.46	0.45
RP 3	0.46	0.57	0.56	0.84	0.26	0.52	0.42	0.45	0.40
SN1	0.35	0.38	0.39	0.31	0.69	0.32	0.36	0.43	0.31
SN2	0.24	0.36	0.33	0.27	0.67	0.24	0.29	0.35	0.15
SN3	0.32	0.25	0.27	0.31	0.72	0.20	0.15	0.28	0.11

SN4	0.42	0.44	0.33	0.33	0.78	0.18	0.32	0.38	0.41
SN5	0.33	0.29	0.27	0.28	0.71	0.10	0.10	0.18	0.15
CE1	0.35	0.50	0.50	0.50	0.28	0.84	0.51	0.38	0.50
CE2	0.30	0.52	0.51	0.49	0.20	0.86	0.50	0.38	0.47
CE3	0.30	0.49	0.60	0.40	0.26	0.76	0.44	0.21	0.35
IM1	0.27	0.45	0.52	0.46	0.18	0.45	0.76	0.46	0.49
IM2	0.28	0.48	0.56	0.46	0.40	0.43	0.82	0.52	0.45
IM3	0.26	0.45	0.56	0.46	0.31	0.57	0.85	0.48	0.50
BU1	0.39	0.39	0.43	0.41	0.43	0.29	0.55	0.87	0.46
BU2	0.34	0.46	0.43	0.46	0.35	0.38	0.54	0.92	0.50
BU3	0.37	0.43	0.44	0.47	0.48	0.40	0.53	0.89	0.46
BL1	0.26	0.36	0.39	0.28	0.22	0.44	0.46	0.36	0.79
BL2	0.35	0.50	0.41	0.51	0.31	0.50	0.51	0.50	0.88
BL3	0.39	0.46	0.42	0.35	0.37	0.46	0.55	0.51	0.91

The second criterion was that the AVE root of a structure must be greater than its correlation with other constructs. This indicates that the correlation of that construct with its measurement items is greater than that of the other constructs. In Table 3, it is clear that each construct is more highly correlated with its measure than with any other construct. This proves a reasonable discriminate validity among the constructs. In addition, the correlations among the latent variables are presented in Table 3. The result shows that all the correlations for the latent variables are statistically significant standing at $p < 0.01$.

Table 3. Correlations of the Latent Variables and the Square Root of the AVE

Variable	1	2	3	4	5	6	7	8	9
Reciprocity	81.0								
Relevance	0.72	0.85							
Nonverbal Information	0.51	0.63	0.71						
Responsiveness	0.40	0.61	0.64	0.80					
Social Networking	0.47	0.49	0.45	0.42	0.71				
Community Engagement	0.38	0.67	0.65	0.57	0.30	0.82			
Impression Management	0.33	0.56	0.67	0.56	0.36	0.59	0.81		
Brand Use	0.41	0.48	0.49	0.50	0.47	0.40	0.60	0.89	
Brand loyalty	0.38	0.51	0.47	0.44	0.35	0.54	0.59	0.53	0.86

Structural Model Assessment

To check the structural model, we examined the path coefficients between the constructs (Tenenhaus et al., 2004). Two essential pieces of information specify how well the hypothesized relationship is predicted by the proposed structural model. The first piece of information is the calculation of the standardized coefficients (β), which indicates the strength of the relationship between two variables (Wixom and Watson, 2001). The second piece of information is the squared multiple correlation (R2) value for each endogenous variable, which explains the measure of the predictive power of the research model (Chin, 1998). The R2 value was used to measure the percentage of the variance explained by the independent constructs in the structural model. Figure 2 displays the results of the path model. Chin (1998) states that to estimate how significant each path coefficient is statistically, we should use a

bootstrapping method (we used 300 subsamples). Table 3 shows the hypothesized path coefficients along with their bootstrap values (t-values).

The effects of interactivity of EWOM on value creation practices in the brand community based on social media are hypothesized in H1–H4. The effects of interactivity of EWOM on community engagement practices, impression management, and brand use practices (H2, H3, and H4) were significant with β (t-values): 0.67 (12.17), 0.64 (9.92), and 0.56 (7.89), respectively. However, the effects of interactivity of EWOM on social networking practices (H1) were not supported. Value creation practices, i.e., social networking, community engagement, impression management, and brand use practice are found to influence brand loyalty. The β (t-values) values were: 0.25 (2.97), 0.27 (3.21), 0.26 (3.11), and 0.24 (2.67) respectively. All of these relationships are significant, providing support for H5, H6, H7, and H8.

R2 values of value creation practices, including social networking, community engagement, impression management, and brand use practice were high (0.307, 0.449, 0.412, and 0.313 respectively). This indicates that the variance of value creation practices in the sample is well accounted for by the constructs interactivity of EWOM systems.
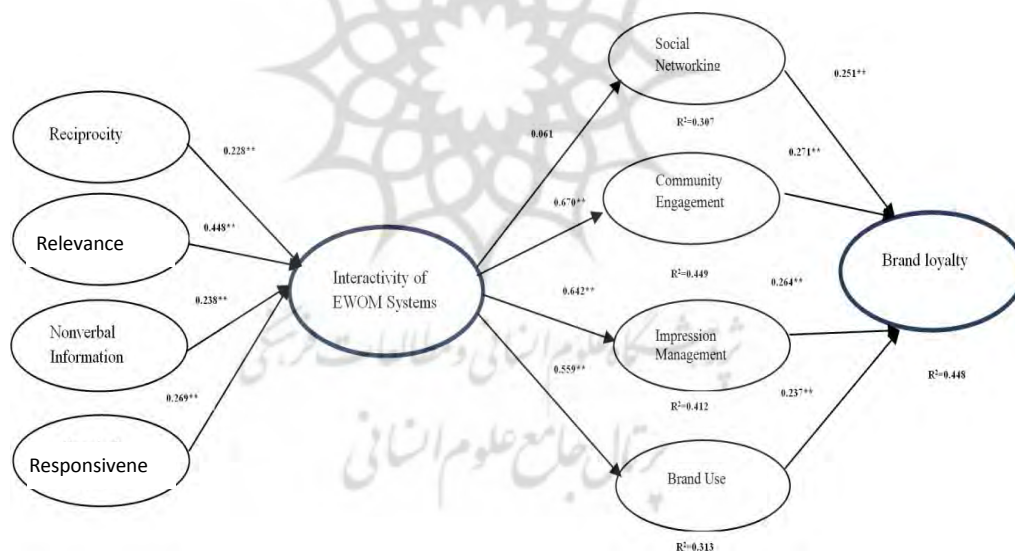

Figure 2. Path Coefficient Results

Table 4. Path Coefficients and Significance Values for the Hypothes

Hypothesis	Variable	Coefficients	t-value	Result
H1	Interactivity of EWOM ☐ Social Networking	0.06	0.801	Not Accepted
H2	Interactivity of EWOM ☐ Community Engagement	0.67	12.17	Accepted
H3	Interactivity of EWOM ☐ Impression Management	0.64	9.921	Accepted
H4	Interactivity of EWOM ☐ Brand Use	0.56	7.898	Accepted
H5	Social Networking☐ Brand Loyalty	0.25	2.97	Accepted
H6	Community Engagement ☐ Brand Loyalty	0.27	3.21	Accepted
H7	Impression Management ☐ Brand Loyalty	0.26	3.11	Accepted
H8	Brand Use ☐ Brand Loyalty	0.24	2.67	Accepted

To predict the whole fit of the model we exploited Goodness-of-Fit (GoF) (Tenenhaus et al., 2004). GOF, which is defined as the geometric mean of the average communality and the average R2, validates the PLS model by introducing an index, globally, while seeking a settlement between the performance of the measurement and the structural model, respectively. For this model, the GoF index was 0.49. So we can conclude that the proposed model fits the data well.

Conclusion

The results of this study indicated that user perceptions regarding the interactivity of EWOM systems are very influential on their evaluation of an entire brand community and their level of participation in value creation practices including community engagement practices (H2), impression management practices (H3), and brand use practices (H4). Contrary to expectations, the effect of interactivity of EWOM systems on social networking practices (H1) was not significant. There is a possible explanation for this finding. Social networking practices such as welcoming, empathizing, and governing are performed by brands to enhance and sustain ties among the brand community members (Schau et al., 2009). Contrary to social networking practices, community engagement, impression management, and brand use practices performed by users and their perceptions regarding the interactivity of EWOM systems have a positive impact on these value creation practices. Accordingly, we can classify value creation practices into two categories: brand value creation practices and user value creation practices. Thus, user value creation practices including community engagement, impression management, and brand use practices are affected by the interactivity of EWOM systems. Furthermore, we found that participating in value creation practices such as sharing meaningful brand experiences and receiving feedback from fellow members leads to consumers' deep understanding of the brand, which strengthens the ties between consumers and the brand. Therefore, the collective value creation practices could significantly enhance brand loyalty (H5, H6, H7, and H8). Our findings also explicitly show that the effects of value creation practices on consumer brand loyalty on a social media platform have different weights. Results show that community engagement has the greatest impact on the brand loyalty of consumers (Figure 3).
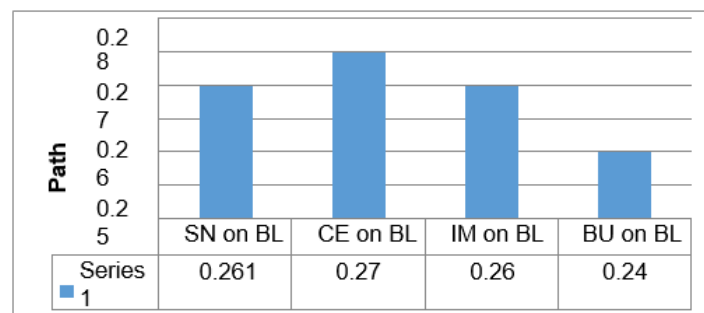
Path	SN on BL	CE on BL	IM on BL	BU on BL
Series 1	0.261	0.27	0.26	0.24

Figure 3. Hypothesis path coefifcien

The investigations of the sub-dimensions of interactivity provide significant insights for businesses. Responsiveness demonstrates the highest path coefficient in the analyses of sub-dimensions of interactivity of EWOM systems. It is recommended that businesses encourage customers to produce relevant EWOM, respond immediately to negative EWOM, reply properly to after-use comments, and increase images and video clips. Second, in carrying out the value creation practices within brand communities, businesses should be cautious about their potential consequences. According to the achieved results, we can conclude that community engagement has the greatest impact on consumer brand loyalty. Therefore, to advance the exhaustive improvement of community relations, businesses can launch a set of staking, mile stoning, badging, and documenting activities to underscore the separations among brand community members. Thus, the strategy of social media marketing will be profitable for organizations, if handled properly.

Conflict of interest

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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