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The impact of online Brand Community Characteristics on Community Commitment and Brand Loyalty: Focused on Korean Cosmetics Brand in Pakistan

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Abstract

Background/Objectives: Study tested influence of four online Cosmetics brand community characteristics on community commitment & brand-loyalty. Especially, how self-construal moderates between community characteristics and community commitment to enhance brand loyalty.

Methods/Statistical Analysis: To investigate the impact of online community characteristics on commitment and loyalty, convenience Sampling Technique was chosen and delivered 450 questionnaires to Facebook Users through online survey link with the help of Email, Whatsapp and Facebook Contacts. 274 questionnaires out of them were dropped due to incomplete response and 176 were used for statistical analysis. Exploratory factor analysis, regression and correlation analysis were performed.

Findings: The results of this study as follows. 1) Community commitment was positively influenced by information quality, system quality and reward, but not by virtual interactivity. 2) Community commitment also proved

a strong positive relation with brand loyalty. 3) The results show that self-construal plays moderating role in two relations: information quality and community commitment, reward and community commitment. 4) The impact of online community characteristics information quality, system quality and reward on brand loyalty is mediated by community commitment.

So, information quality, system quality and reward plays key role in building community commitment and brand loyalty, community commitment also have positive relation with brand loyalty; higher community commitment leads to higher brand loyalty, Both self-construal-independent and self-construal-interdependent have near-about equal role in relation of information quality and reward with community commitment. Loyalty can be increased by providing updated information, higher system quality and by offering monetary/Psychological rewards. When more consumers get awareness then there will be more Loyalty. Cosmetics decisions are Independent in the developing countries which were focus of study.

Improvements/Applications: Online communities playing key role in loyalty. Managers are advised to increase brand loyalty by analyzing factors which enhance interaction between community members. For more generalize results cross-cultural study suggested.

Key Words : Online Brand Community, Community Characteristics, Community Commitment, Brand Loyalty, Self-Construal.

1 Introduction

Information technology enables women to increased access to resources, resolved problems and feel empowered. It's the most valuable tool to bring development in females [1]. Information sharing is very popular due to advances in information technology. This development empower consumer to get fruitful information from internet [2]. So, no one can ignore the importance of internet in the daily business operations and consumers are accepting the importance of internet marketing. Due to rapid growth of online advertising,

marketers can choose right stage for the promotion of product and services. Social media such as Facebook, Twitter, Instagram and Pinterest are the latest part of online advertising [3]. Now it is possible to share information and culture through social networking. It provides innovative ways to interact with people. In this way better understanding of each other is possible [4].

Before many years researchers analyzed importance of community's. Online communities have greater impact on the business environment. Special form of consumer communities are brand communities, these are different from traditional communities. Attitude is influenced between members of communities through social interaction and built a long-lasting relationship with consumer. In online community on Facebook and twitter consumers shares their interests, knowledge and information. So, diverse types of brand communities exist in social network [5]. Membership in brand community enable consumer to show their personal feeling about brand, in result brand gets success [2]. In recent year's online social networks such as Facebook, Myspace, or Friendster, among these Facebook has gained tremendous growth in membership. For interaction and communication online, social networks such as Facebook offers rousing fresh opportunities but there is privacy risk also [6]. Social media empowered consumers a lot in terms of getting information and knowledge about product and services. It's the opportunity of creating two-way communication and interaction, so for targeting today's young generation internet is the highly effective method because it creates special relationship with brand and consumer [3]. By user interaction a large amount of information can be obtained. In Korea people have high quality of information due to high quality of system through higher speed internet service so information quality and system quality is not important to affect community commitment rather user interaction and rewards have higher impact on community commitment [2].

Based on the research background explained below we conducted this study;

Study conducted in an Indian university suggested that; to obtain customers loyalty organizations are creating online brand communities on Facebook for the advertisement purpose. Additionally, scholars have indicated the importance of Characteristics of Brand communities (Information quality, service quality, inter-

action and reward), all characteristics have impact on consumer loyalty [1]. Furthermore, previous research [2] suggests that each industry have different attributes so this study can be applied on another specific industry by replacing moderating variable community type on community commitment to identify the more appealing way to increase the brand loyalty and competitive edge. The much recent research [1] highlights the other research gap, this research can be applied on industry specific context fashion industry by using some other moderating variables instead of gender. Accordingly, no study describes the relation of self-construal theory [7] relation with stimulus-organism response paradigm theory. We thus posit a significant interaction between self-construal theory and stimulus-organism response paradigm theory in the culture of Pakistan. Brand loyalty (response) is higher when the Online Brand Community Characteristics (Stimulus) have more Positive response in creating higher community commitment (organism); and the Moderating extent of Self-Construal Theory on "Community Commitment.

2 Research Question

After a deep literature review the following research questions are designed. Literature provides the gap this research can be conducted in cosmetics industry to measure the consumer behavior and loyalty created by online brand communities of cosmetics. Self-construal is a new moderating variable which can have impact on community commitment. Self-construal is most important moderating variable to measure Cosmetics user's behavior. So, the following questions and Hypothesis are generated to measure how brand loyalty is affected by the online brand community characteristics.

1. How cosmetics brand online community's characteristics impact community commitment?

2. How moderating factor Self-construal have impact on "relation of Community Characteristics —& community commitment"?

3. What is the role of community commitment to create brand loyalty?

4. How the impact of community Characteristics on Brand Loyalty will be mediated by Community Commitment?

3 Theoretical Background and hypotheses

3.1 Stimulus-Organism Response Framework

Stimulus means something that arouse some action [8], Organism means emotional state (pleasure and arousal) [9], Response means final reaction of customer; this reaction may be psychological (attitude) or behavioral [10]. Stimulus (S), Organism (O), and Response (R) are strongly associated with each other [11]. The SOR framework assumes that the setting contains stimuli (S) that cause changes to people's internal, or system, states (O), that successively cause approach or shunning responses (R), here author assumes that sensory variables exists in the environment, different individuals have different emotions which effect the responses in the environment [9]. In S-O-R Model Independent Variables is Stimulus, Mediator is Organism while Dependent variable is Response [12].

In this study Independent Variables online community characteristics are taken as Stimulus, Mediating Variable community commitment as Organism and Dependent Variable Brand Loyalty as Response.

3.2 Social network, Online Community and online Brand Community Characteristics

3.2.1 Social network sites (SNSs)

Web based services that allow individuals to build a public or semi-public profile within a restricted system, connect with other users for interaction called SNSs. SNSs like; Facebook, Cyworld, Bebo, YouTube, BlackPlanet, Dogeball, & MySpace attracted millions of users; by offering series of interests, benefits and practices. Not only in the lives of users SNSs plays significance role rather it's also an important topic of Research. Facebook.com is an important SNS [13]. With the growing importance of SNSs many articles have been

published, mostly focused on Facebook, furthermore Open growing SNS provides new research prospects also [14].

3.2.2 Online Brand community and its Characteristics

According to [10] there are two dimensions of community; 1st territorial (deal with geographical notion of community) & 2nd relational (deal with nature and quality of human relationship rather than geographical view). The author [15] purposed four elements of community; Membership, Influence, Reinforcement & Shared emotional connection. So, community is that the sense of feeling wherever members have belonging & happiness, it means that they feel that members concern each other and the cluster. Members even have shared faith that member's needs and wants are going to be meet through their commitment to be along [16]. Community definitions are mostly non-specific based on geopolitical restrictions or local beliefs about target population.

Specialized non-geographically community based on organized set of social relations between followers of a brand called online brand community [1]. Online communities play a key role to provide attractive new opportunities and experiments to advertisers. Online community is also called virtual community, which is organized to facilitate the exchange of opinions and information about offered product and services [17]. Furthermore, online community is a social group of organization where individuals become members for virtual interaction to give-and-take benefits according to community type [18]. Interaction among members is very important factor in online communities so such kinds of community need stronger belongingness from members; to get their long term stay in community [19]. So now we can say that, online community is the frequency where members participate and attached with community, and members also visit that specific community for exchanging quality information about a common hobby or interest and build long lasting relationship [20]. Now companies are increasing more focus on motivation and reward through online communities because these attributes have more positive impact on member's behavior in community. Author concluded that Reward has a damaging effect on the information exchanging and generating trust between members of online community [21]. System Quality and

information Quality are different but have related dimensions of IS success. System quality Describes the Characteristics of Information System (flexibility, ease of use, ease of learning, response time or user-friendliness) while Information quality describes Characteristics of the System Output (Relevance, Understandability, Accuracy, conciseness, completeness, timeliness and usability) [22]. For successful service delivery in e-commerce; information quality, system quality, system use and system design quality are considered critical crucial factors. Information preciseness, timeliness, and sufficiency were found to be key measures of information quality in government e-services [23].

4 Research Model & hypothesis

In the following we develop hypotheses on the use of brand community characteristics items impact on the community commitment, during the process of realizing brand loyalty and the role of self-construal in facilitating this process. Research framework summarizes our key constructs and hypothesis as seen in [Figure 1].

4.1 Research Framework

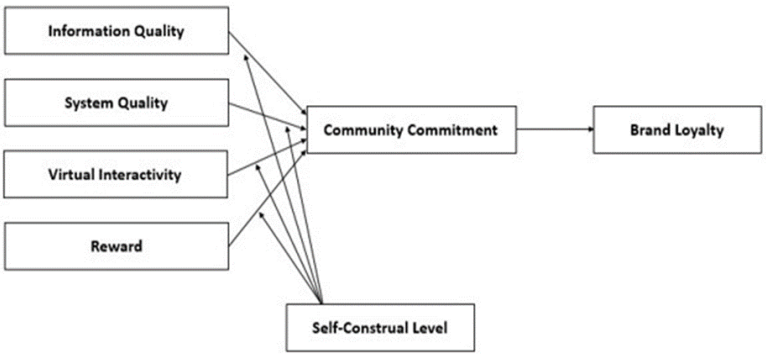


Figure 1: Research Model

4.2 Persuasion Factors

Prior Study conducted in South Korea identifies 4 Characteristics of online community; information Quality, System Quality, Reward and Interactivity. Reward and interaction have stronger influence on community commitment rather than information and system quality [2]. In contrast study conducted in India reveals that all four characteristics (information quality, system quality, interactivity and reward) have positive influence on community commitment with higher influence of information quality and virtual interactivity [1].

Marketers can get fruitful ideas and can develop stronger relationship with consumers with the help of online communities. Prior research describes the worth of information quality because it provides quality of information in traditional online communities. Consumer perceives these communities the important source of information about brands. To recognize the worth of product High-Quality Information helps a lot. Research also reveals that members are willing to develop community commitment if they obtain high-Quality Information from any community. So, high quality of information helps to develop positive attitude to continue consumer's relationship with community [24]. Information Quality is the Members perception about the information presented on the Web. Online community member's satisfaction for information quality and system quality provides understanding about a member's overall satisfaction. Therefor one can add value by understanding member's satisfaction with the help of information content available on Web [25].

Building trust and offering monetary rewards commitment and job satisfaction can be enhanced in the health care organizations. The impact of reward is slightly stronger than building trust; so, offering attractive rewards would be the most influential source of building elevated level of organizational commitment [26]. Based on these findings we assume that Characteristics of online brand community positively influence online brand community commitment. If the members find high-Quality of information on the Etude-Cosmetics Facebook Community then they are more likely to develop positive attitude and continue relationship with Online Community.

H1: Characteristics of online brand community positively influence online brand community commitment.

H1a: Quality of information in an online brand community positively influence on community commitment.

H1b: System Quality in an online brand community positively influence on community commitment.

H1c: Interaction in an online brand community positively influence on community commitment.

H1d: Reward in an online brand community positively influence on community commitment.

Women depend more on opinion leaders and personal sources while making Cosmetics decisions [27]. Authors found that the independent consumers having more need of uniqueness so they make effort to differentiate themselves from out-group [7]. Individual or group level connections plays key role in consumer-brand relationship. For example, individuals who prefer Mercedes have more focus on self-concept connection because they want unique identity. Self-concept connection is more important under independent-self construal [28]. Another research found that interdependent self-construal has more positive impact on consumer's electronic word of mouth intention then the independent self-construct [29]. Study argues that individual differences of interdependent self-construal was related to more participation and high commitment in online community as compare to those lower in interdependent self-construal [30]. Interdependent self-construal is more important in predicting online behavior. If someone develops any social activity there is need to connect users who are high in interdependent self-construal as compare to other users, to become more committed and engaged in online community. So, the assessment of considering individual differences among members of online community is much important to maximize user engagement and contributions to online communities [31].

H2: The relationship between online brand communities' characteristics & community commitment will be moderated by self-Construal.

H2a: For Independent self-construal, quality of information in an online brand community will have higher influence on community commitment than interdependent self-construal.

H2b: For Independent self-construal, system Quality in an on-

line brand community will have higher influence on community commitment than interdependent self-construal

H2c: For Independent self-construal, interaction in an online brand community will have higher influence on community commitment than interdependent self-construal.

H2d: For Independent self-construal, Reward in an online brand community will have higher influence on community commitment than interdependent self-construal.

The concept of commitment can never be ignored in the online context because Customers depends on internet for information as well as purchases and just by single click they can move to other websites. To build stronger commitment between members; marketing manager must clear the objective of community, provide several sources of interaction, offer reward according to members contribution in community and consider members opinion either it is positive or negative. Customers with stronger community commitment have stronger brand commitment [32]. Commitment is an exchange process where members develop loyalty with other members and organizations. To develop and maintain marketing relationships commitment is considered a central force because it is a physiological force which creates link between customer and organization [33]. Consumers occasionally have more positive or adverse relation with brand they purchase. By having deep commitment towards brand, when consumer thinks about repurchase and rebuy their preferred product consistently in the future called brand loyalty [1]. Relationship between consumer and brand is very important in the overall process of brand loyalty, so the role of commitment can never be ignored in the development of brand relationship. Brand commitment or community commitment means; Customer connected to a brand because they have positive feelings about brand in their minds. Author concluded that brand loyalty is the result of stronger attitude towards brand and brand commitment [34].

H3: The influence of online community Characteristics on Brand Loyalty is mediated by Community Commitment.

H3a: The influence of Information Quality on Brand Loyalty is mediated by Community Commitment.

H3b: The influence of System Quality on Brand Loyalty is mediated by Community Commitment.

H3c: The influence of Visual Interactivity on Brand Loyalty is mediated by Community Commitment.

H3d: The influence of Reward on Brand Loyalty is mediated by Community Commitment.

Member's positive attitude and loyalty towards can be obtained when members feel committed with online brand community.

Community commitment can help to increase behavioral loyalty towards brands; when member shows a frequent product purchase behavior and more participation in community [24]. Study argues that community commitment increases brand loyalty [2].

H4: Community Commitment will have a positive influence on Brand Loyalty.

5 Empirical Analysis

5.1 Research Methodology

The proposed research examined the Influence of Cosmetic's Brand Online Community on Brand Loyalty towards Etude Cosmetics Brand. This structural model investigates how Social Media based Online Cosmetics Brand Community's Characteristics affecting Brand Loyalty of Members of community.

Target Population for this study was (450 Individuals) male and female of Pakistan. Theoretically the population includes all cosmetics users' aged 16-60 years, as they have already purchased Etude cosmetics brands in their routine life or have some awareness. To identify diverse types of Customers Convenience Sampling Technique (Unrestricted-Self Survey) was used; the survey was open to anyone to participate in by having experience, knowledge and awareness about Etude Cosmetics Online Community on Social network FB. To make decisions primary Data was collected by using Quantitative research methods.

For analyzing data, the preferred statistical technique was SPSS25. It was also important to discover the relationship among variables. Correlation analysis finds the relationship between selected variables. To check the significance of the association of the independent variables with the dependent variables regression analysis also used.

5.2 Method of survey

For data collection, I administered an online Questionnaire survey in Pakistan, city Sahiwal COMSATS University campus and Lahore COMSATS University campus. A total of 450 questionnaires through online survey link were distributed with the help of Email, Whatsapp and Facebook Contacts. The Pakistani sample consists of male and females. University Population was selected because they are knowledgeable with the subject under study. Data were collected by University Students (undergraduates, graduates) as well as faculty and administrative staff; and requesting them to fill a self-administered questionnaire, 450 questionnaires were distributed. A questionnaire was constructed which measured community characteristics impact on brand loyalty. The questionnaire contains items to measure Information quality, System quality, interaction and reward system of "online cosmetics community". Furthermore, questionnaire also contain items about loyalty towards Etude Cosmetics brand as well as items about self-construal also included and simple demographic questions.176 were useable and valid for analysis, while I dropped other questionnaire due to incomplete response.

6 Measurements of variables

Based on the above study model and broad review of previous research measurements of variables are finalized. From various sources measures for different constructs were gathered and further modified according to the variable relationship and their impact.

Information quality 8 items borrowed from sources [1, 2] (Cronbach's Alpha=0.907). Service quality 9 Items were collected from sources [1, 2] to measure its impact on community commitment (Cronbach's Alpha=0.912). Authors [1, 2] provided the 5 items for visual interactivity (Cronbach's Alpha=0.873). Reward impact on community commitment was measured by 5 items borrowed from [1, 2] (Cronbach's Alpha=0.557). To measure the participant's level of interdependence-self and independent-self self-construal scale is used. Total 6 items were borrowed from source [7] (Cronbach's Alpha=0.690) for independent self-construal and (Cronbach's Alpha=0.752) for interdependent self-construal. Study done by [1,

2] was used to borrow the 10 items for community commitment (Cronbach's Alpha=0.924). Items for brand loyalty were taken from sources [1, 2] (Cronbach's Alpha=0.893). All variable items were measured on 5-point Likert scale 1(strongly disagree) to 5 (strongly agree) to gain Participants response.

7 Analysis and Results

Validity Analysis and Reliability Test

Reliability is used to describe the overall consistency of a measure. A measure is said to have a higher reliability if it produces equivalent results under consistent conditions.

An Initial data analysis was conducted to access the dimensionality of the constructs used, exploratory factor analysis (EFA) was performed. The [Table 1] lists the result of EFA. The internal consistency of the variables was verified with Cronbach's Alpha values. A commonly accepted rule of thumb for describing internal consistency using Cronbach's Alpha, generally it is acceptable when the value is below 0.7 and above 0.5, if the value is above 0.9 that means it is very reliable. Every variable has at least two items. Validity was accessed by Factor Analysis. Principle component with varimax rotation was used to draw out factors. Factors with an Eigenevalue higher than 1.0 were selected. Cronbach's Alpha values of near about all variables is between 0.7-0.5; Demonstrating the satisfactory reliability of the research variables.

Table1: Correlations

	Information Quality (IQ)	System Quality(SQ)	Virtual interactivity(VI)	Reward(R)	Community commitment(C.C)	Brand loyalty(B.L)
IQ	-					
SQ	0.841***	-				
VI	0.844	0.849***	-			
R	0.631	0.644	0.646***	-		
CC	0.754	0.727	0.711	0.674***	-	
BL	0.781	0.727	0.751	0.627	0.775***	-

*P<.10 **P<.05 ***P<.01

Pearson correlations were calculated for variables. All variables were significantly correlated to each other at significant level 0.01.

7.1 The results of Hypothesis1

Online community characteristics have impact on community commitment to prove hypothesis 1 regression analysis was conducted, results are shown in [Table 2].

Table2: Online Community Characteristics and Community Commitment

Model	Unstandardized Coefficients		t-value	p
	B	S.E.		
(Constant)	.467	.165	2.832	.005
IQ	.390	.093	4.193	.000
SQ	.156	.094	1.664	.098
VI	.048	.093	.511	.610
R	.276	.057	4.852	.000
R^2=0.650 Adjusted R^2=0.642				

3 Characteristics of online community positively influence community commitment so hypothesis H1 is accepted. The explanatory power of this model is 65%. At 95% confidence interval the alpha is 10% or $p<0.10$. So if we compare the p-value with the alpha 10%, only the virtual interactivity is higher than 10%, so it will be rejected. The remaining three variables: information quality, system quality and reward are lower than 10% ($p<0.10$) so results are accepted.

Information Quality, system quality & reward hypothesis (H1a, H1b & H1d) are accepted. Visual interactivity hypothesis (H1c) is rejected. Information quality, system quality and reward have positive relation with community commitment, rather than virtual interactivity.

7.2 The results of Hypothesis2

The relation between online brand community characteristics and community commitment was moderated by self-construal. To prove it regression analysis was conducted.

Note: the combination of every interaction in [Table 3a] and [Table 3b] makes one single hypothesis H2a, H2b, H2c & H2d.

Table 3a: Online Community Characteristics and Community Commitment in case of Interdependent Self

Model	Unstandardized Coefficients		t-value	P
	B	S.E.		
(Constant)	1.785	.096	18.545	.000
IQ	.099	.029	3.388	.001
SQ	-.002	.030	-.058	.954
VI	-.002	.027	-.077	.939
R	.039	.017	2.260	.025
R^2 =0.643		Adjusted R^2 =0.634		

Table 3b: Online Community Characteristics and Community Commitment in case of Independent Self

Model	Unstandardized Coefficients		t-value	P
	B	S.E.		
(Constant)	1.697	.093	18.327	.000
IQ	.062	.026	2.344	.020
SQ	.041	.027	1.506	.134
VI	-.005	.026	-.205	.838
R	.042	.015	2.795	.006
R^2 =0.683		Adjusted R^2 =0.676		

If we compare the self-construal-independent (B= 0.062) with self-construal-interdependent (B= 0.099) for information quality we can say that there is little difference between these two variables. But in case of making decisions, when we analyze the results with p-value both the self-construal-independent and self-construal-interdependent are lower than alpha=10% (p<.10) so we have to accept the hypothesis H2a.

When we compare the self-construal-independent (B=0.041) with self-construal-interdependent (B=-0.002) for system quality we can say that there is little difference between these two variables. But in case of making decisions, if we analyze the results with p-value both the self-construal-independent and self-construal-interdependent are higher than alpha=10% (p<.10) so we have to reject the hypothesis H2b.

When we compare the self-construal-independent (B=-0.005) with self-construal-interdependent (B=-0.002) for virtual interactivity we can say that there is little difference between these two variables. By analyzing the results with p-value both the self-construal-independent and self-construal-interdependent are higher

than alpha=10% (p<.10) so we have to reject the hypothesis H2c.

If we compare the self-construal-independent (B=0.042) with self-construal-interdependent (B=0.039) for reward we can see that there is little difference between these two variables. But in case of making decisions, when we analyze the results with p-value both the self-construal-independent and self-construal-interdependent are lower than alpha=10% (p<.10) so we have to accept the hypothesis H2d.

Results based on coefficient table (t-value & p-value), we can say that self-construal plays moderating role between information quality and community commitment; it also plays moderating role for relation of reward & community commitment;

While self-construal will not moderate the relation of system quality & community commitment, same as self-construal will not moderate the relation of virtual-interactivity & community commitment. So, H2 is partially accepted. Based on above results we accept H2a, H2d while results reject the H2b, H2c.

7.3 The results of Hypothesis3

To give the clear concept of mediation Baron, & Kenny (1986) [26] give the "path a" from independent variable to mediator, "path b" to prove the impact of mediator on dependent variable & the "path c" which is direct impact of independent variable on dependent variable.

Table 4: Mediating Effect of Community Commitment between Information Quality and Brand Loyalty

Model		Unstandardized Coefficients		t-value	p
		B	S.E.		
1st Step	(Constant)	.777	.173	4.490	.000
	IQ → C. C	.746	.049	15.147	.000
	R^2 =.569				
2nd Step	(Constant)	.444	.181	2.450	.015
	IQ → B. L	.850	.052	16.503	.000
	R^2 =0.610				
3rd Step	(Constant)	.076	.171	.443	.658
	IQ * C. C → B. L	.497	.070	7.085	.000
		.474	.071	6.676	.000
	R^2 =0.690				

In step1 the simple linear regression model relation for community commitment with information quality is statistically significant & the power of this model is 56.9%.in addition the direct impact

of information quality on community commitment is 0.746 & Standard Error for it is 0.049.

In step2 the relation is statistically significant & this model has a power of 61%. In addition, it can be seen, unstandardized coefficient B, which is the direct magnitude of information quality on brand loyalty is 0.850 and standard error for this is 0.052.

Step3 the multiple linear regression model for brand loyalty; which describes information quality and community commitment is statistically beneficial, & the explanatory power of this model is 69%. In addition, the magnitude of direct effect of information quality is .497 and the standard error for it is 0.071, the analysis results are shown in [Table 4].

The [Table 5] summarizes the results of the three-step regression analysis for mediating effect validation.

Table 5: Mediating Effect in Sobel Test

Model	Unstandardized Coefficients		
	B	S.E.	
IQ → C. C	0.746	S_a	0.049
IQ → B. L	0.850	S_b	0.052
IQ ∗ C. C → B. L	0.474	S_c	0.071
	0.497	S_d	0.070

The results in [Table 5] shows that the total effect of Information Quality on Brand Loyalty is b=0.850 & total effect of d=0.497, which is the magnitude of the direct effect of Information Quality on Brand Loyalty & a*c=0.746*0.474=0.3536, so the total of d + a*c=b; the total is same.

$$T_o = a * \frac{c}{\sqrt{(c^2 S_a^2 + a^2 S_c^2 + S_a^2 S_c^2)}}$$
$$= 0.746 * \frac{0.474}{\sqrt{(0.474^2 * 0.049^2 + 0.746^2 * 0.071^2 + 0.049^2 * 0.071^2)}} = 6.10$$

Since the value of t-statistics is 6.10 which is higher than 1.96, (the null hypothesis that there is no mediation effect is rejected). Therefore, it has been proved that community commitment acts

as a mediator (parameter) in the relationship between information quality and brand loyalty, H3a is accepted.

Table 6: Mediating Effect of Community Commitment between System Quality and Brand Loyalty

Model		Unstandardized Coefficients		t-value	p
		B	S.E.		
1st Step	(Constant)	.976	.166	.174	.000
	SQ → C. C	.702	.052	.050	.000
	R^2 =0.528				
2nd Step	(Constant)	.761	.191	3.982	.000
	SQ → B. L	.774	.055	13.972	.000
	R^2 =0.529				
3rd Step	(Constant)	.200	.178	1.128	.261
	SQ ∗ C. C → B. L	.370	.069	5.371	.000
		.574	.071	8.054	.000
	R^2 =0.657				

In step1 the simple linear regression model relation for community commitment with system quality is statistically significant & the power of this model is 52.8%. In addition, the direct impact of system quality on community commitment is 0.702 & Standard Error for it is 0.050.

In step2 the relation is statistically significant & this model has a power of 52.9%. In addition, it can be seen, unstandardized coefficient B, which is the direct magnitude of system quality on brand loyalty, is 0.774 and standard error for this is 0.055.

In Step3 the multiple linear regression models for brand loyalty is implemented; which describes system quality and community commitment is statistically beneficial, & the explanatory power this model is 65.7%. In addition, the magnitude of direct effect of system quality is 0.370 and the standard error for it is 0.069, the analysis results are shown in [Table 6].

The [Table 7] summarizes the results of the three-step regression analysis for mediating effect validation.

Table 7: Mediating Effect in Sobel Test

Model	Unstandardized Coefficients		
	B	S.E.	
SQ → C. C	0.702	S_a	0.050
SQ → B. L	0.774	S_b	0.055
SQ ∗ C. C → B. L	0.574	S_c	0.071
	0.370	S_d	0.069

The results in [Table 7] shows that the total effect of System Quality on Brand Loyalty is b=0.774 & total effect of d=0.370, which is the magnitude of the direct effect of System Quality on Brand Loyalty & a*c=0.702*0.574=0.402948, so the total of d + a*c=b; the total is same.

$$T_o = a * \frac{c}{\sqrt{(c^2 S_a^2 + a^2 S_c^2 + S_a^2 S_c^2)}}$$
$$= 0.702 * \frac{0.574}{\sqrt{(0.574^2 * 0.050^2 + 0.702^2 * 0.071^2 + 0.050^2 * 0.071^2)}} = 6.993$$

Since the value of t-statistics is 6.993 which is higher than 1.96, (the null hypothesis that there is no mediation effect is rejected). Therefore, it has been proved that community commitment acts as a mediator (parameter) in the relationship between system quality and brand loyalty.

Table 8: Mediating Effect of Community Commitment between Reward and Brand Loyalty

Model		Unstandardized Coefficients		t-value	p
		B	S.E.		
1st Step	(Constant)	1.405	.166	8.464	.000
	R → C. C	.627	.052	12.049	.000
	R^2=0.455				
2nd Step	(Constant)	1.382	.193	7.172	.000
	R → B. L	.642	.060	10.626	.000
	R^2=0.394				
3rd Step	(Constant)	.076	.182	2.117	.036
	R * C. C → B. L	.497	.065	3.032	.003
		.474	.070	10.163	.000
	R^2=0.620				

In step1 the simple linear regression model relation for community commitment with Reward is statistically significant & the power of this model is 45.5%. In addition, the direct impact of reward on community commitment is 0.627 & Standard Error for it is 0.052. In step2 the relation is statistically significant & this model has a power of 39.4%. In addition, it can be seen, unstandardized coefficient B, which is the direct magnitude of reward on brand loyalty, is 0.642 and standard error for this is 0.060. Step3 the multiple linear regression models for brand loyalty; which describes Reward and community commitment is statistically beneficial, & the explanatory power of this model is 62%. In addition, the magnitude of direct effect of Reward is 0.197 and the standard error for it is 0.065, the results of analysis are shown in [Table 8].

The [table 9] summarizes the results of the three-step regression analysis for mediating effect validation.

Table 9: Mediating Effect in Sobel Test

Model	Unstandardized Coefficients		
	B	S.E.	
R → C. C	0.627	S_a	0.052
R → B. L	0.642	S_b	0.060
R ∗ C. C → B. L	0.710	S_c	0.070
	0.197	S_d	0.065

The results in [Table 9] shows that the total effect of Reward on Brand Loyalty is b=0.642 & total effect of d=0.197, which is the magnitude of the direct effect of Reward on Brand Loyalty & a*c=0.627*0.710=0.44517, so the total of d + a*c=b; the total is same.

$$T_o = a * \frac{c}{\sqrt{(c^2 S_a^2 + a^2 S_c^2 + S_a^2 S_c^2)}}$$

$$= 0.627 * \frac{0.710}{\sqrt{(0.710^2 * 0.052^2 + 0.627^2 * 0.070^2 + 0.052^2 * 0.070^2)}} = 7.746$$

Since the value of t-statistics is 7.746 which is higher than 1.96, (the null hypothesis that there is no mediation effect is rejected). Therefore, it has been proved that community commitment acts as a mediator (parameter) in the relationship between Reward and brand loyalty, H3d is also accepted.

The above discussion proved the H3 is accepted, it means influence of online community characteristics on brand loyalty is mediated by community commitment.

7.4 The results of Hypothesis4

Table 10: Community Commitment on brand Loyalty

Model	Unstandardized Coefficients		t-value	p
	B	S.E.		
(Constant)	.967	.151	6.393	.000
B.L	.704	.044	16.158	.000
R^2=0.775 Adjusted R^2=0.598				

The power of this model is 77.5%. Community Commitment has positive strong correlation with Brand Loyalty. The value of t coefficient 16.158 & $p<0.10$ proved that hypothesis H4 is accepted. So, we can say that Community Commitment has strong relation with Brand Loyalty, the analysis results are shown in [Table 10].

8 Conclusion

We examined how different characteristics of online community influence community commitment to create brand loyalty and how the moderator moderate the relation of online community characteristics and community commitment in increasing brand loyalty. Three of the community characteristics (information quality, system quality and reward) significantly affected community commitment when study is conducted in Pakistan. So information quality, system quality and reward have higher influence on community commitment in creating brand loyalty while there is no role of virtual interactivity to influence community commitment and brand loyalty.

This result based on data collected from FB users having awareness about cosmetics online communities or having membership in online community which promotes etude sellers. The level of system quality is low almost everywhere in Pakistan because low speed internet broadband service so this may be the reason of low interaction between members of online community. To determine the higher impact of independent self-construal as compare to interdependent self-construal between the online community characteristics and community commitment, moderator analysis was conducted with the help of regression analysis and its graphical representation. Moderated regression analysis showed the differential effects of self-construal, which were significant on some of the independent variables. Quality of information, system quality and reward system ($p<0.10$) have positive influence on community commitment. Self-construal play moderator role and has positive correlation with community commitment for information quality and reward. Self-Construal Interdependent and self-construal independent moderate the relation of information quality and reward with community commitment (t=2.344, t=2.795, t=3.388, t=2.260,

t>2, p<0.10), while self-construal interdependent and self-construal independent will not moderate the relation of virtual interactivity and system quality (t= -0.58, t= -0.77, t=1.506, t<2, p>0.10). Furthermore, study concludes that there is little difference between independent self-construal and interdependent Self-Construal for information quality and reward. Therefore, self-construal moderates the effect of community characteristics (information quality & reward) on community commitment. Mediated regression analysis showed that community commitment acts as a mediator in the relationship between online community characteristics (information quality, virtual interactivity & reward) and brand loyalty. The results also conclude that community commitment increases brand loyalty (beta=0.775, t=16.158, p<0.10). So cosmetics companies can increase brand loyalty by increasing community commitment.

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