


# The Role of Social Media Marketing on Overall Brand Equity in the Telecommunication Sector in Bangladesh: A Moderated Mediation Model of Brand Love and Value Co-Creation

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## ABSTRACT

The objective of this study is to investigate the role of social media marketing (SMM) on overall brand equity (OBE) via value co-creation (VC) in the telecommunication sector in Bangladesh. Moreover, brand love is tested as a moderator of SMM and VC. A structured questionnaire was distributed to collect survey data from 241 mobile subscribers using a systematic sampling method from different areas of Dhaka city in Bangladesh. The hypotheses were examined using structural equation modeling (SEM). The findings have shown that social media marketing has a substantial direct influence on value co-creation which has also a significant direct influence on OBE. Findings have indicated that VC is partially mediated by the relationship between SMM and OBE. The results have asserted that SMM significantly influences OBE. Furthermore, the results have affirmed that brand love acts as a moderator to strengthen the relationship between SMM and VC.

## KEYWORDS

Brand Love, Overall Brand Equity, Social Media Marketing, Value Co-Creation

## 1. INTRODUCTION

Social media marketing (SMM) has changed the marketing landscape that creates an environment where marketers can capitalize on social media (SM) to co-create value with customers (Sashi et al., 2019; Huang & Rust, 2018; Elsharnouby & Mahrous, 2015). Thus, the notion of value co-creation (VC) has drawn much academic and practitioner attention (Chen et al., 2019). Social media advertising expenditures worldwide amounted to 378.16 billion U.S. dollars in 2020 (Statista, 2021). In Bangladesh, social media (SM) users are 45.00 million in January 2021 which is accounted for 27.2% of the total population (Datareportal, 2021). These numbers inspire brand marketers to communicate brand information over SM platforms such as Facebook, Instagram, Twitter, LinkedIn, YouTube to maintain mutually satisfying customer-brand relationships. On SM platforms, brand love (BL) is a sign of the customer's brand preference which is shown by pressing the "Like" or "Heart" shape button on Facebook, Instagram. When customers love a brand on social media, they want to share its content and recommend others to buy that brand (Machado et al., 2019). Therefore, it is practical

to posit brand love to be a critical driver of (VC) which strengthens the relationship between SMM and VC within the telecommunication sector.

The promising telecommunication sector in Bangladesh has been growing hurriedly over time. This sector is ranked as the fifth position in the Asian mobile market and the ninth place in the global market (GSMA, 2018). It has made a significant contribution to the economic development and Sustainable Development Goals (SDGs) attainment (GSMA, 2018). At present, four mobile operators are conducting business in Bangladesh namely Grameen Phone Ltd. (GP), Banglalink Digital Communications Limited, Robi Axiata Limited (Robi), and Teletalk Bangladesh Ltd. (Teletalk). Grameen Phone Ltd. is ranked as the first position in this sector having 79.037 million mobile subscribers. The mobile subscriber rate has increased radically. The total subscribers have 170.137 million at the end of 2020 which was 147.000 million at the beginning of 2018 (BTRC, 2021). There is severe competition encountered by the telecommunication sector in Bangladesh because of the homogeneous service features, the convergence of technologies, and the emergence of new digital services (GSMA, 2018). In these circumstances, telecommunication marketers can distinguish their offerings through effective SMM which will expedite the VC process which in turn generate strong overall brand equity for firms. Therefore, the timely inquiry for the telecommunication marketers to find how and to what extent social media marketing can build overall brand equity(OBE) in the telecommunication sector.

The majority of the study in Bangladesh focused on the relationship of social media with consumer behavior, purchase intention, brand awareness (Eti et al., 2021; Al Amin et al., 2020; BARUA & ZAMAN, 2019; Hossain & Sakib, 2016). To the best of the authors' knowledge, no research was conducted to examine the role of SMM on OBE in the telecommunication sector in Bangladesh along with mediated and moderated effects of VC and BL. Therefore, this study will fill the present research gap in emerging overall brand equity literature from a social media marketing perspective.

This study is organized as follows: After the introductory section, literature review on social media marketing, value co-creation, brand love, and overall brand equity. Next, the methodology is explained followed by data analysis. The last part encompasses discussions and managerial implications along with research limitations and suggestions for future research directions.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1 Social Media Marketing (SMM)**

SM refers to the web applications, technological systems, and web tools that assist the partnership and sharing of content with brand communities (Kaplan & Haenlein, 2010). Yadav & Rahman (2017) defined SMM as “a process by which companies create, communicate, and deliver online marketing offerings via social media platforms to build and maintain stakeholder relationships that enhance stakeholders' value by facilitating interaction, information sharing, offering personalized purchase recommendations, and word of mouth creation amongst stakeholders about existing and trending products and services.”

### **2.2 Social Media Marketing and Value Co-creation**

The notion of value co-creation (VC) refers to is the partnership between a consumer and a producer in the course of co-design,co-ideation, and co-development of new products and services (Prahalad & Ramaswamy, 2004). The development of social media has transformed customers from being passive listeners to active partners working with the producers which resulted in the emergence of a customer-centric marketing strategy (Payne et al., 2009; Vargo & Lusch, 2004; Prahalad & Ramaswamy, 2000). Cheung et al. (2021) affirmed that effective SMM influences the customers to involve with VC. SM is a platform where customers can easily share their brand experience and social media marketers always encourage customers to express their opinion about brand values to peers as

well as suggestions of upgrading the brand value, treating as a critical tool of VC (Liu et al., 2021; Cheung et al., 2020; Alalwan et al., 2019; Seo and Park, 2018; Luo et al., 2015). The trendiness of social media content attracts like-minded consumers to communicate with others which acts as a catalyst of VC (Ramadan et al., 2018; Dessart et al., 2015). Similarly, customized and entertaining social media content motivates customers to share their positive eWOM about a brand which facilitates the value co-creation process (Yadav & Rahman, 2018; Bianchi & Andrews, 2018; Wu et al., 2017). Thus, the following hypothesis is suggested:

H1: SMM has a positive effect on VC.

### **2.3 Value Co-creation and Overall Brand Equity**

Brand equity (BE) refers to the set of assets and liabilities of a brand-related to its brand name and symbol that are used to generate brand value (Aaker, 1991). Customer-based brand equity indicates the added incremental financial gains for the firm (Lassar et al., 1995). On the other hand, Keller (1993) defined “brand equity as the differential impact of brand knowledge on customer response to the different marketing stimuli”. Single dimensional overall brand equity (OBE) is considered in this study which refers to customer various responses with branded and unbranded products while representing similar marketing stimuli (Yoo & Donthu, 2001). It is widely used to assess brand equity in the telecommunication sector (Rizomyliotis et al., 2020). Very few studies have been concentrated on the robust link between VC and OBE. To the best of my knowledge, no empirical studies had been conducted on the effect of VC on OBE in the telecommunication sector in Bangladesh. Kristal et al. (2016) asserted that VC has a weak correlation with brand equity (BE). Contrary to, Omar et al. (2020) stated that value co-creation has a weighty role in the creation of BE. Likewise, González-Mansilla et al. (2019) affirmed that the OBE of a firm derives from VC behavior. Therefore, the following hypothesis is anticipated:

H2: VC has a positive effect on OBE.

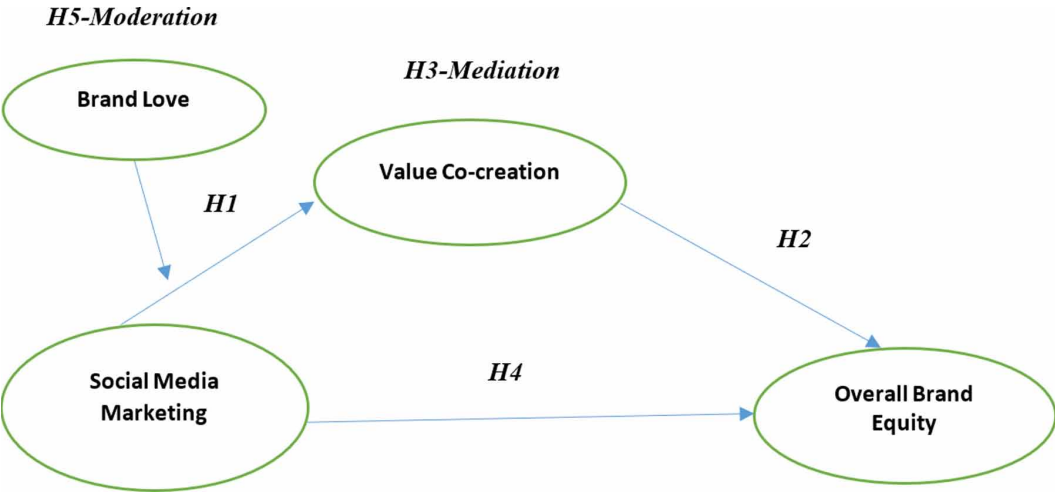
H3: VC mediates the relationship between SMM and OBE.

### **2.4 Social Media Marketing and Overall Brand Equity**

Brand marketers are continuously using different SM i.e. Facebook, LinkedIn, Twitter, Instagram, YouTube, WeChat, Blog, and Forums to communicate with consumers and promote their products (Constantinides, 2014; Tess, 2013). It is considered as a low-cost media to promote products or services compared to conventional media (Iankova et al., 2019) and is progressively utilized to form customer–brand relationships (Yadav & Rahman, 2018). Kim & Ko (2012) stated that SMM is a multidimensional concept that encompasses five dimensions namely entertainment, customization, interaction, electronic word-of-mouth (eWOM), and trendiness. These dimensions are considered to measure SMM in this research. Social media marketing is crucial in constructing brand value, relationship value, and BE (Yu & Yuan, 2019; Ismail, 2017; Kim & Ko, 2012). When customers are enthused to use social networking platforms, they are more likely to have a positive impact on consumer involvement and BE (Chae et al., 2015). Godey et al. (2016) affirmed that SMM has a substantial role in customer-based brand equity. Koay et al. (2020) asserted that BE is the consequence of the successful SMM activities of a firm. Seo & Park (2018) acknowledged that SMM activities directly influence the brand equity of a firm. Likewise, Ra’d Almestarihi et al. (2021) showed that SMM and brand equity are positively correlated. Consequently, the following hypothesis is offered:

H4: SMM has a positive effect on OBE.

Figure 1. Conceptual framework



## 2.5 Moderating Role of Brand Love

Brand love (BL) can be defined as the customer’s “degree of emotional attachment for a trade name” (Caroll & Ahuvia, 2006). BL will be visible from consumers sharing their good experiences on SM and recommend to peers to buy a particular brand (France et al., 2018; Nobre & Ferreira, 2017; Yi & Gong, 2013). Loureiro et al. (2017) mentioned that “the emotional connection and the feeling of anxiety when not having the brand, make consumers more inclined to recommend the brand to others via online platforms”. Customers who are irritated with the brand’s communications on SM may discontinue value co-creating activities (Dennhardt et al., 2013). Wallace et al. (2021) acknowledged that BL is a significant predictor of VC. A customer who loves a brand is more interested to participate value concretion process over social media (Roy et al., 2013; Junaid et al., 2020). Likewise, Kennedy & Guzman (2020) showed that customers interact positively with a brand when they prefer that brand, concerning both VC and brand love. To extend the idea of BL from the social media perspective, the following hypothesis is anticipated:

H5: BL moderates the relationship between SMM and VC.

## 3. CONCEPTUAL FRAMEWORK

Figure 1 shows the direct, moderating, and mediating relationships among constructs namely social media marketing, value co-creation, brand love, and overall brand equity which will be confirmed by hypotheses testing.

## 4. METHODOLOGY

### 4.1 Data Collection and Sample

This research is quantitative and descriptive in nature aiming to examine the role of SMM on OBE and the mediating influence of VC on SMM and OBE. Also, a moderating role of BL on SMM and VC. To attain this objective, Structural Equation Modelling (SEM) is used in this research because it allows us to concurrently analyze proposed observed and latent constructs in the measurement model (Hair et al., 2010; Bollen, 1989). In this research, the survey method is chosen to gather data from

the respondents during the period of June-July in 2021. The sample of respondents of this research was people who use a particular mobile operator's services for at least 1 (One) year. A total of 5 customers were chosen from each Flexiload store by a systematic sampling method. Three hundred mobile phone users in Dhaka city in Bangladesh were approached but 265 contributed to this survey. After removing incomplete and invalid responses, 241 responses were analyzed. During this survey, two screening questions were asked: "Do you have a social media account?" and "Do you follow any mobile operator's social media page online?" The participants who answered "Yes" in two questions were invited to fill up the questionnaire. Table 1 illustrates the demographic details of the participants. The majority of the participants were male (60.58%) who were aged between 15 and 25 (52.28%). Most of the respondents had a Bachelor's degree (52.28%) and a Postgraduate degree (34.44%). More than half of the respondents were Grameen Phone Ltd. users (50.21%) and using a particular telecom operator's services for 1 to 2 years (43.98%). Further, most of the respondents used Facebook (69.71%).

## 4.2 Measures

A self-administered questionnaire was used to gather primary data from smartphone users in Bangladesh. This questionnaire consists of two sections. The first section contains the respondent's demographic information (gender, age, education, name of the mobile operator, year of usage, and active user of social media). The second section comprises four (4) constructs namely social media marketing, value co-creation, brand love, and overall brand equity. Twenty-one (21) measured variables were adopted under four constructs from the prior research to confirm the reliability and validity of these constructs (Table 2). The indicator of all the variables in this research is assessed by a 9-point Likert scale ranging from 1 (Strongly Disagree) to 9 (Strongly Agree).

## 5. DATA ANALYSIS

The objective of this study is to examine the role of SMM on OBE along with the mediation and moderating effect of value co-creation, and brand love. To attain this objective, structural equation modeling (SEM) with maximum likelihood estimation was undertaken to test the proposed moderated mediation model. AMOS 23.0 software was used to test this model.

### 5.1 Measurement Model

As recommended by Anderson & Gerbing (1988), confirmatory factor analysis (CFA) was performed to examine the construct reliability and validity of the measurement models. AMOS 23 software was used to conduct the analysis. The measurement model showed satisfactory model fit ( $\chi^2 = 146.947$ ,  $df = 84$ ,  $\chi^2/df = 1.749$ ,  $p = .000 < .001$ , goodness-of-fit index (GFI) = .923  $\geq$  0.90, normed-fit index (NFI) = .921  $\geq$  0.90, confirmatory fit index (CFI) = .954  $\geq$  0.90, Tucker-Lewis index (TLI) = .942  $\geq$  0.90, and root-mean-square error of approximation (RMSEA) = .056  $\leq$  0.08. Figure 2 shows the measurement model by CFA with standardized factor loadings.

### 5.2 Reliability and Validity

Cronbach's alpha and composite reliability scores were used to measure the reliability of all the constructs in the measurement model. The construct is reliable when the Cronbach's alpha score and composite reliability (CR) score are above the suggested threshold criterion of 0.7 (Hair et al., 2010). Table 3 showed that CR and Cronbach's alpha values of all the scales were found to meet the cut-off value which indicates the reliability of all the scales.

Further, all constructs were also examined for convergent and discriminant validity. Convergent validity is supported if the average variance extracted (AVE) estimates for each construct exceed 0.50 (Hair et al., 2010). In this study, AVE values shown in Table 3 range from 0.501 to 0.609 which provides evidence for convergent validity among constructs. Finally, the AVE value of each variable

**Table 1. Participant's Demographic Profile**

Demographic Variables	Frequency (N = 241)	Percentage (%)
Gender		
Male	146	60.58%
Female	95	39.42%
Age (Years)		
15-25	126	52.28%
26-35	49	20.33%
36-45	44	18.26%
Above 45	22	9.13%
Education		
High school or below qualification	12	4.98%
Bachelor's Degree	126	52.28%
Postgraduate Degree	83	34.44%
Other	20	8.30%
Name of the Mobile Operator		
Grameen Phone Ltd.	121	50.21%
Robi Axiata Ltd.	66	27.39%
Banglalink Digital Communications Ltd.	43	17.84%
Teletalk Bangladesh Ltd.	11	4.56%
Year of Usage		
1-2 Year	106	43.98%
3-4 Year	89	36.93%
5-6	31	12.86%
Above 7 Year	15	6.23%
Active User of Social Media		
Facebook	168	69.71%
YouTube	34	14.11%
Twitter	23	9.54%
LinkedIn	10	4.15%
Instagram	6	2.49%

was compared with the correlation square of other study constructs to examine discriminant validity (Fornell & Larcker, 1981). The results in Table 4 show that the AVE value of each construct was greater than the corresponding correlation square coefficients, which confirms the discriminant validity among constructs (Fornell & Larcker, 1981).

### 5.3 Structural Model Assessment and Hypotheses Testing

A covariance-based structural equation model (SEM) using AMOS 23 was performed and the results show all the fit indices in the acceptable range. The fit indices are GFI = .911, CFI = 0.935, NFI = .900, TLI = .921, RMSEA = 0.066 which represent suitability of structural model.

The results of the direct paths are shown in Table 5. The results of path analysis show that social media marketing has a significant impact on value co-creation ( $\beta = .323$ ,  $p = .000 < .001$ ), supporting H1. Similarly, value co-creation has a substantial impact on overall brand equity ( $\beta = .225$ ,  $p = .003 < .01$ ), supporting H2. Further, social media marketing has a substantial direct impact on overall brand equity ( $\beta = .479$ ,  $p = .000 < .001$ ), supporting H4.

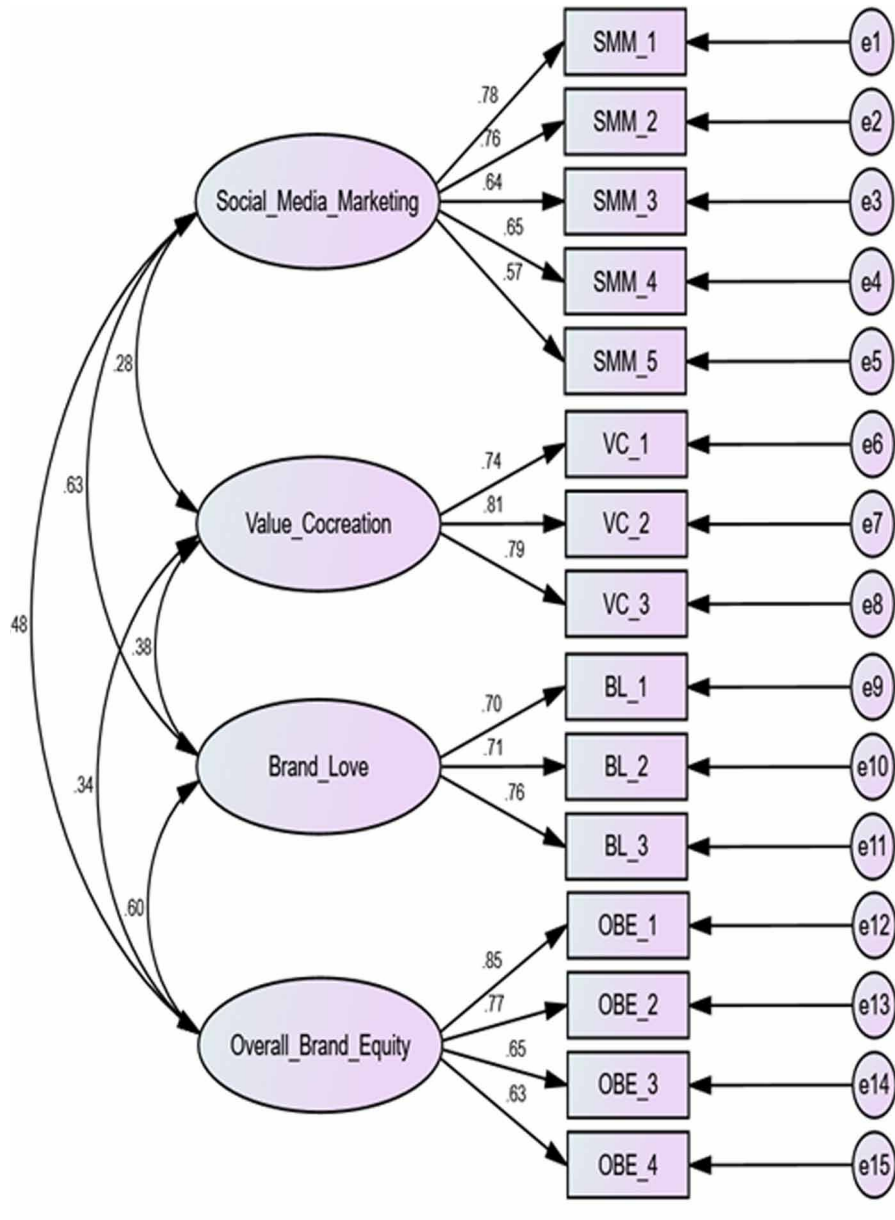
Table 2. Lists of Measurement Items

Constructs	Measurement Items		Sources
<b>Social Media Marketing (SMM)</b>	<b>Entertainment (SMM_1)</b>	<b>E1:</b> Social media contents of my mobile operator seem interesting. <b>E2:</b> Using my mobile operator's brand in social media is fun.	Kim & Ko (2012)
	<b>Interaction (SMM_2)</b>	<b>IN1:</b> Conversation or opinion exchange with others is possible through my mobile operator's social media. <b>IN2:</b> My mobile operator's social media enables information sharing with others. <b>IN3:</b> It is easy to give my opinion through my mobile operator's social media.	
	<b>Trendiness (SMM_3)</b>	<b>T1:</b> The trendy content of my mobile operator is shared via social media. <b>T2:</b> The content shared by my mobile operator's social media is the newest information.	
	<b>Customization (SMM_4)</b>	<b>C1:</b> My mobile operator's social media offers customized services. <b>C2:</b> My mobile operator's social media provides customized information search.	
	<b>WOM (SMM_5)</b>	<b>W1:</b> I wanted to share brand information about products, or services from my mobile operator's social media to my friends. <b>W2:</b> I wanted to post content from my mobile operator's social media to my blog.	
<b>Value Co-creation (VC)</b>	I often suggest how my mobile operator can improve its products and services. I am actively involved when my mobile operator develops new products. My mobile operator encourages consumers to create solutions together.		Nysveen & Pedersen (2014)
<b>Brand Love (BL)</b>	My mobile operator brand makes me feel good. I am passionate about my mobile operator brand. I am emotionally involved in my mobile operator brand.		Wallace et al., 2014
<b>Overall Brand Equity (OBE)</b>	It makes sense to buy my mobile operator services instead of any other brand, even if they are the same. Even if another brand has the same features as my mobile operator brand, I would prefer to buy my mobile operator services. If there is another mobile operator as good as my mobile operator, I prefer to buy my mobile operator services. If another brand is not different from my mobile operator brand in any way, it seems smarter to purchase my mobile operator services.		Yoo & Donthu, 2001

## 5.4 Moderated-Mediation Analysis

The bootstrapping method offered by Preacher & Hayes (2004) and MacKinnon et al. (2004) was applied to test the mediation effects with 5000 resamples with a 95% confidence interval. Results are shown in Table 6 confirm that value co-creation partially mediates social media marketing efforts and overall brand equity, supporting H3. Then, moderating effect of brand love was evaluated using the product indicator approach to create the interaction term. The resulted interaction term is “social media marketing  $\times$  brand love”. Table 6 illustrates the influence of interaction terms on value co-creation is statistically significant. Therefore, H5 is supported.

Figure 2. Measurement model



## 6. DISCUSSION AND MANAGERIAL IMPLICATIONS

The findings show that SMM significantly influences VC which is consistent with the prior studies (Cheung et al., 2021; Tajvidi et al., 2020; Zadeh et al., 2019). Thus, telecom marketers should expedite the value co-creation activities of customers by posting trendy, entertaining, customized, and interactive social media content with the latest brand-related offerings. This will attract customers to interact with social media brand pages which will be beneficial for marketers to get direct feedback from customers. Marketers should also encourage co-creation behavior by rewarding active consumers who provide suggestions regarding new telecom products designing process, improvement for existing offerings

Table 3. Reliability and Validity Estimates of Confirmatory Factor Analysis Model

Constructs	Items	Factor Loadings (Standardized)	Average Variance Extracted (AVE)	Composite Reliability (CR)	Cronbach $\alpha$
Social Media Marketing (SMM)	SMM1	.784	.501	.816	.807
	SMM2	.764			
	SMM3	.644			
	SMM4	.654			
	SMM5	.573			
Value Co-Creation (VC)	VC1	.744	.609	.824	.820
	VC2	.806			
	VC3	.790			
Brand Love (BL)	BL1	.704	.526	.769	.768
	BL2	.713			
	BL3	.757			
Overall Brand Equity (OBE)	OBE1	.855	.537	.821	.818
	OBE2	.775			
	OBE3	.650			
	OBE4	.629			

and service delivery, as well as voting for a new logo or packaging design. As indicated earlier, very limited studies have been directed to test the robust link between VC and OBE. Findings indicate that value co-creation contributes to building strong overall brand equity which is in line with the earlier studies (González-Mansilla et al., 2019). The findings of the study also confirm that value co-creation is the valuable bridge between SMM and OBE which is not tested yet, filling the current research gap. Hence, marketers who want to build brand-customers relationships should construct effective social media marketing strategies so that they will inspire customers to co-create value with the brand which in turn influences the overall brand equity of a firm. Marketers should provide more weight on the value co-creation behavior of the customers which is a substantial predictor of overall

Table 4. Discriminant Validity

Latent Variables	Social Media Marketing	Value Co-Creation	Brand Love	Overall Brand Equity
Social Media Marketing	<b>0.708</b>			
Value Co-Creation	.279	<b>0.780</b>		
Brand Love	.631	.378	<b>0.725</b>	
Overall Brand Equity	.478	.339	.599	<b>0.733</b>
Notes: The diagonal values show the square root of AVE (bolded) while off-diagonal values are the correlations between the respective constructs.				

**Table 5. Structural model results**

Hypothesized Relationships			Estimate	S.E.	C.R.	P
Value Co-creation	<- --	Social Media Marketing	.323	.092	3.509	***
Overall Brand Equity	<- --	Value Co-creation	.225	.075	3.010	.003
Overall Brand Equity	<- --	Social Media Marketing	.479	.091	5.287	***

**Note(s):** \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

**Table 6. Mediation and Moderation Effect Analysis**

Hypothesis	Relationships	Direct effect without mediator	Direct effect with mediator	Indirect effect	Results	Outcome
<b>H3</b>	Social Media Marketing---> Value Co-creation---> Overall Brand Equity	.561 (***)	.479 (.001)	.073 (.004)	<b>Partial Mediation</b>	<b>Supported</b>
Hypothesis	Relationships	Path Coefficient of the interaction term	Bootstrap t-statistic		Outcome	
<b>H5</b>	Social Media Marketing × Brand Love ---> Value Co-creation	.404 (***)	4.394		<b>Supported</b>	

**Note(s):** \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001

brand equity. The outcomes of the research asserted that SMM has a direct effect on the OBE of a firm which is corroborated with prior studies (Koay et al., 2020; Jayasuriya et al., 2017). Hence, brand marketers should share authentic, accurate, and informative information about telecom brands which will directly contribute to improving overall brand equity. Interestingly, this study found that brand love strengthens the relationships between SMM and VC which is not tested yet, adding value to the social media marketing literature. The stronger the brand love, the higher will be the co-creation activities. Therefore, marketers should share emotional content over social media which will foster strong love for this brand that motivates a high level of co-creation activities such as posting positive reviews, comments on social media brand pages.

## 7. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study is not free from weaknesses and calls for further research. These findings can not be generalized because this study was based on a specific sector in a particular geographic area i.e. telecommunication sector in Bangladesh. So, cross-cultural studies on other sectors need to be conducted to generalize the outcomes of this research. Future research could investigate the existing model along with some important constructs namely, brand experience, brand evangelism etc.

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