Determinants of Customer Engagement on Social Commerce Sites: Role of User-Generated Content

Mohammad Hasan Galib
Tennessee State University
mgalib1@tnstate.edu

Hadeel B. AL-Haddad
Yarmouk University
hadeel.haddad@yu.edu.jo

Amjad H. Al-Amad
Yarmouk University
amjad.alamad@yu.edu.jo

Khaled Qassem Hailat
Yarmouk University
Khaledhailat@yu.edu.jo

Saleh Bazi
Yarmouk University
Saleh.bazi@yu.edu.jo

ABSTRACT

This study aims to investigate the role of User-Generated Content (UGC) in customer engagement by identifying the factors that influence customer engagement on social commerce sites. Data (*n=307*) were collected through an online survey. The data analysis was done through factor analysis and multiple regression. The research model was developed using Ducoffe's [1] model. The result of data analysis reveals that Informativeness, Credibility, Relevancy, and Irritation of the UGC influence people's perception of the value of the UGC, which will eventually lead to customer engagement intention. Entertainment was not able to contribute to the perceived value of UGC. The finding of this study will help marketers develop a strong brand by identifying the factors that encourage customers to participate in creating UGC. This study was the first study that used Ducoffe's [1] model to examine the role of UGC on customer engagement.

Keywords: Customer engagement, user-generated content, social commerce

1. INTRODUCTION

The emergence of social media has opened the door to new opportunities for marketers as well as users. Social media allows users to exchange views, share experiences, and gather useful information to make a valuable purchase decision. Because of its extensive usage, marketers found this platform an influential marketing channel for promoting products, attracting, and retaining

consumers. Marketers facilitate online commerce activities on their social media pages. This new way of conducting online business activities is called social commerce. In other words, social commerce refers to all e-commerce activities and transactions with the support of social media [2]. Thus, social commerce sites include all websites on social media platform that offer all types of social commerce activities. Currently, some popular sites are Facebook, Instagram, Pinterest, TikTok, Twitch, YouTube, and Twitter. Social commerce is a relatively new concept that emphasizes e-commerce transactions promoted through social media [3]. Users can search and purchase products on a brand's social commerce sites [4, 5]. Social commerce has become a significant trend which is developing rapidly to provide services to online shoppers [6]. Research revealed that the social commerce market size is expected to touch $1.3 trillion in 2023, which is 30.8% increase from 2022 [7]. Another research revealed that 30% of e-commerce companies are already selling on social media [8]. Users enjoy the freedom and opportunities to express their opinions and share their views and experiences related to the products and services on social commerce pages. This interaction among users on social commerce pages could produce a valuable source of information about products for online shoppers. This user's posting or interaction data on social commerce sites is called user-generated content (UGC). Tirunillai and Tellis [9] defined UGC as brand-related content created by users on social media platforms. The study adopts the operational definition of UGC as "any content posted by users on social commerce sites that includes texts, images, audio, video, graphics, and animation." Social commerce sites have made it easier for companies to communicate with their customers and offer them the opportunity to express their thoughts and feelings directly and more importantly allow them to contribute to creating UGC [10].

Studies on the credibility of UGC show that information posted by regular consumers is more trusted and acceptable by other consumers than the information posted by firms [11, 12]. Thus, UGC has revolutionized communication as they provide unfiltered and unbiased information [13, 14]. UGC containing either positive or negative reviews about a product or brand is usually considered to be of high value to the concerned brand due to its perceived credibility and authenticity [15]. Because of the higher credibility and acceptability compared to firm-generated messages, UGC would be an excellent vehicle for companies to promote their products.

Being successful in social commerce is challenging despite its rapid expansion [16, 17]. This success in social commerce significantly depends on consumers' willingness to participate on social commerce sites [18], which represents consumer engagement intention. Consumer engagement is a psychological process that involves dynamism, devotion, interaction, and purpose [19]. Engaged consumers on social commerce sites play a vital role in developing new products and services [20, 21]. This engagement of the customer enhances business performance [22] and customer loyalty [23], leading to sales growth [24] and increased profitability [25]. Additionally, consumer engagement is a valuable forecaster of a marketer's performance [26]. Previous research found that it has been linked to companies' positive referral, profit, and future purchase intention [27]. To increase customer engagement in producing UGC on social commerce sites, marketers must have an in-depth understanding of customers' drivers and barriers to participation.

Identifying the contributing factors of customer engagement would help marketers increase the possibility of customer engagement. This understanding will help marketers enjoy all the benefits of high customer engagement.

Despite the significant importance of UGC and customer engagement, empirical investigation on the role of UGC on consumers' engagement intention on social commerce sites is limited. Researchers have studied customer engagement by examining various attributes of consumer behavior in different business areas, including customer awareness, satisfaction, purchase intention [28], customer attitude [29], customer engagement on Facebook [30], sales performance [31], customer engagement on online gaming [32], skills and perceived learning [33], customer advocacy and electronic word-of-mouth [34], gamification of mobile apps [35], and brand trust and loyalty [36]. Although researchers have examined customer engagement to explore different behavioral attributes of consumers, the role of UGC on customer engagement on social commerce sites has not been thoroughly investigated. To fulfill this research gap, the following research questions were formulated in this study:

RQ1: Does UGC play any role in customer engagement on social commerce sites?

RQ2: How does UGC impact customer engagement intention on social commerce sites?

An understanding of the antecedents of consumer engagement intention on social commerce sites will help businesses unleash their potential. This study extends the existing academic knowledge by identifying the drivers and barriers of customer engagement on a brand's social commerce sites. The finding of this study will also help marketers develop a strong brand by identifying the factors that encourage customers to participate in creating UGC on social commerce sites.

To address the research questions mentioned above, this study attempts to investigate the role of UGC on social commerce sites on customer engagement by identifying the factors that influence customer engagement. This study extends the existing academic knowledge by identifying the drivers of customer engagement on a brand's social commerce sites. It also helps marketers to develop a strong brand by identifying the factors that encourage customers to participate in creating UGC on social commerce sites.

2. THEORETICAL BACKGROUND AND HYPOTHESES DEVELOPMENT

2.1 Consumer Engagement

The concept of consumer engagement has been widely defined in the literature and has captured much attention in diverse research fields. For instance, in a virtual brand community, it is defined as "specific interactive experiences between consumers and the brand, and other consumers of the community" [37]. It can be also defined as "the intensity of an individual's participation in and connection with an organization's offerings and organizational activities, which either the consumer or the organization initiates" [38]. In contrast, Hollebeek and his colleagues defined it

as "consumers' positively balanced brand-related cognitive, emotional and behavioral activity during or related to focal consumer/brand interactions" [39].

2.2 Ducoffe's [1] model and consumer engagement

In 1995, Ducoffe developed a model that studies the factors that contribute to consumers' evaluation of the value of ads. These constructs were: informativeness, entertainment, and irritation. Then Brackett and Carr [40] extended the model to include credibility as another determinant of an ad's value. These factors together have been widely used by researchers in determining ad value, nevertheless they were rarely used in evaluating the content value in other areas, such as the value of content in social commerce sites. This study contributes to this area by incorporating the constructs of Ducoffe's [1] and Brackett and Carr's [40] construct of credibility in addition to relevancy for studying the factors that affect content value on social commerce sites that would also affect consumer engagement.

2.3 Informativeness

Information quality is considered the persuasive strength of a message [41] or "the extent to which consumers perceive that the information content posted by a company on its brand page is of high quality" [42]. Information could be about the company, its brands, or any product specifications [43]. Informational content leverages more engagement than other types of content [44], and the quality of the information provided on a company's website has a positive influence on consumer engagement behavior. Electronic platforms are evaluated positively if they provide up-to-date information [45]. Dedeoglu [46] found that the information quality of the content on social media has a significant influence on users' sharing intention. Wu, Wang and Yan [43] found that informativeness of online store significantly affects consumers' behavior. Moreover, consumers' enthusiastic engagement could be stimulated by sharing some useful and humorous content, which could also play an essential role in encouraging consumer engagement [47].

Thus, this study proposes the following hypothesis about informativeness.

> **Hypothesis 1:** *Informativeness has a significant positive impact on the perceived value of content on social commerce sites.*

2.4 Entertainment

In online shopping, entertainment can be defined as " the extent to which an online store provides online shoppers with a fun, entertaining, exciting, imaginative and attractive online shopping experience" [43]. Previous research found that entertainment is the main factor that fosters consumers to create and share messages on social media sites [48], and it is essential for web messages to be entertaining and funny in a way that can attract consumers' attention [49]. Entertainment is considered a hedonic need, and it may include jokes, posts, or funny videos [44]. Several previous studies have investigated the effect of entertainment consumer engagement. For instance, Taylor, Strutton and Thompson [50] found that entertaining online video ad has a positive influence on consumer's intention to share the ad. While examining the motivations for sharing marketer-generated content on social media, Lee, Lee and Quilliam [51] found that entertainment is correlated with sharing video ads. Both entertainment and information quality have a significant

impact on users' inclination to engage in the company's site [47]. Ho, See-To and Chiu [52] found that consumers visit the social network fan page more frequently when they find interesting, entertaining, and informative content. Thus, the hedonic value had a positive influence on usage intensity. Therefore, it is expected that customers are motivated to participate in electronic commerce websites that concentrate on the quality of information and create excitement through entertaining features that attract their attention and make them enjoy their website visits [53]. As a result, the following hypotheses are proposed:

Hypothesis 2: Entertainment has a significant positive impact on the perceived value of content on social commerce sites.

2.5 Credibility

Information credibility has an essential role in enhancing consumer engagement in any form of communication, consumer decision-making, and purchase intention. It is a significant determinant of electronic word-of-mouth engagement in social commerce [41]. Source credibility allows consumers to take a shortcut in their decision-making instead of having a complex route, and it is one of the critical factors for non-expert consumers in message evaluation [54]. Users are more affected by content that is available on review websites. They find that content very valuable and credible in terms of details and quality, and they also attribute more credibility to the content which is generated by users who are similar to them in their preferences [55]. Thus, this study proposes the following hypothesis:

Hypothesis 3: Credibility has a significant positive impact on the perceived value of content on social commerce sites.

2.6 Relevancy

Relevancy is defined by Liu and Arnett [53] as the extent to which customers perceive the information to have a high level of personal relevance and match their needs. Whereas Zhu and Chang [56] defined it as "the degree to which consumers perceive a personalized advertisement to be self-related or in some way instrumental in achieving their personal goals and values." Throughout the literature, it is found that the relevancy of information positively affects consumers' buying intention and brand engagement, and consumers prefer to read the information that is relevant to their interests more than other information. Thus, relevancy plays a vital role in triggering their engagement [48]. In addition, it is one of the information qualities that increase the playfulness and usefulness of a website [45]. Therefore, it is hypothesized that:

Hypothesis 4: Relevancy has a significant positive impact on the perceived value of content on social commerce sites.

2.7 Irritation

Irritation is "the perceived disturbances of other members' actions rather than to the actions themselves; irritation is related to members' emotions and thus is an emotional factor that influences engagement " [57]. It is considered an unfavorable factor that affects consumers' engagement, and it is related to others' misbehaviors and nonsensical discussions and postings. It

is a frustrating outcome of visiting a website [58]. In the advertising context, Ducoffe [1] has claimed that irritation is represented in annoying, insulting, or manipulative content that disturbs consumers. This leads to the following hypothesis:

Hypothesis 5: Irritation has a significant negative impact on the perceived value of social commerce sites.

2.8 Perceived Value of Content and Consumer Engagement

According to Ducoffe [1], Perceived Value is "a subjective evaluation of the relative worth or utility of advertising to consumers." In light of Ducoffe's [1] definition, this study defines the Perceived Value of UGC as a customer's evaluation of the relative worth or utility of UGC on social commerce sites. The perceived value of the content on social commerce sites can be considered as a customer's evaluation of comparing their perceived quality and the level of expectation.

This study argues that consumers will perceive something valuable if that meets their expectations through informativeness, enjoyability, credibility, and relevancy. Additionally, the content must not have any element of irritation.

Previous researchers have identified Perceived Value as a major determinant of customer satisfaction [59-62], loyalty [63, 64], and behavioral intention [12, 60, 65-67]. In the spirit of previous research findings, this study proposes that the Perceived Value of content would affect consumers' engagement intention to participate on social commerce sites. Accordingly, the following hypothesis is proposed:

Hypothesis 6: Perceived value of content has a significant positive impact on consumer's engagement intention on social commerce sites.

3. METHODOLOGY

3.1 Research model

The research model (Figure 1) of this study was guided by Ducoffe's [1] model. In addition to Ducoffe's [1] Informativeness, Entertainment, Irritation, Relevancy, and Perceived Value variables, a new independent variable, Credibility has been added to this research model. This research model was developed to examine the factors that influence customer engagement in creating UGC on social commerce pages.
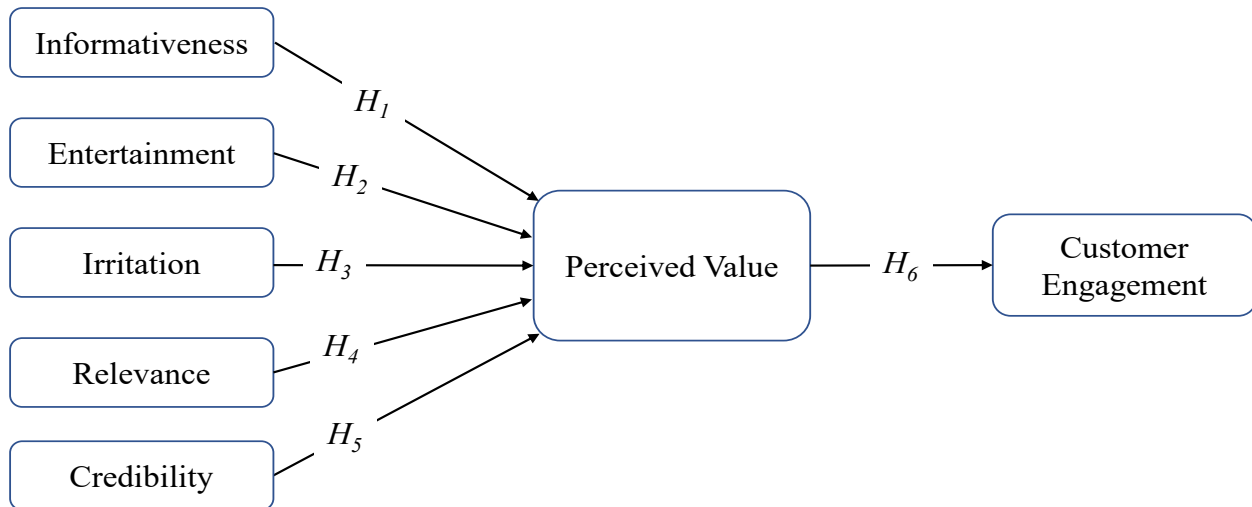
Figure 1. Research model

3.2 Measures/Instrumentation

A self-administered web-based online survey questionnaire was developed to address the six hypotheses. The questionnaire has two sections, one for UGC-related questions (Appendix A) and the other for demographic questions. A 5-point Likert scale (1=strongly disagree, 5=strongly agree) has been used for the questions related to UGC. The questions of all constructs have been adapted from the existing scales.

3.3 Data collection

Data collection of this study was done through Amazon Mechanical Turk (MTurk), a crowdsourcing platform for data collection. The online survey was developed in Qualtrics and the link was posted on MTurk. To qualify to participate in this study, participants had to meet the following two conditions: (a) Participants must be 18-year-old or above and living in the USA. (b) Participants must have experience in posting their comments and views on any social commerce sites. The qualified participants accessed the online survey through MTurk and a total of 307 complete surveys were collected in this study.

4. DATA ANALYSIS AND RESULTS

Data analysis of this study was performed in multiple phases. In the first phase, data screening was done to check the missing data, outliers, normality, linearity, and multicollinearity. Any record that includes any missing or incomplete data, outliers, or violates the conditions of normality, linearity and multicollinearity is considered invalid and has been removed from the final dataset for further analysis. After cleaning those invalid data, the second phase of data analysis has been done. To determine how well the hypothesized theoretical structure fits the empirical data, Confirmatory Factor Analysis (CFA) was done. After the demographic analysis, multiple regression analysis was performed to test the hypotheses in the last phase.

The majority (61%) of the participants in this study are male (Appendix A). The largest (37%) group of the participants are in the age group of 18-30, followed by 31-40 (31%) and 41-50 (18%) age group. The largest (38%) group of participants makes between $40,000 and $60,000 and the smallest segment (4%) makes above $105,000. The second largest group (28%) makes less than $40,000. More than half (52%) of the participants are Caucasian followed by Asian (17%), Hispanic (15%), and African-American (9%). Over half (55%) of the participants have a bachelor's degree, while almost one-fifth (19%) have a high school degree, and only 12% have a master's degree. The most popular (37%) site is Facebook, followed by Instagram (26%) and Twitter (14%).

The goodness-of- fit of a measurement model was evaluated by CFA with AMOS, version 21, using various established fit indices. The most common and frequently used model-fit indices are the likelihood ratio chi-square (χ^2), the comparative fit index (CFI), the goodness-of-fit index (GFI), the root mean squared error of approximation (RMSEA), the incremental fit index (IFI), the normed fit index (NFI), the Tucker-Lewis index (TLI), and the relative fit index (RFI). Thus, the CFA was performed multiple times until the model reached a satisfactory fit. The hypothesized model was assessed by maximum likelihood analysis. This model was evaluated by seven fit measures: (a) χ^2/df, (b) CFI, (c) GFI, (d) NFI, (e), IFI, (f) TLI, and (g) RMSEA. As shown in the Table 2, results of the CFA (χ^2/df = 1.63, CFI = 0.923, GFI = .915, NFI = 0.927, IFI = 0.963, TLI = 0.955, RMSEA = 0.045) indicate a good model fit.

Skewness and Kurtosis were measured to test the normality of the data. Skewness ranged from -.92 to .98, and Kurtosis ranged from -.51 to .65. These values are within the acceptable limit of Skewness (±2) and Kurtosis (less than 7), confirming the normality of the data [68]. A tolerance value less than .10 or a VIF value above 10 indicates high collinearity [69]. The tolerance values in this study ranged from .15 (VIF = 1.56) to .1.00 (VIF = 1.20), demonstrating the absence of multicollinearity. Cronbach's alpha was measured to calculate reliability. The Cronbach's alpha of all constructs met the minimum limit of 0.7 (Table 3), as recommended by the majority of studies [70]. The average variance extract (AVE) was measured to examine the convergent validity. As shown in Table 3, the AVE values ranged from .53 to .74 and met the acceptable limit of 0.5 [71], confirming the convergent validity. Discriminant validity was also confirmed by measuring the correlation between factors. As Table 5 demonstrates, all correlation values are below 0.7, confirming the discriminant validity.

The linear regression analysis (Table 4) demonstrates that Informativeness has significant impact on Perceived Value (β = .42, t = 6.83, p = .000), supporting hypothesis H_1. This indicates that people consider the content on social commerce sites valuable when the content contains useful information. The impact of Entertainment on Perceived Value was not significant (β = -.09, t = -1.57, p = .118), rejecting hypothesis H_2. This shows that even if the UGC is entertaining, it does not impact people's Perceived Value. The Irritation of the UGC also influences people's Perceived Value as it significantly impacts Perceived Value (β = -.05, t = -1.93, p = .05). Thus, hypothesis H_3 was supported. Even though the impact is significant, it is not very strong, and the impact is

negative. That indicates that the higher the level of irritation, the lower the perception of the content. The impact of the Relevancy of the UGC on the Perceived Value is also significant (β = .26, t = 5.65, p = .000). Thus, hypothesis H$_4$ is supported. This demonstrates that when the content is relevant to the product and brand, people perceive that content as valuable. The Credibility has also a significant (β = .36, t = 6.38, p = .000) impact on Perceived Value, supporting hypothesis H$_5$. If the content on the social commerce site is trustworthy and credible, people's Perceived Value of that content is positive. The impact to Perceived Value on Customer Engagement Intention is significant (β = .69, t = 16.51, p = .000), supporting hypothesis H$_6$. A significant regression equation was found between Perceived Value and Customer Engagement (F = 272.62, P = .000, R^2 = .47). This implies that 47% of the Customer Engagement Intention can be predicted by their Perceived Value. Through testing the six hypotheses, this study answered the two research questions. The result of data analysis discovered that UGC plays a significant role in customer engagement on social commerce sites. It also demonstrates that informativeness, credibility, relevancy, and irritation of UGC significantly affect the perceived value of UGC, which consequently impacts customer engagement intention. Table 5 shows the coefficients of all paths and Table 5 summarizes the result of the test of the hypothesis.

Table 1. Descriptive Statistics

Construct	Mean	Standard Deviation	Skewness	Kurtosis
Informativeness	3.87	.78	-.92	.65
Entertainment	3.85	.83	-.93	.62
Irritation	2.77	1.11	-.25	-.51
Relevancy	4.02	.63	.72	.43
Credibility	3.96	.82	.98	.56
Perceived value	4.02	.70	.86	.46
Engagement	3.79	.87	.66	.22

Table 2. Results of the Model-Fit Test

Model-fit indices	Recommended values	Values of model
χ^2/df	<2	1.630
CFI	>0.9	0.923
GFI	>0.9	0.915
NFI	>0.9	0.927
IFI	>0.9	0.963
TLI	>0.9	0.955
RMSEA	<0.1	0.045

Table 3. Reliability coefficients and collinearity statistics

Construct	Cronbach's Alpha	AVE	CR	Tolerance	VIF
Informativeness	.89	.60	.86	.15	1.56
Entertainment	.81	.61	.89	.19	1.37
Irritation	.90	.53	.71	.81	1.23
Relevancy	.75	.55	.70	.28	1.63
Credibility	.89	.57	.83	.18	1.44
Perceived value	.77	.59	.78	1.00	1.20
Engagement	.90	.74	.82		

Table 4. Coefficients

Path	β	t	P
Informativeness → Perceived value	.42	6.83	000
Entertainment → Perceived value	-.09	-1.57	.118
Irritation → Perceived value	-.05	-1.93	.05
Relevancy → Perceived value	.26	5.65	.000
Credibility → Perceived value	.36	6.38	.000
Perceived value → Engagement	.69	16.51	.000

Table 5. Correlation matrix

Construct	INFM	ENTN	IRTN	RLVN	CRDL	PRCV	ENGT
Informativeness (INFM)	1.00						
Entertainment (ENTN)	.67	1.00					
Irritation (IRTN)	-.11	-.22	1.00				
Relevancy (RLVN)	-.61	.64	.14	1.00			
Credibility (CRDL)	.63	.60	-.13	.31	1.00		
Perceived value (PRCV)	.66	.59	-.12	.61	.62	1.00	
Engagement (ENGT)	.58	.61	-.11	.45	.54	.57	1.00

Table 6. Summary of test of hypotheses

No.	Hypothesis	Result
H_1	Informativeness has a significant positive impact on the perceived value of content on social commerce sites.	Supported
H_2	Entertainment has a significant positive impact on the perceived value of content on social commerce sites.	Not Supported
H_3	Credibility has a significant positive impact on the perceived value of content on social commerce sites.	Supported
H_4	Relevancy has a significant positive impact on the perceived value of content on social commerce sites.	Supported
H_5	Irritation has a significant negative impact on the perceived value of social commerce sites.	Supported
H_6	The perceived value of content has a significant positive impact on consumer engagement on social commerce sites.	Supported

5. DISCUSSION

This study examined the factors that affect the perceived value of content on social commerce sites and how the perceived value of UGC would eventually lead to customer engagement. In line with previous studies, the result of this study also reveals that Informativeness, Credibility, Relevancy, and Irritation significantly affect the Perceived Value of content and Customer Engagement. Surprisingly, Entertainment was found to have an insignificant effect on the Perceived Value of content. Among all the variables impacting Perceived Value, Informativeness has the most substantial influence, followed by Credibility. This indicates that useful, up-to-date, and timely information on social commerce sites are the most critical factors, and people perceive those content as valuable. After Informativeness, content needs to be credible to users. If there is a lack of trustworthiness in the content, users do not perceive those as valuable. This study also shows that the content that irritates people will negatively impact their perceived value. If the content generates anger and annoyance, that will contribute to a negative perception of the content. In conclusion, the drivers of Customer Engagement are Informativeness, Credibility, and Relevancy, and the barrier to Customer Engagement is the Irritation of the content on social commerce sites. Moreover, when people's perception of the value of the UGC is positive, people will be interested in engaging and participating in reviewing and creating the UGC on social commerce sites.

6. THEORETICAL IMPLICATIONS

This study is designed to yield a theoretical contribution by advancing the available knowledge on the factors responsible for Customer Engagement on social commerce sites. There are plenty of research papers about customer engagement, but they are rare ones that have addressed Customer Engagement from various attributes of consumer behavior other than UGC. This study contributes to the current literature by shedding light on the role of the Perceived Value of UGC in fostering Customer Engagement and precisely on social commerce sites. One of the valuable contributions of this study is that it would be considered the first one that employs Ducoffe's model in a different context. It is very apparent from the available literature that Ducoffe's model has been widely used to investigate the perceived value of ads, but almost none has employed it to address the perceived value of UGC. Thus, this study has broadened the application of Ducoffe's model to examine the perceived value of UGC on social commerce sites. Moreover, the findings of this paper are compatible with the available literature concerning the factors of Informativeness, Credibility, Relevancy, and Irritation except for Entertainment. Thus, this interesting and unexpected result would make researchers rethink the role of Entertainment in enhancing the Perceived Value of content and increasing Customer Engagement compared to other factors that weighed greater and more significant importance.

7. PRACTICAL IMPLICATIONS

The study has several practical implications that can be derived from the above-presented results. The latter could be very useful to the marketers of social commerce sites in enhancing the perceived value of their sites' content. First, to ensure high-quality information, social commerce sites can launch initiatives to reward consumers when they generate high-quality content according to specific criteria. Such initiatives can selectively focus on product pages needing more high-quality consumer-generated content. Second, the credibility of information can be boosted by inviting and enabling consumers to take part in authenticating and de-authenticating information on these sites. Similar to the features available on social media websites through which users can express agreement with or liking of posts, social commerce site users should be able to express their views concerning whether a piece of information appears credible. Third, marketing analytics can prove helpful in increasing the odds that each social commerce site's user sees the information most relevant to their needs, personal goals, and values. Moreover, this high level of relevancy of information needs to be made available not only to the level of products but also at the level of their specific details. As such, each user should be able to easily note the information that is highly relevant to the criteria that are deemed critical to them in the evaluation of a product. Fourth, marketing analytics can also be helpful to combat and minimize the negative impact of some users' irritating content. By smartly detecting and removing annoying, insulting, and manipulative content, marketers can convert a social commerce site into a suitable platform to encourage Consumer Engagement. Finally, marketers of social commerce sites that rely on entertaining content to encourage consumer engagement need to understand that focusing on the quality, relevance, and credibility of their sites' content is more fruitful in this respect. This is especially useful to social commerce sites that focus on entertainment and have some social interaction features, such as streaming entertainment sites and gaming sites.

8. LIMITATIONS AND OPPORTUNITIES FOR FUTURE STUDIES

Like other research studies, this study also has some limitations, which offer opportunities for future research. Convenient sampling was utilized in this study. The data of this study were collected through crowdsourcing, where researchers had no control over the participant selection. The probability of sampling biases may exist in this study. Future studies could use probability sampling to overcome this limitation. This study did not perform any comparative analysis among multiple groups based on gender, age, income level, and ethnicity. Thus, future researchers could perform cross-group comparative research and explore new findings. This research was a cross-sectional study, which is a study of a particular phenomenon at a given time. Thus, a longitudinal study on this topic would be an opportunity for future research. The participants of this study reside in the USA; thus, no cross-cultural comparison was performed in this study. Therefore, future researchers could conduct cross-cultural studies among multiple cultures. This study employs Ducoffe's [1] model. Researchers may also try other models, such as the uses and gratification theory [72], prospect theory [73], and self-determination theory [74].

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APPENDIX A: DEMOGRAPHIC DISTRIBUTION

Factor	Value	Frequency	Percentage
Gender	Female	120	39%
	Male	187	61%
Age	18-30	112	37%
	31-40	95	31%
	41-50	55	18%
	51-60	33	11%
	Over 60	12	4%
Income	Less than $40,000	85	28%
	$40,001-$60,000	115	38%
	$60,001-$80,000	54	18%
	$80,001-$100,000	34	11%
	$100,001-$150,000	6	2%
	Above $105,00	13	4%
Ethnicity	Caucasian	160	52%
	Hispanic or Latino	47	15%
	Asian	53	17%
	Native American	12	4%
	African American	29	9%
	Multi-Racial	6	2%
Education	High School or equivalent	57	19%
	Associate degree	44	14%
	Bachelor's degree	169	55%
	Master's degree	37	12%
	Ph.D.	0	0%
Social Commerce Sites	Facebook	112	37%
	Instagram	81	26%
	Snapchat	6	2%
	TikTok	25	8%
	Twitter	44	14%
	Verint	6	2%
	Pinterest	0	0%
	Undisclosed	20	7%
	Other	13	4%

APPENDIX B: MEASURES

Constructs	Loading
Informativeness [1]	
INFM1: The user-generated content supplies valuable information about product and brand.	.79
INFM2: I found the desired information about the product and brand in the user-generated content.	.76
INFM3: The user-generated content helps me keep myself up to date about products available in the marketplace.	.77
INFM4: The user-generated content is a convenient source of information about products and brands.	.78
INFM5: The user-generated content provides me with timely information.	.76
Entertainment [1]	
ENTN1: The user-generated content is amusing and entertaining.	.79
ENTN2: I enjoy reading the user-generated content on the brand's social media page.	.77
ENTN3: I feel pleasure in thinking about what I saw, heard, or read in the user-generated content.	.62
Irritation [1]	
IRTN1: The user-generated content is too insistent with the product and brand.	.80
IRTN2: The user-generated content is annoying.	.84
IRTN3: The user-generated content is irritating.	.78
IRTN4: The user-generated content is deceptive.	.76
Relevancy [53]	
RLVN1: The user-generated content is relevant to the product and brand.	.79
RLVN2: The user-generated content is appropriate for the product and brand.	.72
RLVN3: The user-generated content is suitable for the product and brand.	.65
RLVN4: The user-generated content is purposeful.	.72
Credibility [40, 75]	
CRDL1: The user-generated content is credible.	.79
CRDL2: The user-generated content is trustworthy.	.77
CRDL3: The user-generated content is believable.	.75
Perceived value [1]	
PRCV1: The user-generated content is useful.	.75
PRCV2: The user-generated content is valuable.	.74
PRCV3: The user-generated content is important.	.69
Engagement [76]	
ENGT1: I am interested to know about what other users post on social commerce sites.	.65
ENGT2: I have the intention to share my views on social commerce sites.	.78
ENGT3: I have the intention to discuss products and brands on social commerce sites.	.83
ENGT4: I am interested in participating in this co-creation of user-generated content on social commerce sites.	.76
ENGT5: I intend to be actively involved in creating user-generated content on social commerce sites.	.75