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Do user-generated content and micro-celebrity posts encourage generation Z users to search online shopping behavior on social networking sites—the moderating role of sponsored ads

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Abstract

The study investigates the impact of user-generated content (UGC) and micro-celebrity posts on the online purchasing behavior of Generation Z on social networking sites. In addition, the mediator function of the user's search intent is investigated. Thus, sponsored ads employ moderation. To collect primary data, self-administered questionnaires and cross sectional studies were applied. The population is comprised of university students of Generation Z from Dhaka, Bangladesh. Systematic random sampling was used to select Generation Z members from six institutions in the city of Dhaka. Using convenience sampling, primary data were collected. The research yielded 565 standardized questionnaire samples. The study's findings demonstrated that user-generated content's direct, indirect, and mediation relationships were statistically significant. Moreover, the direct and indirect relationships of micro-celebrity posts were found to be statistically significant, but the mediation relationship was found to be insignificant. Additionally, users' search intention has a strong correlation with online purchasing behavior. Thus, the moderation analysis of sponsored ads was deemed crucial. In Bangladesh, the stimulus-organism-response (S-O-R) paradigm is rarely applied to studies on the online purchasing preferences of Generation Z consumers. This study also examined its findings' implications for future research and limitations.

Keywords User-generated content (UGC), Micro-celebrity posts, Intention to search, Social networking sites, Sponsored ads, Online purchasing behavior

Introduction

Researchers called Generation Z "digital natives" who grew up with digital communication [1, 67, 69]. Users' visit Instagram at least five times a day; thus, they may see digital ads on Instagram, Facebook, and YouTube [14]. Generation Z, which makes up 32% of the world's population, is expected to have a major impact on global sales. Online shopping has increased due to the rapid growth of information technology and e-commerce [51]. New media empowers and decentralizes society by allowing customers to discuss their shopping experiences online [81]. Users prefer consumer-generated content (photos, text, videos, etc.) to incorporate information when making purchases [73]. User-generated content is essential to social media; thus, it is vital to improve user-generated content's interactive features and study how they affect consumers' buying decisions. Despite the rise of content marketing, few studies have examined the

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interactive effects of user-generated content on online purchase intentions [61].

Social media's growth has enabled the creation and distribution of endless content to an audience, benefiting both celebrities and ordinary people. Micro-celebrities have emerged as a result. Non-famous people can utilize social media to create a "public persona" that attracts a large fan base [57]. Micro-celebrities communicate somewhere between brand endorsement and electronic word of mouth (eWOM) [19]. Micro-celebrities influence audience buying intentions since they are more likable than typical celebrities [50]. Traditional celebrities are more popular and influential than micro-celebrities [27]; whereas, Djafarova and Rushworth [19] show that micro-celebrities are more influential. Online social networking is a potential digital advertising strategy [9, 10]. The Facebook-sponsored advertising section has helped spread marketing messages by connecting customers, producers, and businesses [17]. Sponsored content on Facebook, unlike banner ads, may be tailored based on a user's web search history, making it more effective at consumer targeting [56]. Facebook offers customized ads in a sponsored content section or in a user's storyline [78]. Early studies on Facebook advertising considered the relationship between social media and "word of mouth" marketing [82]. Social media advertising, a new interactive advertising medium, is hardly explored.

Even though consumer behavior is becoming more essential, there is little academic research on Generation Z's social media-based online purchasing decisions [40]. Leong, Jaafar, and Ainin [45] employed the stimulus-organism-response (SOR) model [59] to explain impulse purchases on social media. According to this retail strategy and customer behavior idea, social media affects spontaneous purchases [3, 14]. Theoretical model structures should have been investigated to assess Generation Z's youngest members. This research will help Bangladeshi Generation Z customers adapt to online shopping and promote a variety of online purchase behaviors. This study examines how user-generated content and micro-celebrity posts affect Generation Z customers' social media search behavior to provide a conceptual framework for online purchasing behavior. Sponsored ads moderate people's search intent and online shopping behavior. The study's research questions will be answered.

RQ1 How do user-generated content (UGC) and micro-celebrity posts affect Generation Z's social media search behavior?

RQ2 How does Generation Z's search intent influence online buying behavior?

RQ3 How do sponsor ads affect Generation Z's online search and purchasing behavior?

Sect. "Literature Review" reviews the literature; Sect. "Research Methodology" develops the hypotheses and theoretical framework. Sect. "Data analysis and results" demonstrates the research methodology; Sect. "Data analysis and results" presents data analysis and findings. Sect. "Conclusion" discusses the research's limitations, results, future, and theoretical and managerial implications.

Literature review

Generation Z and social networking sites

"Gen Z," "Gen I," and "Echo Bust" consumers are Generation Z [64]. The eldest members of Generation Z consumers turned 20 in 2016 [7, 66, 74]. Scholars have called Generation Z the post-millennial generation or the following generation of millennials [38, 76]. Generation Z consumers make up 27% of the world's population, with the oldest turning 20 in 2016 [7, 66]. These age groups are the most educated, mobile, and connected [5]. Generation Z is hard to target since they research and compare before buying [28].

Social media platforms are crucial to the internet due to their expanded communication possibilities [43]. Social networking services like Facebook, Twitter, and Instagram are open to everyone now. These networks make meeting strangers simpler [43]. In addition to paid social marketing advertising, social networking websites allow users to submit documents, videos, and photos to increase brand visibility and marketing communication. The most popular social media activity was "browsing." The participants said that fresh information they found while browsing, especially in high-street fashion, aroused and agitated the decision-making process and produced a new desire [62]. He also addressed the fact that respondents said social media helped their active searches for high-street clothes because they fit into their daily lives. It allows users to swiftly and efficiently find relevant content, changing their perception of its worth and search strategies.

The stimulus-organism-response (S-O-R) model

The stimulus-organism-response (S-O-R) paradigm was established by Mehrabian and Russell [59]. According to Mehrabian and Russell [59], environmental stimuli (S) directly alter organisms (O), which affect consumers' behavioral reactions (R). The study found that environmental and internal marketing stimulate customers [12]. The organism also represents the consumers' internal evaluations, including behavioral responses (R) to stimuli and organisms and emotional responses (R) like pleasure,

arousal, and impulsivity. The S-O-R model, which investigates the many ways environmental stimuli might affect consumer behavior, has been widely studied in consumer behavior research. The researcher thought the S-O-R model would fit this incidence. Due to the many social media channels, the S-O-R paradigm can be employed in many situations. Leong et al. [45] used this model to test whether Facebook marketing stimuli could increase impulsive purchase motivation. Besides, Zheng, Men, Yang, and Gong [85] also examined mobile commerce users' impulsive buying habits. Instagram's modest social media acceptance increases impulse purchases [30, 86]. Instagram is more tempting than Facebook, Pinterest, or Twitter for fashion impulse purchases [4]. Consequently, Casaló, Flavián, and Ibáñez-Sánchez [11] successfully adapted the S-O-R model to Instagram. The recent study findings revealed several notable findings relating to the antecedents impacting consumer interaction with social media influencers, which in turn influence consumer behavior toward the businesses pushed and used by social media influencers [6, 36, 42]. This study expands the S-O-R paradigm to include Generation Z online shopping habits and specific social media sites (Facebook, Instagram, and YouTube).

Hypotheses development and theoretical framework

User-generated content (UGC)

Modern user-generated social media content is more positive, which increases online purchase intent [58]. They also found that social media suggestions and photos of other customers' purchases affect online purchases the most. In a Spanish-speaking study, Aragoncillo and Orus [4] found that consumers utilize social media to influence others by posting photos, videos, and recommendations, which affects their online shopping behavior. Wolf [80] observed that when consumers in Generation Z trust user-generated content (UGC), their social media posts are most influential. User-generated content creates favorable emotions that encourage users to share relevant information, which in turn boosts followers' desire [11]. For fashion products, Instagram is the main source of user-generated content (UGC) from friends and family [14, 62]. Besides, Chen [14] also said that younger customers were often pushed to buy owing to trust difficulties, making them more likely to pay attention to peer marketing.

The hypotheses have been defined as-

H1a User-generated content (UGC) positively influences Generation Z consumers' intention to search on social networking sites (e.g., Facebook, Instagram, and YouTube).

H1b There is a significant positive association between user-generated content (UGC) and online purchase behavior on social networking sites (e.g., Facebook, Instagram, and YouTube).

H1c Generation Z consumers' intention to search on social networking sites (e.g., Facebook, Instagram, and YouTube) mediates the relationship between user-generated content (UGC) and online purchase behavior.

Micro-celebrity posts

Micro-celebrities are the latest social media phenomenon [39]. Social media users become "micro-celebrities" since they can gain popularity regularly [39]. Online users learn most about micro-celebrities on social media, and their identities are shaped by their fan bases' attachment, affiliation, and aspiration [44]. Youth who value image over content to become social media stars are creating a self-absorbed culture. Businesses can find micro-celebrities on YouTube, Twitter, and other social media platforms [19, 25]. Even if micro-celebrities are most popular on Instagram, Casaló et al. [11] also found that Instagram attracts visitors. Influencers' positive reviews encourage purchases. Instagram provides instant access to products, and Generation Z buyers are more likely to make snap judgments [33]. However, the prior study found that micro-celebrities lacked authenticity [18]. The study also found that sponsorship disclosure statements make advertising seem like influencers are paid to endorse items. According to Djafarova and Trofimenko [20], excessive advertising postings turn people off, and respondents often unfollow opinion leaders that advertise products on social media. The following hypotheses have been established:

H2a Micro-celebrity posts positively influence Generation Z consumers' intention to search on social networking sites (e.g., Facebook, Instagram, and YouTube).

H2b There is a significant positive association between micro-celebrity posts and online purchase behavior on social networking sites (e.g., Facebook, Instagram, and YouTube).

H2c Generation Z consumers' intention to search on social networking sites (e.g., Facebook, Instagram, and YouTube) mediates the relationship between micro-celebrity posts and online purchase behavior.

Generation Z consumers' intention to search and online purchasing behavior

Search engines are becoming more beneficial on social networking sites because they help users find information [53]. According to Höchstötter and Lewandowski [32], results pages for search engines comprise organic advertisements, general results, and sponsored ads that businesses pay for and often appear above or next to organic ads. Search engine ads can target users who want to buy [41]. Studies have focused on search page ads and user interactions without considering attention [71]. They also supported the link between visual behaviors related to online purchase intent and intent toward sponsored and organic ads [71]. Search sites simply provide product names, images, brands, and prices [51]. Thus, customizing ads to the customer's interests can affect their purchase choice or inclination to buy. The hypothesis proposed is,

H3 Generation Z consumers' intention to search on social networking sites is positively associated with online purchasing behavior.

The moderating role of sponsored ads

Kim and Kim [40] businesses are targeting their audience on Facebook, where people spend most of their time online. Facebook's News Feed is each user's homepage (Lee et al., 2021); whereas, Facebook ads also display in news feeds. Social media platforms encourage users to connect friends to news or entertainment pages to get the latest update [60]. Users can search online by typing a query into a search engine [35]. Sponsored links and organic links are sometimes known as organic advertisements and sponsored advertisements [32].

Users spend most of their time in this section tracking local events, so advertisers can use it to display customized ads using tools like user-supplied data discoveries and data tracking technologies [8, 34]. Boerman et al. [8] say "sponsored ads" news feeds will display the ads; customized ads are based on a user's profile, cookies, and browsing history to establish their likes and desired products. While consumers chat with friends in the news feed, advertisers pay for ads to reach a wide audience [60]. Facebook News Feed sponsored ads are personalized to consumers based on their online activities, such as product searches, sharing product information, location, etc. [84]. Since the ad's message is personalized to their searches and articles, people view it as a harsher intrusion than its real trespass [84]. More customers are concerned about their privacy as Facebook's sponsored content dominates news feeds. The following hypotheses are:

H4a Sponsored ads have a significant positive association with consumers' online purchase behavior on social networking sites (e.g., Facebook, Instagram, and YouTube).

H4b Sponsored ads significantly moderate the relationship between Generation Z consumers' intention to search and online purchasing behavior.

Therefore, in Fig. 1, the current research investigates the following concepts: user-generated content, micro-celebrity, mediating role of intention to search, and online purchasing behavior; the moderating role of sponsored ads, which supports the claims made in this section.

Research methodology

Measures and scaling

Two sections comprised the questionnaire. The first segment covered demographics including gender, income, preferred social networking sites (SNS), online shopping frequency, and more. The second portion included internet shopping, user-generated content, sponsored ads, and micro-celebrities. A total of 21 items were adapted from previous literature. The scales used to gauge the study's components were adapted to meet the investigation's

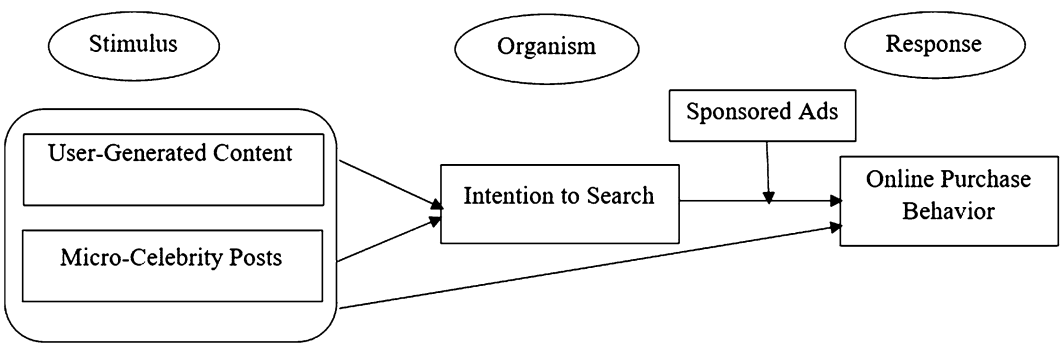

Fig. 1 A proposed research model

environment (see Table 1). A five-point Likert scale with responses "1-strongly disagree" and "5-strongly agree" was used to score each item's construct-related assertions. Tsiakali [75] created a five-item UGC assessment. The five-item micro-celebrity measurement comes from Djafarova and Rushworth [19] and Djafarova and Trofimenko [20]. The three-item search intention measurement was inspired by Ajzen (2002) and Wei and Lu [79]. The study included an online purchase behavior construct from the Yoo and Donthu [83] four-item test. The modified five-item measurement for sponsored commercials was used to evaluate them [52, 63].

Sampling and research design

This study's participants are from Generation Z, a younger, more tech-savvy generation. The first step—institutional selection—used systematic random sampling. The university students of Dhaka city, Bangladesh, were considered the population of the targeted primary respondents. Three public and three private universities were chosen among the six reputed universities in Dhaka. The three public universities were Dhaka University, Jahangirnagar University, and the Bangladesh University of Professionals. Private universities, Daffodil International University, North–South University, and Independent University Bangladesh were chosen. In the second step, first-year to fourth year undergrad classes and the master's program were chosen. Researchers considered non-probability and purposeful sampling [23]. A self-administered, structured questionnaire was used to collect primary data. Two research assistants assisted with data collection procedure. The primary data were collected from December 2022 to March 2023. Online and offline methods were used. During the offline session, respondents were asked to do the survey and handed the consent form. The printed questionnaire was served to fill-out. Second, the online plan used the same data-gathering methods as the offline method: Google Classroom posts, emails with survey links, Facebook groups, messenger chats, WhatsApp posts, and Instagram posts. This study randomly selected 1,200 pupils. The 704 completed surveys were reduced by 139 due to survey responder errors. 80.26% of 565 replies were sufficient for data processing, indicating sufficient survey research. This study's sample size is sufficient to yield valid SmartPLS (PLS-SEM) results and follows the "10 times rule of thumb," which stipulates that the minimum sample size is ten times the research model's most complex interactions [15]. Table 2 shows the respondents' demographic profiles. Men made up 52% of respondents, while women made up 48% of

Table 1 Measurement items details

Constructs	Items	Statements	Sources
Social networking sites (SNS) considered here are Facebook, Instagram, and YouTube			
User-Generated Content	UGC1	UGC helps me find product/service-related information when I need it	Tsiakali [75]
	UGC2	UGC reduces my effort to find product/service-related information	
	UGC3	UGC increases the quality of product/service-related information	
	UGC4	UGC helps me to compare the quality of product/service-related information	
	UGC5	UGC leads me to expand my consideration set about product/service	
Micro-Celebrity	MIC1	Micro-celebrities influence my behavior in purchasing online	Djafarova and Rushworth [19]
	MIC2	I intend to give importance to micro-celebrity opinions while buying online	Djafarova and Trofimenko [20]
	MIC3	Micro-celebrity reviews are more reliable than company-controlled reviews	
	MIC4	I would feel comfortable buying online based on micro-celebrity recommendation	
	MIC5	I trust micro-celebrity who will not purposefully endorse a brand that will harm me	
Intention to Search	INS1	I think I will search for information about the posted product/ service	Ajzen [2]
	INS2	I think I will search for online reviews about the posted product/ service	Wei and Lu [79]
	INS3	I think I will compare the prices of the posted product/ service	
Online Purchasing Behavior	OPB1	I have an outstanding possibility to consider buying recommended products of User-generated content (UGC) and micro-celebrity posts	Yoo and Donthu [83]
	OPB2	Recently I have purchased recommended products from User-generated content (UGC) and micro-celebrity posts	
	OPB3	I will recommend the products recommended in the User-generated content (UGC) and micro-celebrity posts to others	
Sponsored Ads	SA1	I usually click on the first of the sponsored ads	Logan et al. [52]
	SA2	I usually click on the top result, whether an advertisement or an organic result	Van-Tien Dao, Nhat Hanh Le, Ming-Sung Cheng, and Chao Chen [77]
	SA3	I usually scroll the page to skip the ads and click on the organic results	
	SA4	Sponsored ads motivate me to search more for the relevant information	
	SA5	Sponsored ads motivate me to purchase online	

Table 2 Demographic profile of the respondents *Source*: Researcher's computation

Characteristics	Category	Frequency (N)	Percentage (%)
Sex	Male	294	52
	Female	271	48
University level education	1st year	141	25
	2nd year	124	22
	3rd year	109	19.25
	4th year	97	17.25
	MBA	93	16.5
Do you use any social media platforms?	Facebook	558	98.85
[Choose multiple if applicable]	Instagram	448	79.25
	YouTube	482	85.3
Do you follow any social media micro-celebrities?	Food vloggers	401	70.9
[Choose multiple if applicable]	Beauty vloggers	218	38.65
	Travel vloggers	361	63.85
	Lifestyle/fashion vloggers	270	47.8
	Health and Fitness	261	46.25
	Educational vloggers	353	62.45
	Motivational vloggers	246	43.55
	Tech-based vloggers	274	48.5
	Gaming vloggers	145	25.65
	Others	52	9.2
Do micro-celebrity posts motivate you to search further?	Yes	486	86.1
	No	79	13.9
Last six months, how often did you purchase on online platforms?	0–5 times	345	61.1
	6–10 times	101	17.75
	More than ten times	119	21.15

respondents. The majority of respondents were freshman undergraduate students. 86.1% of respondents indicated that micro-celebrity posts encourage further investigation. In the last six months, around 61.1% purchased online.

Statistical tools and data analysis

This exploratory study examined research model constructs using descriptive and inferential statistics. IBM SPSS 25.0 software assessed respondents' descriptive statistics (Table 2). SmartPLS4.0 identified relevant constructs, performed partial least structural equation modeling (PLS-SEM), and determined the mediating and moderating impacts of online purchase behavior and sponsored ads. It verified the study's theoretical model. The researcher used partial least squares (PLS-SEM) and 565 studies to test structural models. The measuring model will be assessed using construct reliability, discriminant validity utilizing the Fornell and Larcker criterion model, and the HTMT. The structural model's goodness of fit, R^2, structural path coefficients, Q^2, and f^2 values were also assessed.

The test of common method bias effect

The common method bias (CMB) study assured the model's dependability and validity. The Variance Inflation Factor (VIF) was employed to meet the criteria. However, when certifying VIFs, 5.0 should be considered the maximum level [31]. The model has no impact

Table 3 Collinearity Statistics (VIF)

Variable	VIF	Variable	VIF	Variable	VIF
INS1	2.494	INS*SA	1.000	MIC5	1.899
INS2	3.147	UGC1	1.754	OPB1	1.434
INS3	2.559	UGC2	1.963	OPB2	1.758
MIC1	2.046	UGC3	1.887	OPB3	1.808
MIC2	2.578	UGC4	2.128	SA1	1.767
MIC3	2.250	UGC5	2.055	SA4	3.110
MIC4	2.611	SA5	2.957	SA5	2.957

Table 4 Construct reliability and the results of the outer model *Source*: SmartPLS 4.0 analysis

Constructs	Measurement items	Loadings	α	rho_A	CR	AVE	R^2
User-Generated Content	UGC1	0.773	0.866	0.872	0.903	0.650	
	UGC2	0.817					
	UGC3	0.778					
	UGC4	0.822					
	UGC5	0.840					
Micro-Celebrity	MIC1	0.792	0.879	0.882	0.912	0.675	
	MIC2	0.852					
	MIC3	0.831					
	MIC4	0.864					
	MIC5	0.764					
Intention to Search	INS1	0.897	0.892	0.892	0.933	0.823	0.301
	INS2	0.925					
	INS3	0.898					
Online Purchase Behavior	OPB1	0.804	0.779	0.786	0.870	0.691	0.555
	OPB2	0.836					
	OPB3	0.857					
Sponsored Ads	SA1	0.837	0.866	0.871	0.919	0.790	
	SA4	0.914					
	SA5	0.914					

from collinearity, VIF values below the cutoff limit, or common method bias. These VIF values, given in Table 3, are consistent with the previous findings and reveal no collinearity or common method bias issues.

Data analysis and results

Analysis of measurement model

The researcher assessed the outer measurement model [29]. Cronbach Alpha *(α)*, rho_A, and composite reliability (CR) assessed measurement construct reliability. Cross-loading and AVE assessed its convergence. However, the Fornell–Larcker criterion model and HTMT ratio assessed its discriminant validity.

Construct reliability and convergent validity

Hair Jr et al. [29] claimed that composite reliability must exceed 0.7, which accounts for 70% of the model's variance, to attain construct dependability. Cronbach Alpha (*α*) rho_A values range from 0 to 1, according to Hair Jr et al. [29]. Internal consistency is higher when model variables are close to 1.0. The studied results met the suggested cutoff condition for Cronbach Alpha (*α*), rho_A values of 0.7 or higher [29]. Cross-loading and AVE findings tested convergence. The construct must explain over 50% of the research model's variation with AVE values larger than 0.5. Table 4 reveals that all our study model constructs met construct reliability and AVE requirements. Besides, in Table 4, due to below 0.6 outer loading, the items SA2, SA3 were deleted.

Table 5 Discriminant validity-Farnell and Larcker criterion model

Constructs	INS	MIC	OPB	SA	UGC
INS	0.907				
MIC	0.406	0.821			
OPB	0.436	0.676	0.833		
SA	0.048	0.374	0.395	0.889	
UGC	0.511	0.444	0.511	0.136	0.806

Table 6 Heterotrait–Monotrait ratio (HTMT)

Constructs	INS	MIC	OPB	SA	UGC
INS					
MIC	0.457				
OPB	0.517	0.814			
SA	0.108	0.427	0.483		
UGC	0.577	0.507	0.615	0.156	

Discriminant validity

Table 5 shows the Fornell–Larcker criterion model and Table 6 shows Heterotrait–Monotrait ratio (HTMT) of correlations were used to assess the measurement model's discriminant validity. The Fornell–Larcker criterion states that the diagonal value is the square root of the AVE, and the other cell value is the correlation [29]. Additionally, they advised that diagonal values be higher than off-diagonal values. In Table 6, the HTMT ratio of correlations must be less than 0.9 for validity [26]. There were no issues with multicollinearity [29, 31].

Structural model assessment

According to Henseler et al. [31], the squared multiple correlations (R^2) multiplied by the significance level of the path coefficients can be used to estimate the exploratory power of a structural model. The research model's path coefficient was calculated using the t-values. This was achieved by using 5000 resamples together with the bootstrapping approach.

Test of hypotheses

Table 7 displays the findings of the hypotheses put forth, along with the PLS-SEM output that was utilized to determine the statistical significance of the theoretical model. Table 7 shows that hypotheses H1a and H1b were accepted, and the impact of UGC on INS ($\beta = 0.412$, t-statistics = 7.777, $p = 0.000$) and OPB ($\beta = 0.204$, t-statistics = 4.815, $p = 0.000$) was significant. Besides, H2a and H2b outputs showed that MIC had a significant positive influence on INS ($\beta = 0.223$, t-statistics = 4.100, $p = 0.000$) and OPB ($\beta = 0.460$, t-statistics = 11.535, $p = 0.000$) that supported the proposed hypotheses. Moreover, INS positively influenced OPB, and H3 was found statistically significant and positive, which supported the proposed hypothesis ($\beta = 0.114$, t-statistics = 2.425, $p = 0.016$). Finally, the moderating construct SA and hypothesis H4a found a significant positive influence on OPB that supported the proposed hypothesis ($\beta = 0.2076$, t-statistics = 6.032, $p = 0.000$). Hypothesis H4b, ($\beta = -.079$, t-statistics = 2.001, $p = 0.046$) also found a significant positive influence of the moderating construct. In Fig. 2, the path analysis of the proposed model is presented with analyzed results.

In addition, the effect size (f^2) was examined. The f^2 values for the significant independent variables were 0.02, 0.15, and 0.35, which indicated minor, moderate, and significant effects, respectively [16]. Since effect sizes f-square regulate the representative impact of several variables in the study model, the magnitude of the effect

Table 7 Hypotheses testing and path coefficients results

Hs	Structural paths	Path Coefficients (β)	T-values	P values	f-square	Effect size	LLCI	ULCI	Decision
H1a	UGC ≥ INS	0.412	7.777	0.000	0.195	Moderate	0.315	0.516	Accepted
H1b	UGC ≥ OPB	0.204	4.815	0.000	0.062	Small	0.127	0.290	Accepted
H2a	MIC ≥ INS	0.223	4.100	0.000	0.057	Small	0.103	0.316	Accepted
H2b	MIC ≥ OPB	0.460	11.535	0.000	0.312	Moderate	0.380	0.524	Accepted
H3	INS ≥ OPB	0.114	2.425	0.016	0.019	Small	0.028	0.202	Accepted
H4a	SA ≥ OPB	0.207	6.032	0.000	0.077	Small	0.148	0.281	Accepted
H4b	INS ≥ SA ≥ OPB	−0.079	2.001	0.046	0.010	Small	−0.004	−0.162	Accepted

NB Coefficient of determination (R^2) for INS = 0.302 and OPB = 0.555

Blindfolding-based Cross-Validity Redundancy (Q^2) for INS = 0.241, and OPB = 0.376

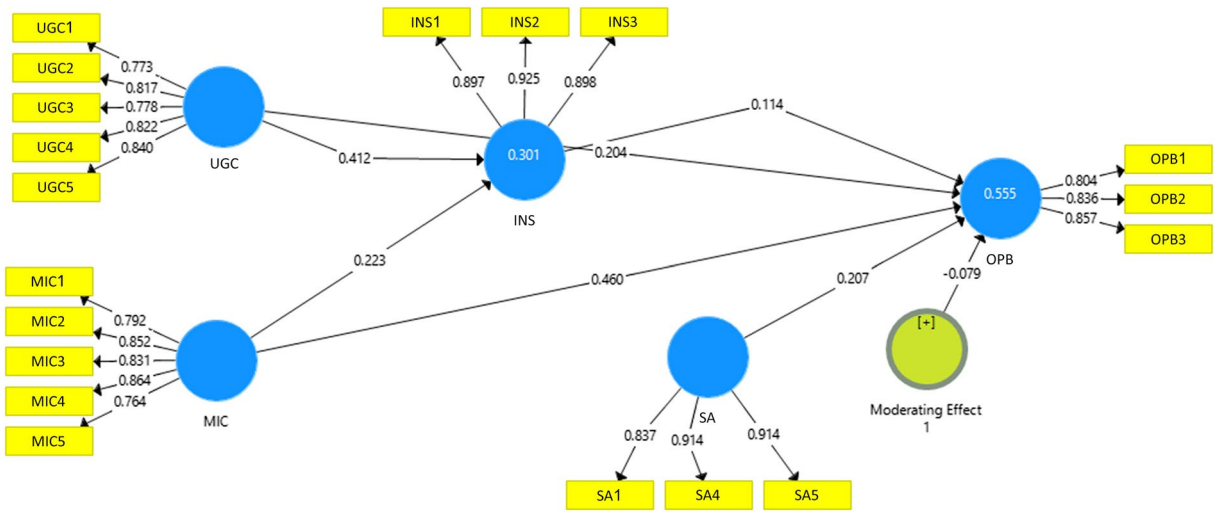

Fig. 2 A path analysis of the proposed model

is essential [31]. As shown in Table 7, the model's effect size strength range was between 0.012 and 0.312.

Coefficients of determination (R^2)

Table 7 shows that UGC and MIC influence INS by 30.1%. UGC, MIC, and intention to search (INS) explained 55.5% of online buying behavior (OPB; $R^2 = 0.555$). Table 7's blindfolding-based cross-validity redundancy Q^2 shows the PLS-SEM's forecasting ability. Our endogenous constructs' result-directed Q^2 exceeded threshold value ($Q^2 > 0$) [68]. Figure 2 shows the path analysis results.

Testing of mediation effects

The indirect effects of the significance level in the mediation test are displayed in Table 8. The associations between user-generated content, and micro-celebrity posts are mediated by users' intention to search in social media platforms. In the mediation study, the significance level indirectly mediates user-generated content (UGC) ($\beta = 0.047$, t-statistics = 2.399, $p = 0.017$). This also supported the hypothesized H1c hypothesis. Furthermore, in the mediation test, micro-celebrity postings and users' intentions to search on social media did not mediate through indirect effects of significance level ($\beta = 0.025$, t-statistics = 1.920, $p = 0.055$). As a result, hypothesis H2c contradicts the relationship.

The author used a bootstrapping methodology (bootstrap sample size = 5000) as described by Preacher and Hayes [65] to investigate the mediating role of users' intention to search on social media. This study used asymmetric confidence intervals (CIs) to evaluate the mediating influence among the indirect correlations. Asymmetric CIs, according to MacKinnon, Lockwood, and Williams [55], could be used to estimate the mediating impact with excellent accuracy. According to Preacher and Hayes [65], if zero was not included within the 95% confidence intervals, there would be a significant finding for the mediating effect. The results of the mediating effect test are shown in Table 8. The study's findings revealed that, with the exception of the postulated hypothesis H2c, there was no zero included in the 95% confidence interval. The proposed hypothesis H1c was accepted and mediated the correlations significantly.

Testing of moderating effects

SmartPLS4.0 was used to evaluate search intent, online shopping behavior, and sponsored ads. Sponsored ads moderated ($\beta = -0.079$, $t = 2.001$, $p = 0.046$), supporting H4b. Sponsored ads mediated the interaction between social media search intent and online purchase behavior; Table 9 shows the analyzed results.

Discussion and implications

The study examined Bangladeshi online shopping behavior and buyers' intentions to seek on social media. The researcher developed this study's hypotheses using a theoretical model. The four constructs' hypotheses were validated. The hypotheses H1a, H1b, and H1c, user-generated content (UGC) significantly and positively influenced social networking site users' online purchase behavior (OPB) and intention to search (INS). This study confirmed previous research. Social media content influences Generation Z, and they prefer authentic user-generated content (UGC) [80]. This material excites and pleases viewers, prompting social media searches and online purchases [11]. In the questionnaire study, the researcher introduced micro-celebrities. The hypotheses H2a and H2b showed that micro-celebrity posts significantly and positively affect users' online purchase behavior (OPB) and intention to search (INS) on social networking sites, consistent with the prior studies. However, H2c found no significance regards to the proposed hypothesis. Casaló et al. [11] found that Instagram content stimulates viewers. Users are influenced to purchase by influencers' good product reviews. Instagram users

Table 8 Significance of the specific indirect effects and mediation analysis

Hypothesis	Structural paths	Path Coefficients (β)	T-Values	P Values	LLCI	ULCI	Decision
H1c	UGC ≥ INS ≥ OPB	0.047	2.399	0.017	0.113	0.215	Accepted
H2c	MIC ≥ INS ≥ OPB	0.025	1.920	0.055	0.000	0.055	Rejected

Table 9 Moderating effect of online purchasing behavior

Hypothesis	Structural path	Path Coefficients (β)	T-values	P values	Decision	Comment
H4b	INS ≥ SA ≥ OPB	− 0.079	2.001	0.046	Supported	Moderated

have quick access to things, and Generation Z consumers make snap choices [11]. Hodgson [33] mentioned that Instagram's rapid access to products and Generation Z's tendency to make quick decisions enable users to make impulsive purchases influenced by micro-celebrity influencers. The survey found that most respondents follow many micro-celebrities [20]. Facebook and Instagram users adore following micro-celebrities and viewing their lifestyle photos. The survey also found that micro-celebrities are trusted since they write more in-depth and fascinating articles and spend more time commenting on them.

The data also show that hypothesis H3, the mediator construct, intention to search on social networking sites, positively affected users' online purchasing behavior (OPB). The study's findings supported previous research. Studies focused on user interactions and search page ads without considering attention [71]. Liu et al. [51] also discovered that telling customers that you care about their interests can influence their purchase intentions or behavior. Search engine ads can target buyers even if they do not buy [41]. Moreover, Hypothesis H4a's moderator construct, sponsored ads (SA), positively affected consumers' online purchase behavior (OPB). Also, hypothesis H4b significantly moderates the relationship. It is claimed that attention to the advertisement, whether sponsored or organic, is strongly related to the intention to make an online purchase [71]. Search engine ads can target visitors based on purchase intent or what they are watching [41]. The study examines search ads and online buying intent [72]; the findings corroborate the surge in search site ad spending and emphasize the importance of organizations understanding how search site ads influence customers' shopping decisions. It is crucial for businesses to display things well [51]. Thus, corporate marketing must comprehend customer decision-making aspects and properly outline product presentation tactics on websites to be effective.

Theoretical implications

Our study made the following scholarly contributions. The S-O-R model shows that interaction is crucial to Web 2.0 technology, correcting prior studies that ignored social aspects of users' interactions and information quality. It may help customer perception studies of post-interaction user-generated content and micro-celebrities. After expanding purchase behavior factors, it provides a crucial theoretical framework for user-generated content and micro-celebrity post-research. Second, this study combines the S-O-R theory and social media coexistence to examine how user-generated content quality and micro-celebrity posts affect online purchase behavior. This supports the study's user-generated content and micro-celebrity social media post findings. Thirdly, consumers may interpret information differently, despite the same substance and medium. This study examines how user-generated content and micro-celebrity posts affect social media buyers. Sponsored ads moderate user-generated content, making micro-celebrity postings stronger. These significant findings can contribute to future research. Thus, the research attempts to incorporate the social media presence of Generation Z consumers and their ultimate purchasing behavior. In addition to being applicable to the social media behavior of Generation Z consumers, the study's findings can also be applied to consumer behavior in general [47]. In addition, the findings of the study are not limited to consumer behavior research. In the research disciplines of advertising [21, 22] and interactive marketing [46, 54] the findings have the potential to have significant scholarly ramifications.

Practical Implications

This study provides useful practical implementations. The study's findings suggest modern customers may be proactive. Modern marketing communication increasingly uses social media, micro-celebrities, and user-generated content. The findings can help businesses optimize social media marketing to increase Generation Z online purchase frequency. User-generated content (UGC) from Instagram users and digital impacts may make customers happy Casaló et al. [11]. Marketers should encourage social media users to post product photos since user-generated content (UGC) boosts online sales. User-generated contents' interaction quality allows users to create their own interactive social media forums, present and explain the items' information and value, and request product assessments from experts or respectable publishers. Consumers will feel safer and buy more. Because they are so engaged in their celebrities' lives, Generation Z buyers can tell when a micro-celebrity is endorsing a product that does not suit them [24]. Even if they do not trust internet celebrities, potential customers take celebrities' recommendations at the start of their search and then do extra study, including reading online reviews on specific websites. Micro-celebrities' endorsements drive low-risk, low-commitment sales. Marketing experts should choose trustworthy online celebrities with more care than source credibility parameters. Users do not consider competence a fundamental component of online celebrity, but viewers are greatly influenced by competency and online conduct or self-presentation. Since Instagram micro-celebrities may damage customer confidence, corporations should use them more cautiously for marketing.

Conclusion

Social media and the internet could make people buy more rationally. Studies show internet purchases in user-generated content. Our study confirmed the assumptions by finding that respondents preferred user-generated content's (UGC) social media search goal. Generation Z also follows celebrities on social media. They think appealing photos and words make engaging social media profiles. Based on prior studies and the study's key research findings, the S-O-R model captures customers' online purchasing behavior, not demographic profiles. Micro-celebrities and user-generated content (UGC) drive internet purchases. Generation Z enjoys user-generated content (UGC) and micro-celebrities' social media posts. They seek more on social media and buy online.

Limitations of the study and future research directions

This study has some research constraints. The Dhaka, Bangladesh, investigation revealed remarkable customer behavior. Studying influencers' social media promotions and customer behavior can help the S-O-R paradigm. For generalizability, future studies might use a larger sample of the general population outside Dhaka city. The study suggests gathering more data to determine correlations. Demonstrating the dynamic influence between elements may also be difficult. User-generated content and micro-celebrity posts rarely include consumer behavior research. Cross-cultural and longitudinal investigation can uncover universal human behavior and marketing communication traits. More longitudinal follow-up studies may strengthen the link. The author encourages qualitative studies on user-generated content and micro-celebrity posts to reveal consumer cognition and behavior. The researcher examined Generation Z's online purchase behaviors on social media as in generic manner. Clothing, online tickets, technology, food, travel gear and destinations, skin care products, and other specific product and service categories can be studied in the future. More studies could reveal which products and services stimulate purchases. Other social media platforms and extended social networks could be examined in future studies. Furthermore, Lim, Rasul, Kumar, and Ala [49] demonstrated a systematic literature review of the past, present, and future of customer interaction, whereas Chandra, Verma, Lim, Kumar, and Donthu [13] concentrated on customization in personalized marketing in a trending approach in another study. As a result, recent literature has focused on current trends in social networks and consumer behavior. That is also consistent with the present study's findings. Customer engagement and social media have evolved into critical insight points for marketers [48]. The authors emphasized that the effects of modified antecedents on customer involvement on social media and the resulting outcomes would be the roads to identifying significant third-order marketing knowledge in this field. Furthermore, the study concentrated on one mediator's intent to search and one moderator's sponsored ads. Future research can include more mediators and moderators, including virtual reality, augmented reality, personalization, and storytelling [37, 48, 70].

Appendix

Survey questionnaire

Dear respondent,

I hope this message finds you well. For research purposes, we, a group of researchers, are collecting primary data and the topic, "Do User-generated content (UGC) and micro-celebrity posts urge Generation Z consumers to search on social networking sites for online purchase behavior?: Assessing the moderating effect of sponsored ads."

User-generated content (UGC) [Social media users' posts, product/service-related photos, online reviews, shares, etc.]

Micro-celebrity [Food vloggers, beauty vloggers, travel vloggers, lifestyle/fashion vloggers, educational vloggers, health and fitness vloggers, tech-based vloggers, gaming vloggers, etc.]

We appreciate your time and efforts in completing this questionnaire survey. Your valuable feedback will contribute to exploring the new findings of this study. All the information would be used for academic purposes. Your cordial cooperation is highly appreciated. Thank you.

*If you agree to take part on this questionnaire survey click on the ***CONTINUE***....

Socio-demographic profile of the Respondent

Sex	Male Female
Do you use any social media platform? [Choose multiple if applicable]	Facebook Instagram YouTube
Do you follow any social media micro-celebrity? [Choose multiple if applicable]	Food vloggers Beauty vloggers Travel vloggers Lifestyle/fashion vloggers Health and Fitness Educational vloggers Motivational vloggers Tech-based vloggers Gaming vloggers Others (specify….)
Do you think micro-celebrity posts motivate you to search further?	Yes No

Socio-demographic profile of the Respondent	
Last six months, how often did you purchase on online platforms?	0–5 times 6–10 times More than 10 times

Measurement Constructs: User-generated content (UGC), Micro-celebrity (MIC), Intention to search (INS), Online purchase behavior (OPB), and Sponsored ads (SA) (N:B: 5-point Likert scale; whereas 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree)					
UGC1: UGC helps me find product/ service-related information when I need it	**1**	**2**	**3**	**4**	**5**
UGC2: UGC reduces my effort to find product/service-related information					
UGC3: UGC increases the quality of product/ service-related information					
UGC4: UGC helps me to compare the quality of product/service-related information					
UGC5: UGC leads me to expand my consideration set about product/service					
MIC1: Micro-celebrities influence my behavior in purchasing online					
MIC2: I intend to give importance to micro-celebrity opinions while buying online					
MIC3: Micro-celebrity reviews are more reliable than company-controlled reviews					
MIC4: I would feel comfortable buying online based on micro-celebrity recommendation					
MIC5: I trust micro-celebrity who will not purposefully endorse a brand that will harm me					
INS1: I think I will search for information about the posted product/ service					
INS2: I think I will search for online reviews about the posted product/ service					
INS3: I think I will compare the prices of the posted product/ service					
OPB1: I have an outstanding possibility to consider buying recommended products of UGC and micro-celebrity posts					
OPB2: Recently, I have purchased recommended products from UGC and micro-celebrity posts					
OPB3: I will recommend to others the products recommended in the UGC and micro-celebrity posts					
SA1: I usually click on the first of the sponsored ads					
SA2: I usually click on the top result, whether an advertisement or organic result					
SA3: I usually scroll the page to skip the ads and click on the organic results					
SA4: Sponsored ads motivate me to search more for the relevant information					

Measurement Constructs: User-generated content (UGC), Micro-celebrity (MIC), Intention to search (INS), Online purchase behavior (OPB), and Sponsored ads (SA) (N:B: 5-point Likert scale; whereas 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly agree)					
UGC1: UGC helps me find product/ service-related information when I need it	**1**	**2**	**3**	**4**	**5**
SA5: Sponsored ads motivate me to purchase online					

Thank you for the cooperation!

Abbreviations

UGC	User-generated content
MIC	Micro-celebrity posts
INS	Intention to search
OPB	Online purchase behavior
SA	Sponsored ADS
SNS	Social networking sites
S-O-R	Stimulus-Organism-Response
LLCI	Lower level confidence interval
ULCI	Upper level confidence interval

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Declarations

Ethics approval and consent to participant
The researcher provides the consent form to the participants in the data collection procedure. The participants gave their full consent, and the researchers collected the primary data.

Consent for publication
The author gave her consent for publication.

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The author declares that they have no competing interest.

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