



Consumer's Electronic Voice in Reshaping Buying Decision; A study in context of Smart Phones

An Empirical Study on University Students in India

Tapas Chakraborti
Techno India University

Abstract: Emergence of Web 2.0 technology has changed the landscape of Marketing. Buyers are expressing their opinion on products and Brands after experiencing the goods and services. Customer's shared views are considered by other customers with more priority than Brand Sponsored Contents. User Generated Contents and Electronic Word of Mouth have put serious challenges to the marketers. This study investigates the influence of User Generated Content on the Buying Behavior of other customers. Structural Equation Modeling is used in constructing and testing the validity of research model. S-O-R model is used to develop the the construct. Data have been collected from University students using structured questionnaire. Confirmatory Factor Analysis has been carried out with AMOS to analyze and interpret the data. The study finds significant impact of User Generated Content on Cognitive and Behavioral response of the customer. The study also acknowledges the influence of Cognitive Response of the customer on Emotional Response.

Index Terms – User Generated Content, S-O-R Model, Social Networking Site, Consumer Behavior, Electronic Word of Mouth

I. INTRODUCTION

Advancement of collaborative technology has created several avenues for both the brands and the customers to communicate with each other share their opinion and express their experiences. Newly emerged Web 2.0 technology has facilitated common internet users to create contents in social media platforms very easily and conveniently. ¹Social media is flooded with brand and product related information now. Social Networking sites like Facebook, Instagram, Twitter has enabled today's customer to share their own experiences with millions of other customers who need information to take proper buying decision and reduce buying risk.² Customers are preferring to explore information from social networking sites rather than depending on brand sponsored contents as they are perceiving the shared information of other customers are more trustworthy.³ Social Media has exposed all information related to brand and products. In their buying journey customers are considering user generated contents as most trusted source of information in their information search and consideration phase. ⁴Center of power of branding and promotion has been shifted from firm to the customer and customer is empowered with information and freedom of expression. So User Generated Contents are playing significant role in reshaping the mechanism of consumer decision making.⁵ This study has chosen consumer electronics segment to conduct a study with the reference to millennial buyers to understand the influence of User Generated Contents in India.

II. LITERATURE REVIEW

Extensive Literature review has been carried out to understand the impact of User Generated Contents (UGC) and Electronic Word of Mouth (E-WoM) on consumer buying behavior. Zhang et al (2021) has studied the effect of trust transfer and online content on purchase intention in online to offline ecommerce. Analysis of the study argues in favor of perceived effectiveness of numerical rating. Reviews & Ratings positively influence customers and increase trust on merchant and triggers purchase intention.⁶ Arif I & et al (2020) have investigated the role of user generated contents of Facebook on consumer behavior. The study uses S-O-R model to examine the influence of User Generated Contents on clothing industry and finds positive role of brand related user generated content in building positive attitude towards the brand as the emotional response. As behavioral response, the study reveals a positive association of UGC with information pass along, future purchase intention and impulse buying. ⁷ Mayerhofer & et al(2020) have investigated the effectiveness of user created contents persuasion knowledge on purchase intention. The study confirms a positive association of perceived knowledge with purchase intention.⁸Naem & et al (2019) defines user generated contents as the contents published by user of the social media platform not being financed by the brands.⁹ In a multi country case study Takeyas I (2018) has examined direct and indirect effect of user generated content and acknowledges strong influence in buying decision making process. ¹⁰ In their research work Shoaib & et al (2015) have investigated the influence of word of mouth and user generated content on buying decision of customers and acknowledged significant influence of UGC and

eWoM on decision making of customers. ¹¹ Ivana P (2021) has explored the impact of user generated content on purchase intention of E Commerce customers in Jakarta. The study revealed that perceived credibility (P.C) of online reviews are higher than Brand Sponsored Contents and has also established significant association between online review and customer's purchase intention. ¹² Zhang & et al (2018) has examined influence of user generated contents on impulse buying. The study has included three popular shopping sites of China like Taobao, diaping etc. and examined response of regular shoppers. The study establishes significant correlation between user generated content and impulse buying of online customers. ¹³ Shorab P & et al (2014) has studied the impact of online reviews and ratings on online hotel booking decision of tourists & travellers. Research work reveals significant influence of online rating and reviews on hotel and tourist spot booking decisions as customers trust the experience of other tourists and believes in the quality of information. ¹⁴ In their research work, Sethna B & et al (2017) have examined the difference in behavior of different gender, being influenced by user generated contents. The study reveals that the influence of UGC are comparatively higher for female customers than male customers. ¹⁵ Lim W (2015) examines consumer perception (CP), Perceived Risk (PR) and Customer Intention (CI) of internet advertising and electronic word of mouth. Researchers advocate in favor of electronic word of mouth and customer created contents to create positive or negative perception on the brand. The study also argues in favor of higher perceived value and lower perceived risk of user generated contents. ¹⁶

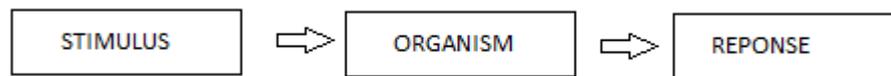
III. RESEARCH OBJECTIVE

Web 2.0 technology has empowered today's customer with information and have set most tough hurdle to the marketer. Though few research works have been conducted to understand the impact of User Generated Content (UGC) and Electronic Word of Mouth (eWoM) on buying decision related aspects but the increasing acceptance of UGC and eWoM to the customers as most effective input in their decision making journey definitely triggers necessity to explore more. The study aims to investigate

- 1) Direct influence of UGC on Brand Attitude & Brand Liking.
- 2) Influence of UGC on Website Visit
- 3) Influence of UGC on Purchase Intention
- 4) Association of UGC with Social Feedback.

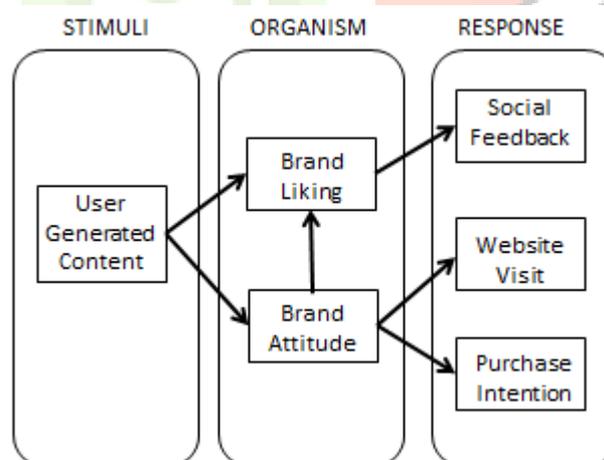
IV. VARIABLES OF THE STUDY & STRUCTURAL FRAMEWORK

The study acknowledges the implementation of Stimulus- Organism- Response model proposed by Mehrabian & Russel (1974) in framing the construct.



S-O-R Framework, Mehrabin & Russel (1974)

The study considers **User Generated Content (UGC)** as the stimuli, **Brand Attitude & Brand Liking** as the Organism and **Social Feedback, Website Visit & Purchase Intention** as the **Response** to the stimuli. Here UGC is considered as the independent Variable and on the other hand all emotional and behavioral responses as Depended Variable. Structural Equation Modeling is used to construct Research Model for this study with mentioned variables.



Conceptual Framework for study

(Chi Squar /df=1.460, CFI 0.992, GFI 0.972, AGFI 0.919, NFI 0.976, IFI 0.992 ,TLI 0.983, RMSEA 0.63, PGFI 0.324)

V. HYPOTHESIS DEVELOPMENT

The study examines the influence of brand related user generated contents, reviews and remarks made by the users of the Facebook in brand's Facebook page, on other users of the platform who are also regular customers of similar types of products. Following hypothesizes have been developed to explore impact of user generated content on buying decision making process and related decisions. The study will observe direct impact of UGC on Brand Attitude and brand Liking and

H₁: User Generated Content has a positive impact on Brand Liking

H₂: User Generated Contents has a positive impact on Brand Attitude.

H₃: Brand Liking has positive impact on Social Feedback

H₄: Brand Attitude has positive impact on Website Visit

H₅: Brand Attitude has positive impact on Purchase Intention

H₆: Brand Attitude has positive impact on Brand Liking

VI. RESEARCH METHODOLOGY

Structured questionnaire was used to collect primary data from the respondents. Due to pandemic, online data collection method were used by creating online Google form. Another reason of using online tool was to show some visual stimuli. Sample size of 118 university students from three different Universities was questioned. Questionnaire was designed to observe emotional, cognitive and behavioral response of the respondent with respect to the visual stimuli used as user generated content. SPSS is used to check the validity of the questionnaire. In this study, construct of the Structural Equation Model is prepared and validated by AMOS. Data are analyzed and interpreted using Confirmatory Factor Analysis (CFA).

SAMPLE SELECTION

Population for the study is millennial due to most active presence of this age segment in smartphone industry as customer.¹⁷ Random sampling process is adopted by sending structures questionnaire in all student groups of Universities.

VISUAL STIMULI DEVELOPMENT

A dummy brand page was created in Facebook instead of using existing consumer electronic brands in the market to avoid technical issues. All the features were kept as similar as the FB page of market leaders. 5 separate customer experience from separate customers ID were shared in the page. All the reviews and remarks were related to a particular product. Positive and negative responses were posted in the page to avoid bias. This Review Page was used as the visual stimuli.

QUESTIONNAIRE PREPARATION

Extensive literature review is done to construct the questionnaire. Previous research works have been kept in consideration regarding development of questionnaire. As the area is not very matured in research, many measures are self-developed. There both emotional and cognitive elements are present as measuring parameter. Separate questions are framed under each variable to record and analyze the responses properly. 5 point likert scale is used to measure the response. Later on after collection of data, validity of the questionnaire is tested.

VII. DATA ANALYSIS & RESULT INTERPRETATION

Statistical package for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) were used for data analysis purpose. SPSS were used to test the validity of the questionnaire by calculating Chronbach Alpha. AMOS was used to frame the model using Structural Equation modeling, calculate fitness of the model and Confirmatory Factor Analysis (CFA).

A. Demographic & Social Networking Sites Usages Characteristics of the Data

34.60% of the respondents were female and 63.40% responses were received from male respondents. Family income of 33.10% respondents is below 3 Lakh per year. 36.40 % respondent has mentioned their family income is within the range of 3Lakh to 5 Lakh. Family income of 5 Lakh to 7 lakh is of 10.2 % respondents. Similar observation is found for Family Income range 5 Lakh to 7 Lakh & above 7 lakh.

44.90 % respondent have mentioned Instagram as their favorite Social Networking Site where as Facebook is the preferred platform for 28% respondents. The study acknowledges increasing popularity of Instagram. Preferred SNS platform as Pinterest, Linked In & others are reported by 1.70%, 6.80% and 18.60% respectively. 33% respondent use Social Networking sites almost continuously where as 44% respondents have confirmed their usage is 2 to 5 times a day. 31% of the respondents use SNS with lower frequency. The study also observes that 34.7% respondent uses social networking site to be connected with friends and family whereas primary objective of using SNS sites is entertainment to 31.4% respondents. 22% respondents have reported that they use SNS platform to promote their business and ideas.

B. Reliability of Measures**Cronbach Alpha Calculation**

Variables	Number of Items	Cronbach Alpha
UGC	3	0.770
BRAND LIKING	3	0.760
BRAND ATTITUDE	5	0.887
SOCIAL FEEDBACK	2	0.747
WEBSITE VISIT	2	0.774
PURCHASE INTENTION	3	0.829

As per thumb rule Cronbach Alpha, all the variables are in **acceptable** (more than 0.70) and **good** (more than 0.80) range.¹⁸ The result supports the reliability of the factors used for the study.

C. Confirmatory Factor Analysis:**Standardized Loading, AVE & CR**

Variables	Number of Items	Factor Loading	AVE	CR
UGC	3	0.66 - 0.89	0.572	0.798
BRAND LIKING	3	0.67 - 0.81	0.548	0.783
BRAND ATTITUDE	5	0.69 - 0.84	0.619	0.890
SOCIAL FEEDBACK	2	0.74 - 0.84	0.631	0.773
WEBSITE VISIT	2	0.72 - 0.87	0.642	0.781
PURCHASE INTENTION	3	0.71 - 0.87	0.636	0.839

Standardized Loading for all the variable of the study has achieved the acceptability level of more than 0.60 as per the thumb rule¹⁹. Average of item reliability for all the variables are more than 0.50. Critical Ratio value is more than 0.70 for all factors.

Discriminant Validity Testing

Factors	UGC	BL	BA	SF	WSV	PI
UGC	0.572					
BL	0.177	0.548				
BA	0.045	0.728	0.619			
SF	0.012	0.506	0.416	0.631		
WSV	0.057	0.260	0.382	0.151	0.642	
PI	0.028	0.616	0.830	0.594	0.664	0.636

Diagonal Value represents Average Variance Extracted and rest of the values represents squared correlation

D. Structural Model Evaluation:

Structural Equation Modeling technique was used to confirm optimum feasible model for the purpose of study. Important indices like Chi-Square, degrees of freedom, Comparative Fitness Index, Goodness of Fitness index, Adjusted Goodness of Fit Index, Normated Fit Index, Incremental Fit Index, Tucker Lewis Index, Root Mean Square Error of Approximation etc. were calculated to check the fitness of proposed model.

Model Fitness Indices

Model Fit Indices	Results	Accepted Value Range
Chi Square	10.218	
P - Value	0.177	P Value \geq 0.05 (Bollen & Long, 1993).
Chi Square /df	1.460	\leq 5 (Hair et al, 1998)
Comparative Fit Index (CFI)	.992	$>$ 0.90 (Hu & Bentler, 1999)
Goodness of Fit Index (GFI)	.973	$>$ 0.90 (Hair et al, 2006)
Adjusted Goodness of Fit Index (AGFI)	.919	$>$ 0.90 (Daire et al, 2008)
Normated Fit Index(NFI)	.976	$>$ 0.90 (Hu & Bentler, 1999)
Incremental Fit Index (IFI)	.992	
Tucker Lewis Index (TLI)	.983	$>$ 0.90 (Hair et al, 1998)
Root Mean Square error of Approximation (RMSEA)	.063	$<$ 0.08 (Hair et al, 2006)
Parsimony Goodness of Fit Index (PGFI)	.324	\leq 0.5 (Malaik et al, 1989)

P Value for the model is 0.177 ($>$ 0.05). Chi-square/df value is 1.460 (\leq 5). CFI, GFI, AGFI, NFI, IFI, TLI value for the model is more than 0.90. The model shows highly acceptable value for RMSEA ($<$ 0.08) also. As all the values are highly satisfactory and within the acceptable range, so the model shows a goodness of fit in this study.

E. Hypothesis Testing:

Results of Structural Model Analysis

			SE	β	t	P Value
BRANDATTITUDE	<---	UGC	0.123	0.369	4.301	***
BRANDLIKING	<---	UGC	0.068	0.31	5.208	***
SOCIALFEEDBACK	<---	BRANDLIKING	0.089	0.436	5.918	***
WEBSITEVISIT	<---	BRANDATTITUDE	0.06	0.594	7.985	***
PURCHASEINTENTION	<---	BRANDATTITUDE	0.053	0.573	9.157	***
BRANDLIKING	<---	BRANDATTITUDE	0.048	0.634	10.652	***

Note: SE = Standardized Estimate, *** p<0.001

Hypothesis 1 predicts the influence of UGC on Brand Attitude. The result of the analysis ($\beta = 0.369$, $t = 4.301$ & p Value <0.001) demonstrates Null hypothesis is rejected. So UGC has strong influence on Brand Attitude. Hypothesis 2 predicts the influence of UGC on Brand Liking. Result of the study ($\beta = 0.068$, $t = 5.208$ & p Value <0.001) rejects Null Hypothesis and establishes the influence of UGC on Brand Liking. Hypothesis 3 assumes positive influence of Brand Liking on Social Feedback. Result of the study ($\beta = 0.436$, $t = 5.918$ & p Value <0.001) confirms the same. Hypothesis 4 is also supported by the result ($\beta = 0.594$, $t = 7.985$ & p Value <0.001) and confirms positive influence of Brand Attitude on Website Visit. Hypothesis 5 is accepted ($\beta = 0.573$, $t = 9.157$ & p Value <0.001) and confirms the effect of Brand Attitude on Purchase intention. The study also examines the influence of Brand Attitude on Brand Liking and confirms the same by rejecting Null Hypothesis ($\beta = 0.634$, $t = 10.652$ & p Value <0.001).

Discussion: Emergence of Web 2.0 technology has facilitated marketers in various ways. They can reach to millions of customers within second but at the same time it has also enriched the customers by information from various avenues. Today's customer is not dependent on brand sponsored contents to take their purchase decision. Social media has provided various platforms to the customers to express their own experience with thousands of fellow users of same social networking sites. Millions of user generated contents are created every day which not only explains the experience but also highly enriched with quality, features, post sales services, price comparison etc. Customers are using these user generated contents as primary input their own decision making process. The study reveals the direct influence of UGC on Brand Attitude and Brand Liking. That implies, today's customer builds their Attitude towards a brand not only depending on the promotional events or Advertisements of the brand but other customers view shared in social media. Electronic word of mouth plays a great role over here. UGC also triggers Brand Liking. The study also reveals significant impact of User Generated Content on Website Visit and Future Purchase Intention. Brand Attitude plays a significant role in reshaping Brand Liking. Marketers can leverage the significance of UGC by creating quality products and encouraging customers to create quality UGC for their brand. UGC is proven to be more effective and trusted tools in buying decision making process.

REFERENCES

- [1] Hajli N. A study of the impact of social media on consumers. *Int J Mark Res.* 2014;56(3):387-404. doi:10.2501/IJMR-2014-025
- [2] Miklošik A. Changes in purchasing decision-making process of consumers in the digital era. *Eur J Sci Theol.* 2015;11(6):167-176.
- [3] Bahtar AZ, Muda M. The Impact of User – Generated Content (UGC) on Product Reviews towards Online Purchasing – A Conceptual Framework. *Procedia Econ Financ.* 2016;37(June):337-342. doi:10.1016/s2212-5671(16)30134-4
- [4] Evans D. *Social Media Marketing: The Next Generation of Business Engagement.*; 2010. <http://www.amazon.com/dp/0470634030>
- [5] O'Hern MS, Kahle LR. The Empowered Customer: User-Generated Content and the Future of Marketing. *Glob Econ Manag Rev.* 2013;18(1):22-30. doi:10.1016/s2340-1540(13)70004-5
- [6] Zhang X, Wang T. Understanding purchase intention in O2O E-Commerce: The effects of trust transfer and online contents. *J Theor Appl Electron Commer Res.* 2021;16(2):101-115. doi:10.4067/S0718-18762021000200107
- [7] Arif I, Aslam W, Siddiqui H. Influence of brand related user-generated content through Facebook on consumer behaviour: A stimulus-organism-response framework. *Int J Electron Bus.* 2020;15(2):109-132. doi:10.1504/IJEB.2020.106502
- [8] Mayrhofer M, Matthes J, Einwiller S, Naderer B. User generated content presenting brands on social media increases young adults' purchase intention. *Int J Advert.* 2020;39(1):166-186. doi:10.1080/02650487.2019.1596447
- [9] Naem M, Okafor S. User-Generated Content and Consumer Brand Engagement.; 2019. doi:10.4018/978-1-5225-7344-9.ch009
- [10] Yoo B, Katsumata S, Ichikohji T. The impact of customer orientation on the quantity and quality of user-generated content: A multi-country case study of mobile applications. *Asia Pacific J Mark Logist.* 2019;31(2):516-540. doi:10.1108/APJML-03-2018-0118
- [11] Khan SA, Ramzan N, Shoaib M, Mohyuddin A. Impact of word of mouth on consumer purchase intention. 2015;27(1):479-482.
- [12] Ivana P. The Impact of User Generated Content (Online Review) Towards the Intention to Purchase on E-commerce in Jakarta . Case Study Of Tokopedia . Published online 2021:426-443.
- [13] Zhang KZK, Xu H, Zhao S, Yu Y. Online reviews and impulse buying behavior: the role of browsing and impulsiveness. *Internet Res.* 2018;28(3):522-543. doi:10.1108/IntR-12-2016-0377
- [14] Pourfakhimi S, Zealand N. The Impact of Users " Online Reviews " and " Ratings " on Consumers ' Behaviour toward Hotel Selection Factors The Impact of Users ' " Online Reviews " and. 2015;(JANUARY 2014):104-114.
- [15] Sethna BN, Hazari S, Bergiel B. Influence of user generated content in online shopping: impact of gender on purchase behaviour, trust, and intention to purchase. *Int J Electron Mark Retail.* 2017;8(4):344. doi:10.1504/ijemr.2017.10008550
- [16] Lim WM. The influence of internet advertising and electronic word of mouth on consumer perceptions and intention:

- Some evidence from online group buying. *J Comput Inf Syst.* 2015;55(4):81-89. doi:10.1080/08874417.2015.11645790
- [17] Akkucuk U, Turan C. Mobile use and online preferences of the millenials: A study in Yalova. *J Internet Bank Commer.* 2016;21(1). doi:10.4172/1204-5357.1000142
- [18] Gliem J a, Gliem RR. Calculating, Interpreting, and Reporting Cronbach's Alpha Reliability Coefficient for Likert-Type Scales,. 2003 Midwest Res to Pract Conf Adult, Contin Community Educ. 2003;(1992):82-88. doi:10.1109/PROC.1975.9792
- [19] Samuels P. Advice on Exploratory Factor Analysis. *Cent Acad Success, Birmingham City Univ.* 2016;(June):2. doi:10.13140/RG.2.1.5013.9766
- [20] Agarwal M. Importance of user generated content as a part of social media marketing that drives customer's brand awareness and purchase intentions. *Int J Anal Exp modal Anal.* 2020;7(2):3071-3089. doi:10.13140/RG.2.2.33503.61609
- [21] Scott P, Scott T, Stokes P, et al. Reconceptualising buyer behaviour in the digital era: An emergent journey. *Int J Technol Mark.* 2017;12(2):165-179. doi:10.1504/IJTMKT.2017.083378
- [22] Naab TK, Sehl A. Studies of user-generated content: A systematic review. *Journalism.* 2017;18(10):1256-1273. doi:10.1177/1464884916673557
- [23] Dasar P, Hundekar SG, Maradi M. Consumer behaviour on consumer durables with reference to Bijapur district. *Glob J Commer Manag Perspect.* 2013;2(1):36-46.
- [24] Haefner JE, Rosenbloom A. In Consumer Decision Making: Insights from Bulgarian and Hungarian Consumers During the Global Economic Crisis. *Manag Glob Transitions* 9. 2011;9(3):249-273.
- [25] Iglesias-Sánchez PP, Correia MB, Jambriño-Maldonado C, de las Heras-Pedrosa C. Instagram as a co-creation space for tourist destination image-building: Algarve and costa del sol case studies. *Sustain.* 2020;12(7):1-26. doi:10.3390/su12072793
- [26] Owens et al . *LJMU Research Online. J Appl Sport Psychol.* 2015;27(2):216-234.
- [27] Perera CH, Nayak R, Thang L, Nguyen V. Impact of Brand-Related User-Generated Content on Brand Positioning: a Study on Private Higher Education Institutes in Vietnam. *Proc Third Econ.* Published online 2020:148-166. <https://dergipark.org.tr/en/pub/ebor/issue/58610/848111>
- [28] Chai H. An impact of social media on online travel information search in China. *Proc - 3rd Int Conf Inf Manag Innov Manag Ind Eng ICIII 2010.* 2010;3:509-512. doi:10.1109/ICIII.2010.443
- [29] Zhang J, Zheng W, Wang S. The study of the effect of online review on purchase behavior. *Int J Crowd Sci.* 2020;4(1):73-86. doi:10.1108/ijcs-10-2019-0027

