

VALUE PERCEPTION OF USING ONLINE REVIEWS IN FORMING POSITIVE BRAND ATTITUDE AND GENERATING PURCHASE INTENTION; A STUDY ON UNIVERSITY STUDENTS IN BANGLADESH

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Abstract

Millions of online reviews exist in social media. With high reach of internet browsing in a rising market such as ours, consumers evaluate a great number of alternatives prior deciding on their purchases through online reviews. The aim of this study is to examine the value perceptions of relying on online reviews in generating customer brand attitude & preferences and purchase intentions. The study was conducted taking the responses of university students in Bangladesh. Moreover, the study also examined the moderating role of use frequency of online reviews to observe the direct and indirect effect of value perception informing positive brand attitude and generating purchase intentions. Conceptual framework and hypothesis for this study were developed through careful review of relevant literature. A structured questionnaire, tested under pilot study, was posted in different social media groups for collecting responses. A total of 116 respondents; responses were validated after screening the data for analysis in the study. Structural Equation Modeling (SEM) was used to analyze multiple direct and indirect relationships between independent and dependent variables. The study results revealed that consumers' perceived value gained from low information search, and reduced risk has positive impact on forming positive brand attitude and generating purchase intentions. This observation remains valid in case of direct moderating effect. However, the case was reverse in indirect effect; high frequency of using online reviews has no impact in forming positive brand attitude and purchase intentions through perceived value.

Key Words: Online reviews, Low information search, Reduced risk, Perceived value, Brand attitude, Purchase intention.

Introduction

The development of online communities where consumers can exchange comments has revolutionized retail environment (Filieriet al., 2015). With the emergence of social media technologies available to internet and smart phone users, online communities, such as Trip Advisor, Booking.com, gsmarena.com and Venere have empowered consumers to engage in product-related electronic Word of Mouth (eWoM) and have emerged as promotional tools for marketing and e-Commerce (Erkanand Evans, 2016). When buying a product, regardless of its type (Zhang *et al.*, 2016), consumers are generally unable to make valued judgments prior to purchase because of the lack of information regarding product quality, so they rely heavily on

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external advice to make decisions (Mudambi and Schuff, 2010). Online reviews act as strong informants and recommenders and significantly influence the purchase intention and actual purchase (Park *et al.*, 2008). Lee *et al.* (2016) examined that more the reviewer gets information regarding his or her choice, the stronger the perceived information credibility i.e., low information search and reduced risk with purchase through online reviews among potential consumers, and the higher is the purchase intention. Consumers are not able to process all reviews available, and therefore, they try to distinguish among them. One way to do so is to consider the reviews' perceived value. Consumers vote on reviews that are helpful, and these reviews are, therefore, better able to guide consumers in their decision-making process and have a larger value on the evaluation of the reviewed product (Singh, J.P.*et al.*, 2017).

Doh and Hwang (2009) demonstrated that positive reviews have a positive impact on attitudes towards any particular Brand. Brand attitude can be defined as "consumer's overall evaluation of a brand" (Schivinski & Dabrowski *et al.*, 2016). It is an assessment around favorable or unfavorable responses to brand-related stimuli or conviction (Lee & Kang, 2012). A positive attitude towards a brand resulting from its evaluation not only results in continuous preference of the consumer towards those brands (Wu and Wang, 2011) but also has a positive effect on the purchase intention (Aaker and Keller, 1990). Online reviews can be very convincing in affecting the evaluation of products (Hong and Park, 2012). Schivinskia and Dabrowskia (2016) found that firm-generated communication affected the brand attitude of products whereas user-generated content significantly influenced the brand equity and purchase intention of reviewed products. Users with a greater degree of knowledge than other members, that is, those with greater social presence are more likely to feel maven of online reviews (Cheung *et al.*, 2009). As heavy-users spend more time searching and disseminating information in the online community, it is presumed that they will perceive less value from online reviews than those who are non-frequent users (Shan, 2016), and develop a lesser sense of Brand attitude and purchase intentions.

Despite recent studies that postulate how social influences affect individuals' intentions, and ultimately, their behavior (Changet *et al.*, 2016), to the best of our knowledge, there is a lack of research study in the reliance on online social group views on consumer's behavior. Moreover, the group-level antecedents of online reviews have somehow been neglected in previous studies. This study examines the value perceptions of relying on online reviews in generating customer brand attitude & preferences and purchase intentions.

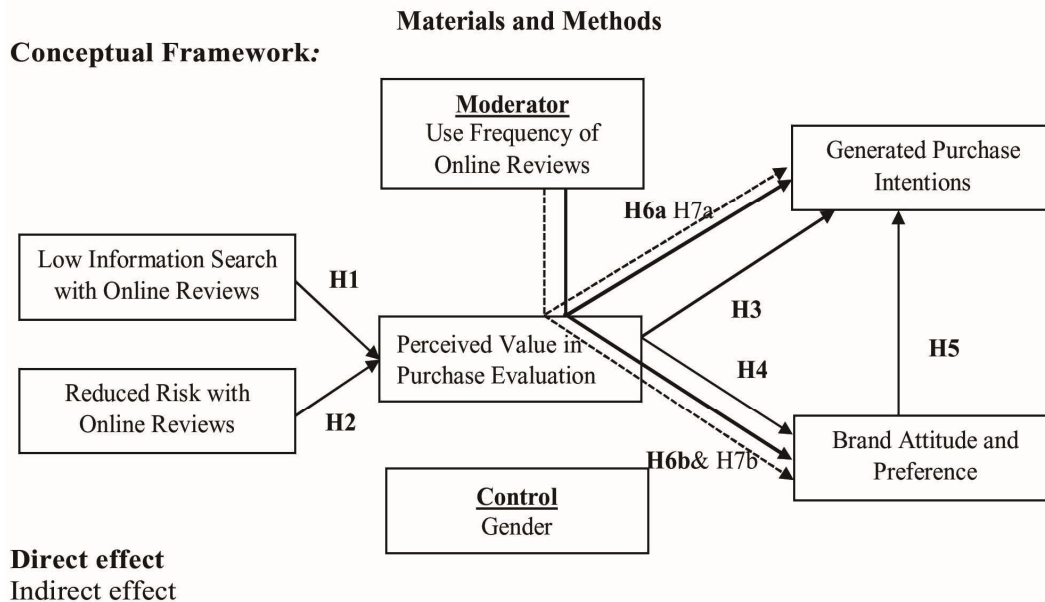


Figure 1 : Conceptual framework of the study

Hypothesis Development

- H1: Low information search by means of online reviews increases value perception of consumer.
- H2: Risk reduction assurance from online reviews increases value perception of consumer.
- H3: High-perceived value of from online reviews has positive effect on brand attitude formation.
- H4: High-perceived value of from online review ratings has positive effect on purchase intentions.
- H5: Brand attitude formed from online reviews positively directs consumer purchase intentions.
- H6: High frequency of online review use directly moderates the impacts of perceived value of online reviews (a) on brand attitude formation & preference and (b) purchase intentions.
- H7: High frequency of online review use indirectly moderates the impacts of perceived value of online reviews (a) on brand attitude formation & preference and (b) purchase intentions.

Measures and Sample

Both primary and secondary data have been collected. Secondary data have been collected from journals, magazine, books, and reports, etc. Primary data were collected through an online survey. The survey questionnaire included respondents' demographic profile, such as gender, age, online reviews use frequency, etc. and 18 variables indicating the relationship of online reviews with brand attitude formation and purchase intentions. The indicator of all the variables is measured by

Likert scale 1–5 where '1' indicates “strongly disagree” and '5' indicates “strongly agree”. In this study, a convenience sampling method was used (Eze *et al.*, 2011). The sample of the study was students of public universities from different online social groups, since they constitute a major segment of online consumer market in Bangladesh (IDLC Monthly Business Review; August 2018). A total of 116 respondents filled out the online survey. Structural equation modeling (SEM) was used to analyze the data because it can demonstrate multiple direct and indirect relationships between independent and dependent variables at the same time (Hair *et al.*, 2010). Malhotra and Dash (2011) recommended that SEM models with five or fewer constructs, each with three measure variables should be estimated with the sample size of at least 100.

Confirmatory Factor Analysis (CFA)

CFA is a special form of factor analysis used to test whether measures of a construct are consistent with a researcher's understanding of the nature of that constructs or factors (Kline R. B., 2010). As such, the objective of confirmatory factor analysis is to test whether the data fit in hypothesized measurement model. In Figure 2, the measurement model in CFA shows the estimation of each item with standardized regression weights and covariance among factors. The results of various fit indices (Shown in Table 1) of CFA model confirmed that all the indices i.e., Adjusted goodness of fit (AGFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) attained their cutoff points. Hence, it can be inferred that the data fit a hypothesized measurement model. However, for evaluating the measurement model, convergent reliability and the discriminant validity are crucial (Hair *et al.*, 2016).

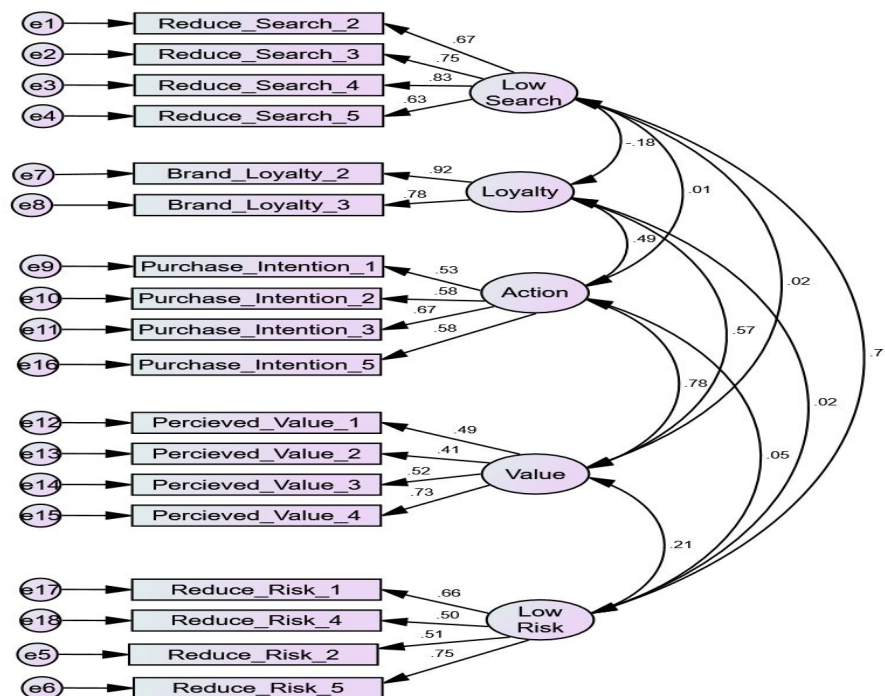


Figure 2. CFA estimation with Standardized Regression Weights (→) and Covariance (↔) among factors with residual error on the left of items (e1, e2, ...e18)

Fit Indices	χ^2 *	P Value	AGFI	CFI	RMSEA
Obtained Value	146.155	.095	.838	.960	.038
Threshold Value **		> .05	> .80	> .90	≤ .08

Chi - Square* $H_0 =$ *The data fit in hypothesized measurement model.*

** Source: Cornell Statistical Consulting Unit, Cornell Johnson University.

Convergent validity

According to Fornell and Larcker (1981), the measurement model will be considered as reliable, with $100 < \text{sample size} < 120$, if each factor loading of the CFA constructs, composite reliability (CR), and average variance extracted (AVE) values are greater than 0.5, 0.7, and 0.5, respectively. Table 2 demonstrates that most of the items achieved cut off points. So, we may reasonably conclude construct validity and reliability of these items. Six items from these five factors were excluded from the study either due to low communalities or cross loading in factor analysis.

Table 2. Convergent validity of items

Constructs Items	Loadings	AVE	CR	Empirical Support
Reduce Information Search ($\alpha = 0.802$)		0.523	0.813	<i>Zhang et al. (2014)</i>
ReduceSearch_2	.807			
ReduceSearch_3	.764			
ReduceSearch_4	.683			
ReduceSearch_5	.624			
Reduce Risk with the Purchase ($\alpha = 0.707$)		0.383	0.710	<i>Cheung et al. (2012)</i>
ReduceRisk_1	.692			
ReduceRisk_2	.676			
ReduceRisk_4	.579			
ReduceRisk_5	.512			
Perceived Value of Online Reviews ($\alpha = 0.618$)		0.303	0.622	<i>Zhu, L et al. (2014)</i>
PerceivedValue_1	.750			
PerceivedValue_2	.496			
PerceivedValue_3	.481			
PerceivedValue_4	.414			
Purchase Intentions ($\alpha = 0.679$)		0.352	0.684	<i>Woodside, (2014)</i>
PurchaseIntentions_1	.654			
PurchaseIntentions_2	.596			
PurchaseIntentions_3	.594			
PurchaseIntentions_5	.523			
Brand Attitude and Preference ($\alpha = 0.831$)		0.712	0.832	<i>Worthington et al. (1997)</i>
BrandLoyalty_2	.857			
BrandLoyalty_3	.830			

$\alpha =$ Cornbach's Alpha, AVE =Average Variance Extracted, CR = Composite Reliability

Table 3. Discriminant Validity of Items

KMO and Bartlett's Test	Threshold Value	Sample Size (n)
Kaiser-Meyer-Olkin Measure of Sampling Adequacy. .747*	.700	100 < n < 120

* *Bartlett's Test of Sphericity is Significant. (P value .000)*

Factors	Factor Correlation Matrix					Mean	St dev.
	Low inf. Search	Brand Preference	Purchase Intentions	Perceived Value	Reduced Risk		
Low information Search	.723*					3.713	0.684
Brand Preference	-.121	.844*				3.356	0.704
Purchase Intentions	-.046	.359	.593*			3.280	0.976
Perceived Value	.010	.459	.396	.550*		3.754	0.593
Reduced Risk	.472	.158	.082	.266	.619*	3.220	0.718

Extraction Method: *Maximum Likelihood*. Rotation Method: *Promax with Kaiser Normalization*.

Notes: *Diagonal italic figures are the square root of AVE.

Square root of AVE of a factor is higher than all inter construct correlation (Shown in Table 3). Therefore, the results were acceptable (Farrell, A. M, 2010). Moreover, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy has achieved threshold value against the sample size. From mean and standard deviations of the items, it can be inferred that perceived value of online reviews carried highest average significance with least variations among the respondents. This indicates the respondent believe in consensus that the perceived value of online reviews can't be underestimated. However, there were greater variations among the respondents regarding their view that perceived value of online reviews lead to purchase intentions of reviewed product.

Results and Discussion

Demographic profile of the respondents

The majority of the respondents (Table 4) were male (70.70 percent) and were aged between 18 and 25 years (91.38 percent). On the other hand, a majority of respondents is undergraduate students (95.69 percent). Besides, a combined 85.40% of the respondents are habituated in using online reviews and they value these in their purchase decisions.

Table 4. Demographic Profile of the respondents

Demographics		Male	Female	Total
Age Groups (in years)	18-25	76	30	106 (91.38%)
	26-30	5	5	10 (8.62%)
Total		81 (70.70%)	35 (29.3%)	116 (100.0%)
Education	High School	3	2	5 (4.3%)
	Bachelor Degree	79	32	111 (95.69%)
Total		82 (70.74%)	34 (29.26%)	116 (100.0%)
Frequency of Using Online Reviews	Never	10	0	10 (8.60%)
	Seldom	7	0	7 (6.00%)
	Sometimes	21	15	36 (31.00%)
	Often	21	5	26 (22.40%)
	Always	23	14	37 (31.90%)
Total		82	34	116 (100.0%)
Internet Use (in a Week)	Less than 5 hrs (Irregular user)	17	4	21 (18.1%)
	5 hrs – 10 hrs (Moderate user)	20	13	33 (28.40%)
	10 hrs – 20 hrs (Above Avg. user)	20	14	34 (29.30%)
	More than 20 hrs (Heavy User)	25	3	28 (24.10%)
Total		82	34	116 (100.0%)

Tests of hypothesis**Without moderating effect**

The hypothesized relationship between the constructs can be tested by the structural model. Table 5 shows that Perceived Value has a positive direct effect on Brand Preference and Purchase Intentions. The estimated paths are statistically significant at 0.001 level ($\beta = 0.390$, $p = 0.000 < 0.001$) and ($\beta = 0.408$, $p = 0.000 < 0.001$), respectively. Furthermore, brand preference has also a positive direct effect on purchase intention which is statistically significant at 0.05 level ($\beta = 0.173$, $p = 0.048 < 0.05$). Therefore, these findings support our hypothesis H3, H4, and H5. Moreover, with no moderating effect, the covariance between low information search and reduce risk through online reviews is significant indicating that respondents consider online reviews that facilitates low information search should be coupled with reduction in risk of purchases generated from such reviews.

Table 5. Path estimates of Structural Equation Model (SEM) with No Moderating Effect

Path	β Estimate	S. E.	C. R.	P Value	Hypothesis	Result
Perceived Value <--- Reduce Search	-.079	.114	-.727	.467	H1	Not Supported
Perceived Value <--- Reduce Risk	.139	.131	1.279	.201	H2	Not Supported
Brand Preference <--- Perceived Value	.390	.117	4.537	***	H3	Supported
Purchase Intentions <--- Perceived Value	.408	.086	4.646	***	H4	Supported

Table 5. Cont'd.

Covariance			β Estimate	S.E.	C.R.	P Value	Comment
Purchase Intentions	<---	Brand Preference	.173	.063	1.974	.048**	H5 Supported
Reduce Search	<-->	Reduce Risk	.212	.042	4.988	***	Significant
e2	<-->	Reduce Risk	.036	.042	.840	.401	Not Significant

*** $P < .001$, ** $P < .05$, S.E = Standard Error, C.R = Critical Ratio, β = Regression Coefficient, e2 = Standard Error of Brand Preference

With Moderating Effect

Direct effect

Table 6 illustrates that when use frequency of online reviews moderates the impact of value perception of online review on (a) brand attitude formation and (b) purchase intentions, the effects are also statistically significant at 0.001 level, where ($\beta = 0.521$, $P = .000 < 0.001$) and ($\beta = 0.400$, $P = .000 < 0.001$), respectively. Hence, these findings support both of our hypothesis H6a and H6b, that High frequency of online review use directly moderates the value perceptions of online reviews and its impact on (a) brand attitude formation and preference, and (b) Purchase Intentions.

Table 6. Path Estimates of Structural Equation Model (SEM) with direct moderating effect

Standardized Regression Path	B Estimate	S.E.	C.R.	P Value	Hypothesis Result
Perceived Value <--- Use Review	.149	.143	1.038	.299	Not Supported
Brand Preference <--- Perceived Value	.521	.116	4.490	***	Supported
Brand Preference <--- Gender	.235	.181	1.298	.194	Not Supported
Brand Preference <--- Use Review	.204	.176	1.156	.247	Not Supported
Purchase Intentions <--- Perceived Value	.400	.086	4.637	***	Supported
Purchase Intentions <--- Brand Preference	.126	.064	1.982	.047**	Supported
Purchase Intentions <--- Gender	-.056	.125	-.446	.655	Not Supported
Purchase Intentions <--- Use Review	.034	.122	.280	.780	Not Supported

*** $P < .001$, ** $P < .05$, S.E = Standard Error, C.R = Critical Ratio, β = Regression Coefficient

Indirect effect

However, the indirect effects (Table 7) are estimated as the combination of direct effect with moderator and without moderator (Lowry, P. B., & Gaskin, J., 2014). From the decision criterion used, we can reject both of our hypothesis, H7a and H7b, that High frequency of online review use indirectly moderates the value perception of online reviews and its impact on (a) brand attitude formation and preference, and (b) purchase intentions.

Relationship			Moderator	Direct with moderator	Direct without moderator	Indirect relationship
Brand Preference	<---	Perceived Value	Use Frequency of Online Reviews	.521 (***)	.390 (***)	No Moderating effect
Purchase Intentions	<---	Perceived Value		.400 (***)	.408 (***)	No Moderating effect
***Significant ($P < .001$), NS = No Significant						
Decision Criteria						
Relationship			Moderator	Direct with Moderator	Direct without Moderator	Indirect Relationship
Y	<---	X	A	Significant	Significant	No Moderating effect
				Significant	Not Significant	Full Moderating effect
Z	<---	X		Not Significant	Significant	Partial Moderating effect
				Not Significant	Not Significant	Inconclusive

Conclusions and Implications

The study attempted to measure whether the perceived value of online reviews gathered from low information search and reduced risk in purchase decisions generate purchase intentions and form positive brand attitude and preferences among university students in Bangladesh. We also observed whether use frequency of such online reviews moderates (directly and indirectly) the impact of value perception of online reviews on brand preference and purchase intentions. According to the results shown in the preceding section, perceived value from low information search and reduced risk in purchase has impact on generating purchase intentions and positive brand attitude formations. Thus, we may infer that Brand that promotes information search and purchase risk reducing online reviews can expect positive brand attitude and purchase intentions of its consumer, given such consumers are exposed to such reviews. This finding is consistent with the finding of Chakraborty & Bhat (2018). He found that there is a positive relationship online reviews and positive brand attitude. Case-wise, we investigated the findings with the moderating effect of frequent users of online reviews. Likewise, the results of perceived value from low information search and reduced risk in purchase have impact on generating purchase

intentions and positive brand attitude formations that have also sustained with the direct moderating effect of online reviews use frequency. However, in indirect effect, we observed no moderating effect of high frequency of using online reviews in forming positive brand attitude and purchase intentions through perceived value generated from low information search and reduced risk in consumer purchase. The results of this research are presumed to guide brand managers and marketers to develop customer-driven marketing strategies for youngsters in Bangladesh. In addition, Brand managers will know how to create an emotional bonding with the company and their services through online reviews.

Limitations and future research directions

The study was conducted on a few samples (116 respondents) of undergraduate students of universities in Bangladesh. The results of the study may vary when conducting this study with a large sample. On the other hand, other dimensions of online reviews are not considered in this study. Thus, future research should consider other dimensions, such as Credibility, Ratings, and Source alongside the framework under this study to conduct an empirical research on them.

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