Influence of Perceived Usefulness and Credibility on South African Generation Y Students' Perceived Value of Online Consumer Reviews

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Online consumer reviews, which are consumer-generated online product or service reviews, are known to be a particularly important source of consumption-related information amongst individuals classified as Generation Y (individuals born between 1986 and 2005). Despite this, there is a lack of published academic studies that focus on the extent to which they perceive such reviews as being valuable and the factors that influence that perceived value, particularly in the South African context. Therefore, this study sought to determine Generation Y university students' perceived value of online consumer reviews and the influence of the salient factors of perceived usefulness and credibility on that perceived value. A descriptive research design was followed whereby data were gathered from a cross-sectional convenience sample of 538 students enrolled at three public South African universities using a self-administered questionnaire. The collected data were analysed using exploratory principle component analysis, collinearity diagnostics, reliability and construct validity measures, and structural equation modelling. The findings of the study suggest that Generation Y students perceive online consumer reviews as valuable, and that perceived usefulness and credibility have a statistically significant positive influence on that perceived value. Specifically, in the South African context, Generation Y students perceive online consumer reviews as valuable and their perceived usefulness and credibility of such reviews are positive predictors of that perceived value. Given their propensity to consult online consumer reviews prior to making a purchasing decision, it is essential that marketers targeting the Generation Y sector integrate online

consumer reviews into their marketing communication strategies. Moreover, they need to ensure that those reviews are authentic to maintain credibility and implement tactics to ensure that the reviews contain the type of content that will positively influence the decision-making process.

Introduction

Online consumer reviews are a manifestation of word-of-mouth communication in the digital age (Filieri *et al*., 2018). As with traditional word-of-mouth communication, online consumer reviews represent individuals' consumption-related experiences, whether positive or negative, which they voluntarily share with others; that is, they are a review of a product or service made by an individual who has purchased and used, or had experience with the product or service (Singh *et al*., 2017). Unlike traditional word-of-mouth communication, online consumer reviews have longevity beyond a single conversation as they can be archived, and are accessible to anyone with an Internet connection, be it via a laptop, tablet or smartphone, and, hence, are not bound by time or geographical location (Cheung & Lee, 2012).

Early examples of online consumer review sites in the 1990s include rateitall.com, deja.com and Epinions.com (Haggerty, 2017; Notess, 2000), with Amazon.com being the first online retailer to collect and publish product reviews on its site in 1996 (Mellet *et al*., 2014). From these early beginnings, online consumer reviews and review sites have grown exponentially (Filieri *et al*., 2018) and now encompass an ever-growing range of industries, products and services (Wan *et al*., 2018). Examples include platform-specific review sites such as general reviews on Google, Facebook and YouTube, industry-specific review sites such as travel reviews on Trip Advisor, retail store-specific sites such as product reviews on Amazon.com and mobile application reviews on Google Play Store, product category-specific review sites such as beauty product reviews on MakeupAlley.com and service category-specific review sites such as medical practitioner reviews on RateMDs.com.

These online consumer reviews may be in the form of text, images, videos or a combination thereof (Berthon *et al*., 2012), with the more typical text-based reviews generally taking the format of open-ended evaluations of a product, service or organisation, together with a numerical star rating that usually ranges from one to five stars (Mudambi & Schuff, 2010).

The plenitude of online consumer-generated reviews available for a diverse range of products, services and organisations, coupled with the accessibility of these reviews, has contributed to their significant and growing popularity (Cheung *et al.*, 2012), and accounts for them fast becoming the most important source of consumption-related information for many consumers in the contemporary marketing environment (Racherla & Friske, 2012). This is particularly true amongst the youth currently classified as being members of Generation Y (individuals born between 1986 and 2005) (Markert, 2004).

In comparison to previous generations, Generation Y individuals are more likely to conduct online research from multiple sources before committing to a purchase (KPMG, 2015), and are known to have an especially favourable predisposition towards online consumer reviews (Hall, 2018; Kats, 2018; Smith & Anderson, 2016), valuing the consumption-related opinions of their online peers with first-hand experience with products and services more than those of brand endorsers and spokespersons (Barton *et al.*, 2012). Generation Y understand the power that digital technologies give them as consumers and regularly share their consumption-related experiences across digital platforms, thereby relying on each other to make informed purchase decisions (Gailewicz, 2014; Verma, Stoffova & Zoltan 2018).

Even though Generation Y are known to be avid users of and contributors to online consumer reviews (Hall, 2018; Kats, 2018; Smith & Anderson, 2016), the literature on their perceptions of the value of these reviews and the factors that influence their perceived value of such reviews is limited, particularly in the South African market context. In an effort to overcome this gap in the literature, the aim of this study was to determine the influence of perceived usefulness and credibility of online consumer reviews on South African Generation Y university students' perceived value of such reviews. University students were selected as the study's target population because they fall within the age parameters of Generation Y and because a graduate qualification often equates to both a higher future earning capacity and a higher social standing – factors that render graduates as being more likely to serve as opinion leaders amongst their peers (Bevan-Dye, 2012).

Review of the Literature

The perceived value of consumption-related information, whether it be from commercial or non-commercial sources, refers to a consumer's experience of processing that information and its overall worth to the consumer (Ducoffe, 1996). This value relates to the consumer's consideration of the overall benefits (for example, risk reduction and improved consumption-related decision making) and costs (for example, information overload and questionable reviews) of consulting online consumer reviews prior to making a purchase decision (Lee &

Ma, 2012). In a sense then, perceived value resonates with the attitudinal dimension in that it measures individuals' overall favourable or unfavourable predisposition towards that online consumer reviews (Ryan, 2018; Mumuni *et al*., 2019). According to the literature, the perceived credibility (Mumuni *et al*., 2019; Ayeh *et al*., 2013) and perceived usefulness of online consumer reviews (Park & Lee, 2009) are particularly salient antecedents of consumers' perceived worth of such reviews.

In the discipline of marketing, word-of-mouth communication has long been acknowledged as one of, if not the most persuasive, forms of consumption-related communication (Assael, 1987), and this persuasiveness quality is rooted in the inherent credibility associated with word-of-mouth communication (Kucukemiroglu & Kara, 2015; Dichter, 1966). Following a qualitative study, Dichter (1966) concluded that this inherent credibility is the product of two interrelated perceptions on behalf of the recipients of word-of-mouth communication. First, that the provider of the consumption-related advice is perceived to have knowledge of and experience with the product category and, secondly, that the provider of this advice is perceived to be sharing the information out of a true concern for the needs of the recipient rather than for any financial gain. As an electronic form of word-of-mouth communication, online consumer reviews should also incorporate this inherent quality of credibility. However, the malicious practice of fake reviews has mitigated the perceived authenticity of online consumer reviews (Munzel, 2015; Wang & Yang 2018).

The very value and growing use of online consumer reviews has acted as a powerful incentive in encouraging the illegal marketing practice of opinion spamming, either in the form of fake positive reviews to promote one's own product/service/organisation or fake negative reviews targeting one's competitors' reputations (Zhang *et al*., 2016). In addition to these illegal marketing practices, there is also the legal but unethical practice of only publishing positive reviews. While negative reviews have an unfavourable valence and negatively impact on purchase intentions and sales (Beneke *et al*., 2016), the exclusion of any negative reviews render even authentic positive reviews less credible (Kim *et al*., 2018; O'Neil, 2015). These marketing practices should be avoided at all costs and filters should be put in place in an attempt to root out any fake reviews given that the credibility of online consumer reviews has a significant influence on consumers' attitudes and perceived value of such reviews (Mumuni *et al*., 2019; Ayeh *et al*., 2013).

The perceived usefulness of online consumer product reviews refers to the extent to which such reviews reduce risk and facilitate the consumption-related decision-making process (Mudambi & Schuff, 2010). That is, it is consumers' subjective judgement of the extent to which such reviews help them make a better purchasing decision (Park & Lee, 2008).

Important elements of a useful review include its currency and completeness (Rose, 2017; Cheung *et al*., 2012). Ensuring a steady stream of current reviews necessitates that marketers constantly encourage customers to provide reviews (Rose, 2017). In order to ensure that these reviews provide sufficient information and the right type of information to be useful, Cheung *et al*. (2012) suggest using a review template that has separate sections where reviews can provide specific usage experience. There should also be a pros section and a cons section encouraging reviewers to highlight not only their positive experience with the product or service under review but also to mention any negative experiences or views. This will also contribute to the perceived credibility of the review.

Research Methodology

The study, which used a single cross-sectional sampling approach, followed a descriptive research design.

Sampling method and data collection

For the study, the target population was specified as Generation Y university students between the ages of 18 and 24 years who were registered at South African public HEIs. The sampling frame was limited to those HEI campuses located in South Africa's Gauteng province and judgement sampling was applied to select three HEI campuses as the sampling units from which to draw the sampling elements - one from a traditional university, one from a university of technology and one from a comprehensive university. This restriction ensured that the sample included participants from each of South Africa's three main types of public HEIs. Fieldworkers then distributed 600 questionnaires across these three campuses (200 per campus) to a convenience sample of students using the mall-intercept survey method.

Research instrument

The required data were collected using a self-administered questionnaire that comprised a cover letter explaining the purpose of the study and providing a guarantee of the confidentiality of the sample participants, a section for recording demographic data and a section containing scales for measuring the perceived usefulness, credibility and value of online consumer reviews.

The scale measuring the perceived usefulness of online consumer reviews was the scale published by Park and Lee (2009), which they adapted from the Davis *et al*. (1989) study on users' acceptance of computer technology. This scale included four items, namely online

consumer reviews are 'useful to me', 'make purchasing decisions easier', 'make me a smarter shopper' and 'are very beneficial to me'. The scale measuring the perceived credibility of online consumer reviews was an adapted version of the scale developed by Ohanian (1990) to measure the trustworthiness of celebrity endorsers. This scale comprised five items, namely online consumer reviews are 'dependable', 'honest', 'reliable', sincere' and 'trustworthy'. The perceived value of online consumer reviews was measured using an adapted version of the scale developed by Ducoffe (1996) to measure the perceived value of Web advertising. This scale had three items, namely online consumer reviews are 'useful', 'valuable' and 'important'.

With reference to the psychometric properties of these three scales, Park and Lee (2009) report Cronbach alpha values of 0.81 for their Korean sample and 0.89 for their American sample, Ohanian (1990) reports alpha values of between 0.895 and 0.896 for the two samples that she surveyed in her study and Ducoffe (1996) reports an alpha value of 0.84 on his advertising value scale.

The responses to these 12 scaled items were recorded on a six-point Likert-type scale that ranged from strongly disagree (1) to strongly agree (6).

Ethical considerations

Before the questionnaires were distributed, a copy of the questionnaire was submitted to the Social and Technological Sciences Research Ethics Committee of the Faculty of Economic Sciences and Information Technology, North-West University (Vaal Triangle Campus). Ethical clearance was granted. In addition, all responses are reported in aggregate and participation in the study was voluntary.

Data analysis

Versions 25 of IBM's Statistical Package for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) were used to analyse the captured data. Data analysis included percentages, principle component analysis using varimax rotation, collinearity diagnostics, confirmatory factor analysis using the maximum likelihood method, internal-consistency and composite reliability analysis, construct validity analysis, path analysis, descriptive statistics and an independent samples t-test.

The factorability of the data set was measured using Bartlett's test of sphericity and the Kaise-Meyer-Olkin (KMO) measure of sampling adequacy, where a statistically significant

Bartlett's test of sphericity and a KMO above 0.60 indicate that a data set is suitable for factor analysis (Pallant, 2010). Reliability was assessed using Cronbach's alpha (*a*) and composite reliability (CR), where values of 0.70 and above are indicative of acceptable reliability (Malhotra, 2010).

Nomological validity was assessed by constructing a matrix of Pearson's Product-Moment correlation coefficients, where significant associations in the correct direction between pairs of latent factors planned for inclusion in a model suggest nomological validity.

Convergent validity is established when those latent factor loading estimates and average variance extracted (AVE) values are 0.50 or higher, whilst discriminant validity requires that the square root of the AVE values exceeds the correlation estimates between the relevant latent factors (Hair *et al*., 2010).

An assessment of multi-collinearity was done by computing the tolerance values and the variance inflation factors (VIF), where tolerance values less than 0.10 and an average VIF above 10 are warning signs of multi-collinearity (Pallant, 2010).

The model fit indices computed included the goodness-of-fit index (GFI), the incremental-fit index (IFI), the Tucker-Lewis index (TLI), the standardised root mean square residual (SRMR) and the root mean square error of approximation (RMSEA), where GFI, IFI and TLI values above 0.90, together with SRMR and RMSEA values below 0.08 are indicative of acceptable model fit (Malhotra, 2010). The level of statistical significance was set at $p \leq 0.01$.

Results and Discussion

From the 600 questionnaires that were distributed, there was a 90 percent response rate, with 538 usable questionnaires being returned from participants that fell within the age parameters specified in the target population definition. Table 1 below provides a description of the sample participants in terms of gender, age, type of HEI and province of origin.

Table 1: Sample description

Gender	Percent (%)	Age	Percent (%)	Institution	Percent (%)	Province	Percent (%)
Female	46.7	18	28.4	Traditional University	33.6	Gauteng	53.5
Male	52.0	19	30.7	University of	31.6	Limpopo	17.1

				Technology			
Missing	1.3	20	16.0	Comprehensive University	34.8	North West	3.0
		21	12.5			Free State	4.3
		22	6.5			Eastern Cape	3.7
		23	3.9			Mpumalanga	9.3
		24	2.0			Kwazulu-Natal	6.9
						Northern Cape	0.2
						Western Cape	1.3
						Missing	0.7

The percentages provided in Table 1 indicate the sample included more male (52%) that female (46.7%) participants. The sample consisted of participants from each of the seven age categories specified in the target population definition, as well as participants from each of South Africa's nine provinces. The largest percentage of participants in the sample fell into the 18- to 19-year-old category (59%) and originated from the Gauteng province (54%). The distribution of participants from South Africa's three types of public HEIs was relatively even, with 34.8 percent from a comprehensive university, 33.6 percent from a traditional university and 31.6 percent from a university of technology.

The first statistical procedure conducted was that of exploratory principle component analysis using varimax rotation. The purpose of this was to check for any items that cross-loaded. A significant Bartlett's test of sphericity (chi square = 2996.631, 66 dfs, $p \leq 0.01$) and KMO value of 0.90 indicated the sampling adequacy and factorability of the data. In Table 2 below, the rotated factors and communalities for each of the extracted factors are provided.

Table 2: Rotated factors

Items	Factors				Communaliti
	1	2	3		
1		.750		.656	
2		.806		.705	
3		.820		.717	
4		.788		.740	

5	.521			.383
6	.822			.698
7	.812			.722
8	.758			.634
9	.819			.735
10			.772	.707
11			.779	.741
12			.742	.662

Principle component analysis resulted in three factors being extracted. These three factors are in accordance with the literature and explain 67.50 percent of the total variance. All factor loadings are above 0.50, which, with a sample size of 538, renders them both statistically (Stevens, 2002) and practically significant (Hair *et al*., 2010). All communality values are above 0.30, with most being above 0.60, which indicates that a sufficient amount of each of the item's variance is accounted for by the factor solution (Pallant, 2010).

Following the principle component analysis, a correlation matrix was constructed to assess the nomological validity of the latent factors proposed for inclusion in the model. This was followed by the computation of the collinearity diagnostics to assess whether there were any multi-collinearity issues. Table 3 below presents the Product-Moment correlation coefficients computed between the three latent factors of perceived usefulness, credibility and value of online consumer reviews, together with the collinearity statistics.

Table 3: Correlation matrix and collinearity statistics

	Correlation coefficients		Collinearity statistics	
Latent factors	**Perceived usefulness**	**Perceived credibility**	**Tolerance**	**VIF**
Perceived usefulness			0.656	1.524
Perceived credibility	0.430*		0.699	1.432
Perceived value	0.565*	0.525*	0.583	1.715
* Significant at p ≤ 0.01				

As shown in Table 3, there are statistically significant ($p \leq 0.01$) positive relationships between each of the pairs of latent factors proposed for inclusion in the model, thereby providing evidence of the nomological validity of this model. With tolerance values ranging

from 0.583 to 0.699 and an average VIF of 1.557, there are also no multi-collinearity concerns.

Once nomological validity had been established, together with ensuring no real multi-collinearity issues, confirmatory factor analysis was undertaken whereby a three-factor measurement model was specified comprising perceived usefulness (four indicators), perceived credibility (five indicators) and perceived value (three indicators) of online consumer reviews.

The first loading on each of these three latent factors was fixed at 1.0 (Byrne, 2010), resulting in 78 distinct sample moments and 27 distinct parameters to be estimated, which equates to 51 degrees of freedom (df) based on an over-identified model and a chi-square value of 107.784, with a probability level equal to 0.000.

The reliability and construct validity of the model were assessed by computing the standardised factor loading estimates, the Cronbach alphas, the CR and AVE values, , and comparing the correlation coefficients with the relevant square root values of the AVE (√AVE). Table 4 below reports on the estimates for the measurement model.

Table 4: Estimates for measurement model

Latent factors	Standardised loading	Error variance	a	CR	AVE	√AVE
Perceived usefulness (F1)	.754	.568	.856	.857	.50	.71
	.750	.562				
	.756	.572				
	.835	.697				
Perceived value (F2)	.750	.563	.788	.793	.50	.71
	.791	.626				
	.704	.495				
Perceived credibility (F3)	.528	.276	.847	.853	.50	.71
	.746	.557				
	.814	.663				
	.729	.531				

		.828		.685					
Correlations	F1↔F2:		F1↔F3: .492			F2↔F3:			

The results reported in Table 4 indicate that both internal-consistency and composite reliability are evident given that the Cronbach alpha and CR values for each of the latent factors exceed 0.70. For construct validity, convergent validity is evident, with the CR values above 0.70, standardised loading estimates above 0.50 and AVE values equal to or greater than 0.50. There is also evidence of discriminant validity in that the squared root values of the AVE values exceed their relevant correlation coefficients.

The model fit indices returned by AMOS indicate good model fit, with a GFI of 0.968, an IFI of 0.981, a TLI of 0.975, a SRMR of 0.037 and a RMSEA of 0.046. This suggests that Generation Y students' perceived value of online consumer reviews is a three-factor model that exhibits internal-consistency reliability, composite reliability, numerological, convergent and discriminant validity, and good model fit.

Based on this measurement model, a structural model was developed whereby it was theorised that perceived usefulness and perceived credibility are significant positive predictors of Generation Y students' perceived value of online consumer reviews.

The un-standardised and standardised regression coefficients, standard error estimates and p-values estimated by AMOS for the structural model are presented in Table 5 below.

Table 5: Structural model estimates

Paths	Un-standardised β	β	SE	*p*
Perceived usefulness → Perceived value	.38	.49	.043	0.00
Perceived credibility → Perceived value	.46	.39	.068	0.00
β: beta coefficient; SE: standardised error; *p*: two-tailed statistical significance				

The structural model estimates outlined in Table 5 show that all regression paths tested were positive and statistically significant (p ≤ 0.01). Perceived usefulness (β = 0.49, p < 0.01) and perceived credibility (β = 0.39, p < 0.01) are significant positive predictors of Generation Y students' perceived value of online consumer reviews and, according to the computed squared multiple correlation coefficient (SMC) explain 57 percent of the variance in Generation Y students' perceived value of online consumer product reviews. The structural

model with the standardised regression estimates and the SMC are illustrated in Figure 1 below.

Figure 1. Structural model
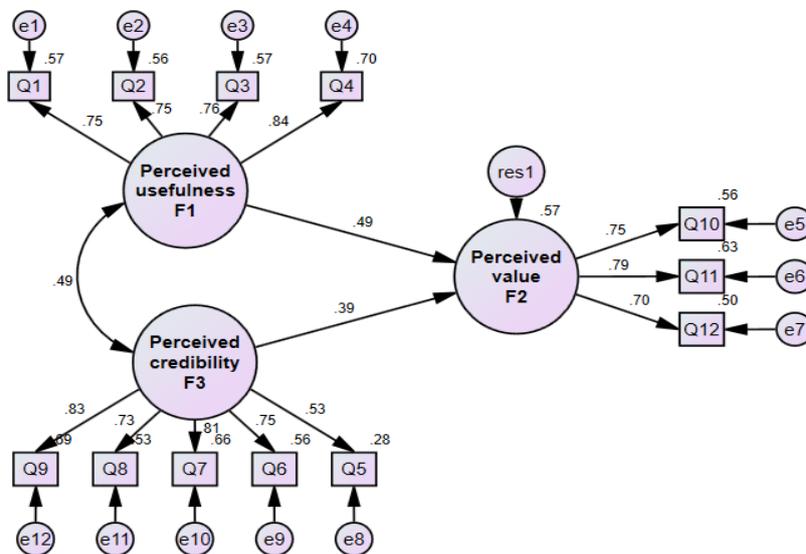
In terms of the model fit indices, the structural model returned good fit indices with a GFI of 0.968, an IFI of 0.981, a TLI of 0.975, a SRMR of 0.0371 and a RMSEA of 0.046.

Descriptive statistics were then computed in order to determine the extent to which Generation Y students perceive online consumer reviews as being useful, credible and valuable. The means and standard deviations are presented in Table 6 below.

Table 6: Descriptive statistics

Latent factors	Means	Standard deviations
Perceived usefulness	4.25	1.06
Perceived credibility	3.60	0.96
Perceived value	4.47	0.89

The results reported in Table 6 show means above 3.5 on each of the three latent factors, which, given the six-point scale used to measure responses, suggests that Generation Y students view online reviews as valuable (mean = 4.47), useful (mean = 4.25) and, to a slightly lesser extent, credible (mean = 3.60). The fact that there was less agreement concerning the credibility of such reviews should be of great concern to marketers who have incorporated online consumer reviews into their marketing communication strategies, given that the perception of the authenticity of online consumer reviews is an essential aspect of their perceived value.

Conclusion

According to the findings of this study, Generation Y students in the South African market perceive online consumer reviews as being valuable, useful and credible. Furthermore, the perceived usefulness and credibility of online consumer reviews were found to have a positive statistically significant ($p \leq 0.01$) influence on the perceived value they attached to such reviews.

Given this generation's known tendency to consult online consumer reviews prior to engaging in purchase behaviour together with the value they perceive these reviews to hold, marketers are advised to incorporate online consumer reviews into the marketing communication strategy when targeting the current Youth market. This entails encouraging customers to provide online reviews following their purchase, either on the organisation's web site or on a well-known third-party product category web site. In order to ensure that the reviews are perceived as being useful, and therefore of value, it is advisable to provide a set template that requests specific usage experience information. Generation Y students' perceived value of these online consumer reviews is also dependent on the extent to which they view the review site as credible. Maintaining a credible review site necessitates only posting authentic reviews and providing a filtering mechanism to ensure that the site does not become infiltrated by organisation-generated reviews or any other type of fake reviews. Moreover, it requires that negative reviews are also clearly evident on the site. Using these online consumer review sites strategically, whether it be the organisation's own web site or a third-party site necessitates having a dedicated person(s) with strong communication skills to monitor reviews and respond accordingly, be it to thank someone for a positive review or to address any issues in a negative review.

Marketing academics and practitioners interpreting the findings of this study are advised to note certain methodological limitations in the study. These limitations include the use of convenience sampling, which hampers the extent to which the results can be generalised to the target population. There is also the issue of the data being collected using a cross-

sectional approach, which means that the perceptions captured in the findings are heavily dependent on the mood of the sample participants at a specific point in time.

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