Attitudes towards Online Shopping: Application of the Theory of Planned Behaviour

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Abstract: A wide-range of products are available for consumers to shop online conveniently, anytime from anywhere in the world. While e-commerce has shown exponential growth over the past decade, there is evidence in literature that suggests consumer resistance and reluctance in engaging in online shopping, mainly for privacy and security reasons. Using the theory of planned behaviour (TPB), this paper aims to investigate consumer attitudes towards online shopping in an emerging economy, South Africa. This study followed a descriptive and quantitative research method. Primary data was collected from a sample of 215 consumers in Gauteng, South Africa. Correlation analysis and structural equation modelling (SEM) were used to analyse the data. The results of the study indicate that trustworthiness, privacy and security concerns determine consumer attitude toward online shopping, which, in turn, influences online shopping behaviour. Beliefs about self-efficacy in conducting online transactions influenced consumers' perceived behavioural control, which ultimately influenced the online shopping behaviour of consumers. Furthermore, the study found that normative beliefs are the immediate antecedent of subjective norms, which, in turn, influence online shopping behaviour. Marketing practitioners need to address the issues of real and perceived privacy issues and the security concerns of current and potential online shoppers if they are to fully benefit from the spoils of the internet.

Keywords: online shopping; consumer attitudes; theory of planned behaviour; South Africa

JEL Classification: G21

1. Introduction

The internet is creating a unique opportunity in making a wide range of products available for consumers to shop online conveniently, anytime from anywhere in the world. It is changing the way businesses conduct their business, and consumers are afforded a wide variety of choices, and can purchase any product form anywhere in the world at competitive prices from the comfort of their homes. According to Statista (2018), e-commerce's revenue worldwide amounted to 3.3 trillion US dollars in 2018, and the revenues are projected to grow to 5.4 trillion US dollars in 2022.

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The e-commerce phenomenon is also showing a similar trend in South Africa. South Africa is a member of BRICS (major emerging national economies that include Brazil, Russia, India, China and South Africa). Mitchley (2018) reports that e-commerce is exploding in South Africa, and it is estimated to amount to approximately R10bn (approximately $769m) during 2017, and this massive growth is driven by "high mobile phone penetration, rising consumer confidence in online transactions, and the expansion of brick and mortar retailers into the online sphere by adopting a multi-channel approach". Top online shopping sites available for South African consumers include Yuppie Chef, Zando, H&M, ASOS, Woolworths, Amazon, Makro, MRP and Exclusive Books (Finder, 2018). Other popular online sites include Zana, Superbalist, Hello Pretty, Fortune, Mys Scattered Hear and Retail Box (Shesaid, 2018). Various products are offered online, such as groceries, fashion, kitchen cookware, furniture, home decor, books and jewellery.

Over the past decades, research on consumers' use of information technology (IT) has generated numerous competing models that explain user attitudes, perceptions and beliefs and eventual use of such a technology (Venkatesh Morris, Davis & Davis, 2003; Meade & Islam, 2006). The most widely used models include the diffusion of innovations (Rogers, 1995), the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the theory of planned behaviour (Ajzen & Madden, 1986), the decomposed version of the theory of planned behaviour (Taylor & Todd, 1995), the technology acceptance model (Davis, Bagozzi & Warshaw, 1989) and the extended version of technology acceptance model (Venkatesh & Davis, 2000). The theory of reasoned action and theory of planned behaviour are regarded as the crucial steps in the history of attitude theories (Armitage & Conner, 2001). This paper, therefore, aims to investigate consumer attitudes towards online shopping in an emerging market, South Africa, using the theory of planned behaviour. Therefore, in the next section, a review of theoretical and practical application of the theory of planned behaviour is pursued.

2. Theoretical Framework and Hypothesis Formulation

The TRA is the precursor to the TPB. It was developed in 1980 by Ajzen and Fishbein to predict an individual's intention to engage in certain behaviour (actual behaviour) at a specific time and place. The models attempt to predict consumer behaviour through normative and informational variables as the antecedents of behavioural intention of consumers (Parkinson, Russell-Bennett & Previte, 2017). According to the (TRA), the intention to perform a certain task is a function of two constructs, viz. attitude and subjective norms. The TPB, as an extension of the theory of reasoned action, incorporates a third construct, namely perceived behavioural control, as an antecedent of consumer intentions to perform a certain

task and actual consumer behaviour (Ajzen, 1985; 1991). A brief description of the constructs of the TPB is presented in the following section.

Attitudes

Within this conceptual framework (i.e. TPB), the first construct, attitude, refers to the degree to which an individual person has a favourable or unfavourable evaluation of the behaviour of interest (Azjen & Fishein, 1980). The evaluation could result to a negative or positive outcome. It can also be described as the subjective evaluation of behaviour (Eagly & Chaiken, 1993). Therefore, it entails a consideration of the outcomes of performing the actual behaviour. Within the TPB, a person's attitude towards certain behaviour is determined by two variables, namely behavioural beliefs and evaluation of an outcome, and the attitude construct is an immediate antecedent that predicts an individual's intention to engage in certain behaviours (Ajzen, 1985).

Subjective Norms

The second construct in the TPB, subjective norms, can be described as the belief about whether most people accept or reject of a certain behaviour (Azjen & Fishein, 1980). Subjective norms relate to an individual`s beliefs about whether other important people such as family and friends approve or disapprove one's behaviour. Subjective norms are determined by the person's perception of normative norms, and the motivation to comply with certain behaviour. Subjective norms act as an immediate antecedent to an individual's intention to engage in certain behaviour (Ajzen, 1991).

Perceived Behavioural Control

The third construct in TPB, perceived behavioural control, can be described as an individual`s perception of the level of difficulty in performing or conducting the required behaviour of interest (Ajzen, 1991). The perception of ease or difficulty with which the individual can perform the task is crucial in determining the actual behaviour of the consumer. Perceived behaviour control is a similar concept to Bandura's concept of perceived self-efficacy (Bandura, 1997). Typically, it varies in different circumstances, which results in the individual having fluctuating perceptions of behavioural control depending on the circumstance. Perceived behaviour control itself is determined by control beliefs and perceived power. Perceived behavioural control is a direct antecedent of an individual's intentions and actual behaviours.

Behavioural Intention

According to Ajzen (1985), behavioural intention are motivational factors that influence an individual's behaviour. The theory postulates that the stronger the intention of doing a certain task, the more likely the task will be performed. The

intention to perform a certain task is the immediate antecedent of the actual consumer behaviour (Ajzen, 1991).

Empirical Research Studies that Applied the TPB

The TPB has been widely used in information systems-related studies (Tylor & Todd, 1995; George, 2004, Gangwal & Bansal, 2016). The TPB has been used in different contexts such as understanding consumer behaviour with regards to the environment and energy conservation (Macovei, 2015). Records of empirical research studies show attitude, subjective norms and perceived behavioural control as the immediate antecedents of customer intention in adopting information technology relation products.

Applying the decomposed the TPB, Gangwal and Bansal (2016) found attitude, subjective norms and perceived behavioural control to be the immediate antecedents of intention to adopt mobile commerce in India. In addition, Gangwal and Bansal (2016) also confirmed the influence of trust, perceived usefulness, perceived ease of use and perceived ease of use on consumer attitude, the influence of normative beliefs on subjective norms, and the influences of self-efficacy on perceived behavioural control.

George (2004) conducted a study to empirically test the constructs of the TPB on internet purchasing in the United States, and found attitude and perceived behavioural control to be predictors of internet purchasing; subjective norm was not found to have a significant influence on internet purchasing. Furthermore, George (2004) confirmed the influence of normative structure on subjective norms. The influence of internet trustworthiness on attitudes was confirmed; however, the unauthorised use of beliefs was not found to be an antecedent of attitudes towards internet purchasing. The influence of self-efficacy on perceived behavioural control was confirmed as hypothesised.

In line with the TPB, and the empirical research cited in the preceding paragraphs, especially that of George (2004), the following alternative hypotheses are postulated:

H1: Normative beliefs positively influence subjective norms of consumers in online shopping;

H2: Subjective norms positively influence online shopping behaviour of consumers.

H3: Internet trustworthiness positively influences consumer attitudes towards online shopping;

H4: Privacy and security concerns of transacting online negatively influence consumer attitudes towards online shopping;

H5: Attitudes positively influence online shopping behaviour of consumers;

H6: Self-efficacy positively influences perceived behavioural control of consumers in online shopping;

H7: Perceived behavioural control positively influences online shopping behaviour of consumers.

As indicated earlier, the unauthorised use of belief did not play a significant role in influencing consumer attitudes with regards to internet purchasing in George's (2004) study. Therefore, the present study uses an easily understood term, "privacy and security concerns" as hypothesised, to negatively influence consumer attitude towards online shopping (H4). Due to the nature of the study being cross-sectional (data collected at one point in time), the intentions component of the TPB is not incorporated in the study.

The following section describes the research methodology followed in the study.

3. Research Methodology

This study followed a descriptive and quantitative research method.

Sampling, Data Collection and Research Instrument

Probability sampling was not possible due to the absence of a sampling frame. Instead, the researcher opted for a non-probability technique, namely snowball and convenience sampling. A structured self-administered questionnaire was utilised to collect the data. The data was collected in February and March of 2018 in Gauteng, the economic hub of South Africa, through survey monkey, from a diverse group of online shoppers. Using this technique, 215 responses were obtained, sufficiently large to conduct a study of this nature (Blanche et al., 2006, p. 139; Malhotra, 2010, p. 377).

As elucidated earlier, this study employed the TPB to investigate consumer attitudes towards online shopping. Therefore, the study followed the conceptual framework of Azjen's (1985, 1991) theory as applied Taylor and Todd (1995) (George, 2004) within an Internet purchasing context. The questionnaire included scaled items captured in a six-point Likert scale as well as background and biographic information. The scaled part of the questionnaire included eight latent variables adapted from the TPB, four items for internet trustworthiness, four items for privacy and security, four items for attitudes towards online purchases, three items for normative structure, two items for subjective norms, four items for self-efficacy, three items for perceived behavioural control and three items for online purchasing.

Data Analysis

The statistical analysis utilised in this study include descriptive statistics, correlation analysis and confirmatory factor analysis through structural equation modelling

(SEM). The statistical program IBM SPSS with AMOS, version 25 for Microsoft Windows was used to analyse the data.

4. Results and Discussion

4.1. Descriptive Analysis

Information regarding age, gender and products purchased through online shopping is reported in Table 1. Table 1 also reports on the mean and standard deviation of the constructs of the study. The data was captured in a six-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree, and therefore the results, as shown Table 1, indicate normal distribution. As is evident from Table 1, most of the respondents indicated that they shop online for fashion, branded products and overseas products (products not available in local markets). A significant number of the respondents indicated that they shop online for local products and athletic products.

Table 1. Sample description and descriptive statistics

Age	%	Products	%	Constructs	Mean	Standard deviations
18-24	23	Fashions	93.00	O. Purchase	4.10	1.30
25-34	41	Oversea products	85.00	Trustworthiness	3.90	1.35
35-44	25	Branded products	80.00	Privacy & Security	2.75	1.49
Above 45	11	Athletic products	65.00	Attitude	4.10	1.26
Gender		Local products	65.00	S. Norm	4.20	1.10
Male	53	Books	45.00	N. Structure	4.32	1.23
Female	47	Other	37.00	Self-efficacy	4.53	1.56
		Grocery	20.00	P.B. Control	4.45	1.60

4.2. Correlations, Reliability and Validity Analysis

The Cronbach's alphas (α) were calculated to assess the internal-consistency reliability of each construct used in the study. The Cronbach's alpha is widely considered the most commonly used index of reliability when scaled items are involved (Nunnally, 1978; Beckstead, 2013). The results in Table 2 show that the Cronbach alpha coefficients for all the constructs were above 0.70, indicating acceptable internal-consistency reliability of the scales used (Hair, Black, Babin & Anderson, 2010).

An average inter-item correlation for all the constructs fell between 0.15 and 0.50, suggesting a convergent and discriminant validity of the scale (Clark & Watson, 1995). All the standardised loading estimates for all the items of the constructs were well above the 0.5 level, supporting convergent validity (Clark & Watson, 1995; Hail et al., 2010). In addition, composite reliability (CR) and average variance extracted (AVE) were computed to assess the validity of the model. The CR and AVE exceeded the threshold of 0.70 and 0.50, respectively highlighting, the existence of

convergent validity. The AVE is shown on a diagonal line, highlighted in bold font in Table 2. It is also evident, as illustrated in Table 2, that there were statistically significant ($p \leq 0.05$) linear associations between each pair of the TPB constructs, pointing towards nomological validity (Malhotra, 2010). None of the correlation coefficients were higher than 0.90, thus there were no obvious multicollinearity problems (Hair *et al*., 2010). Before proceeding with the structural equation modelling, additional collinearity diagnostics were also computed. Each of the constructs of the TPB returned tolerance values above the 0.10 threshold level, and the variance inflation factor (VIF) below the cut-off of 10, providing further support of the non-existence of multicollinearity between the constructs (Pallant, 2013).

Table 2. Correlations coefficient, Cronbach's alpha, CR and AVE (on diagonal)

Constructs		**α**	**CR**	**MIIC**	**F1**	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	**F8**
O. Purchase	(F1)	0.95	0.91	0.45	***0.95***							
Trustworthiness	(F2)	0.85	0.84	0.41	0.66	***0.801***						
Privacy & Security	(F3)	0.79	0.77	0.40	-0.63	-0.59	***0.850***					
Attitude	(F4)	0.91	0.84	0.44	0.75	0.73	-0.69	***0.812***				
S. Norm	(F5)	0.75	0.76	0.34	0.72	0.65	-0.54	0.68	***0.780***			
N. Structure	(F6)	0.78	0.79	0.32	0.65	0.55	-0.65	0.68	0.70	***0.765***		
Self-efficacy	(F7)	0.83	0.79	0.25	0.45	0.48	-0.65	0.48	0.55	0.45	***0.754***	
P.B. Control	(F8)	0.75	0.73	0.23	0.63	0.61	-0.62	0.56	0.67	0.70	0.67	***0.465***
Note: **α** = Cronbach`s alpha; **CR** = Composite Reliability; **MIIC** = Mean inter-item correlation												

Having ascertained the absence of multicollinearity issues, the study then progressed to further investigate the linear associations detected through the correlations analysis and to test the hypothesised research model through SEM. Before conducting a confirmatory factory analysis through SEM, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity were computed as additional measures to check the suitability of the dataset for factor analysis. The KMO was 0.812, and Bartlett's test of sphericity was significant (p<.05), indicating the appropriateness of the dataset for factor analysis (Pallant, 2013).

4.3. Measurement Model and Model Fit Assessment

SEM is "a second-generation multivariate analysis technique that is used to determine the extent to which a priori theoretical model is supported by the sample data" (Raykov & Marcoulides, 2000; Schumacker & Lomax, 2010). In this current study, the researcher aims, using the TPB, to investigate consumer attitudes towards

online shopping in South Africa. Therefore, as a collection of statistical techniques, it allowed the researcher to investigate the empirical relationships among directly observed variables, and the underlying theoretical construct (Raykov & Marcoulides, 2000). In accordance with the recommendations of Malhotra (2010) and Hair *et al*. (2010), the measurement model was specified and identified, and the measured indicator items were assigned to latent constructs of the TPB. Thereafter, a confirmatory factor analysis (CFA) was conducted. The CFA model for the for the TPB comprised eight (8) latent and manifest variables, namely: normative structure (three-item scale), subjective norm (two-item scale), internet trustworthiness (four-item scale), privacy and security (four-item scale), and attitude towards internet online purchasing (four-item scale), self-efficacy (four-item scale), perceived behavioural control (three-item scale) and online purchases (three-item scale). As indicated earlier, all items scored factor loadings above the minimum acceptable threshold of 0.50, and therefore no items were deleted.

The indices used to assess the goodness-of-fit of the structural model included goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), incremental fit index (IFI), Tucker Lewis index (TLI) and comparative fit index (CFI). It is often argued that index values closer to one (1) are said to represent a perfect fit, and index values closer to zero (0) to represent no fit (Malhotra, 2010; Hair et al., 2010). For a good model fit, the root mean square error of approximation (RMSEA) should be less than or equal to 0.05 and for an adequate fit, RMSEA should be below 0.08 (Blunch, 2008). Two competing models were considered in the study (Model 1 and Model 2). As illustrated in Table 3, the fit indices for model 2, namely GFI, AGFI, NFI, TLI, CFI and IFC exceeded the threshold for an acceptable structural model (Hair et al., 2010; Malhotra, 2010). The RMSEA (0.048) also fell well within the range and represents a good model fit. As is evident, the results in Table 3 show that, overall, structural model 2 portrayed a very good fit for the dataset as indicated by the chi-square value (λ^2/df), the goodness-of-fit indices and RMSEA. The results of this paper provide additional support for the robustness of the theory of planned behaviour in explaining consumer attitude with regard to online shopping.

Table 3. Structural model fit assessment

Model fit indices		Model 1	Model 2	Acceptable value
Absolute fit indices	λ^2/df)	4.652	2.576	< 3.00
	GFI	0.892	0.941	> 0.90
	AGFI	0.888	0.923	> 0.80
	RMSEA	0.083	0.048	< 0.08
Incremental	NFI	0.890	0.924	> 0.90
Fit indices	TLI	0.923	0.959	> 0.90
	CFI	0.924	0.971	> 0.90
	IFI	0.910	0.943	> 0.90

Source: Hair et al. (2010); Malhotra (2010)

4.4. The TPB and Online Shopping

Figure 1 shows the path coefficients and the square multiple correlation (SMC) between various relationships of the TPB. As is evident from Figure 1 and Table 4, H_1 postulated as 'Normative beliefs positively influence subjective norms of consumers in online shopping' is confirmed (path coefficient = 0.650, t = 4.350). Normative beliefs explained approximately 45 percent (SMC = 0.450) of the variance in consumers' subjective norm. In turn, consumers' subjective norms were found to have a significant positive influence on the actual online purchasing behaviour of consumers (path coefficient = 0.301, t = 3.025), confirming H_2. The strong relationship between normative structure and subjective norms and the impact of subjective norms on actual behaviour of consumers is a well-established phenomenon and is central to the TPB (Azjen, 1985, 1991; Song & Zahedi, 2001).

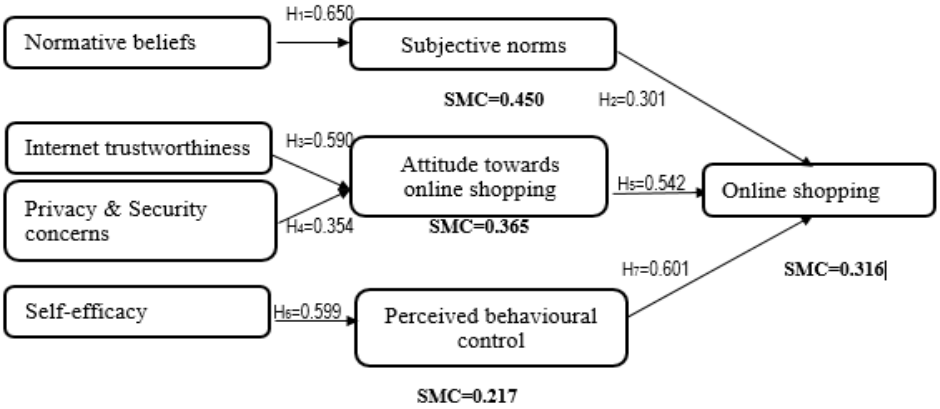

Figure 1. Proposed model (structural model 2)

The results of the study further show that internet trustworthiness beliefs have a significant positive impact on attitudes towards online purchasing (path coefficient = 0.590, t = 6.572), confirming H_3. Privacy and security concern had a significant negative impact on attitudes towards online purchasing (path coefficient = -0.354, t = -4.561), confirming H_4. The SMC = 0.365 signifies that approximately 37 percent of the variance on consumer attitudes towards online shopping is explained by internet trustworthiness, and privacy and security concerns of consumers when transacting online. In turn, attitudes towards online purchasing have a significant positive impact on the actual online purchasing behaviour of consumers (path coefficient = 0.542, t = 6.587), confirming H_5. Therefore, the sampled consumers think that internet trustworthiness and concerns about privacy and security issues do have a significant influence in shaping their attitudes towards online purchasing and their attitudes towards online purchasing, in turn, have a significant positive impact on their actual online purchasing behaviour in line with the assertions of the TPB (Azjen, 1985; 1991). The influence of trust in shaping consumer attitudes is well-

documented in previous empirical studies (George, 2002; 2004; Suh & Hun, 2003), as is the influence of privacy concerns on consumer attitudes. The finding that attitude influences actual consumer behaviour is similarly a well-established phenomenon (Armitage & Conner, 2001). Furthermore, the results of this study demonstrate that H_6, postulated as 'Self-efficacy positively influences perceived behavioural control of consumers in online shopping' is confirmed (path coefficient = 0.599, t = 5.400). Lastly, H_7, posited as 'Perceived behavioural control positively influences online shopping behaviour of consumers' is confirmed (path coefficient = 0.601, t = 5.850). The result also indicates approximately 22 (SMC = 0.217) percent of the variance on perceived behavioural control is explained by perceptions of self-efficacy. Other studies within various contexts have reported the positive influence of self-efficacy on perceived behavioural control, and the positive influence of perceived behavioural control on actual behaviour of consumers (Battacherejee, 2000; Armitage & Conner, 2001). Lastly, as indicated in Figure 1, the SMC = 0.316 can be interpreted as the three variables, namely attitude towards online shopping, subjective norms and perceived behavioural control collectively explaining 32 percent of the variance on actual online shopping behaviour of consumers within the South African context. The finding of the present study gives further confirmation of the efficacy of the TPB.

Table 4. T-statistics and standardised path coefficients: Hypothesis testing

Path	Path coeff.	S.E.	*t*-value	Results of hypothesis
H_1 : Normative structure to subjective norm	0.650	0.085	4.350	Supported
H_2: Subjective norm to online purchasing	0.301	0.067	3.025	Supported
H_3: Internet trustworthiness to attitude	0.590	0.069	6.752	Supported
H_4: Privacy and security to attitude	-0.354	0.062	-4.561	Supported
H_5: Attitude to online purchasing	0.542	0.530	6.587	Supported
H_6: Self-efficacy to perceived behavioural control	0.599	0.810	5.400	Supported
H_7: Perceived behavioural control to online purchasing	0.601	0.79	5.850	Supported
Note: Statistical significance at $p<0.05$				

5. Conclusion and Recommendations

As alluded to earlier, the study utilised the TPB in explaining consumer attitudes towards online shopping in an emerging economy, South Africa. In a nutshell, the results of the study are in line with the TPB and confirm the robustness of the theory within an e-commerce context. The results of the study indicate that trustworthiness, privacy and security concerns determine consumer attitude towards online shopping, which, in turn, influences online shopping behaviour. Beliefs about self-efficacy in conducting online transitions influenced consumers' perceived behavioural control, which ultimately influenced the online shopping behaviour of consumers. Furthermore, the study found that normative beliefs are the immediate antecedent of

subjective norms, which, in turn, influence online shopping behaviour. Lastly, the study confirms that attitudes towards online shopping, subjective norms and perceived behavioural control collectively are important and immediate antecedents of the actual shopping behaviour of consumers in an online environment. Marketing practitioners are, therefore, recommended to address the issues of real and perceived privacy issues and security concerns of current and potential online shoppers if they are to fully benefit from the spoils of the internet. The study utilised self-administered questionnaires to collect data, which represents a self-report bias limitation. Future studies may consider testing data on online shopping using other theories that explain consumer perception, attitude and behaviour in order to deepen our understanding of the online/internet shopping phenomenon.

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