

Article history: Received 24 November 2019; accepted 1 April 2020  
DOI: <https://doi.org/10.33182/tmj.v8i1.887>

## Factors Influencing Green Purchase Behaviour among Young Consumers in Saudi Arabia

Abdulalem Mohammed<sup>‡</sup>  
Abdo Homaid<sup>§</sup>  
Wail Alaswadi\*

### Abstract

For environmental and business reasons, understanding the consumer behaviour of the young towards green products is very important. Therefore, the main purpose of this study is to investigate the factors influencing green product buying intention and behaviour among young consumers in Saudi Arabia. The study has developed a set of hypotheses utilising the theory of planned behaviour (TPB) as a guiding principle. They were tested based on data collected from 257 individuals through the use of the Partial Least Square (PLS) method. The findings showed that a culture of collectivism was the best way to predict the green purchasing intentions of young Saudis, followed by a willingness to pay, environmental self-identity and peer pressure. Additionally, purchasing intention is a major factor influencing actual green purchasing behaviour.

**Keywords:** environmental self-identity; peer pressure; collectivism culture; green products; purchase intention; purchase behaviour.

### Introduction

Parallel to globalization and the acceleration of the global population, the number of products available to consumers has substantially increased. Environmental issues and their negative impacts on humans have increased the awareness of sustainable development, which favours the kind of products and their consumption, to reduce those negative impacts on the environment (Chuvieco et al., 2018). The decline in the natural environment has raised people's concern, resulting in 'green consumerism' to protect the environment (Moisander, 2007). This concern for the environment has led to consumers demanding environmentally friendly products; their awareness of the issues has changed their consumption behaviours in favour of selecting greener products and having a preference for eco-conscious organizations (Jang, Kim, & Bonn, 2011;

---

<sup>‡</sup> Abdulalem Mohammed, College of Science and Humanities, Shaqra University, Shaqra, Kingdom of Saudi Arabia. E-mail: [alem@su.edu.sa](mailto:alem@su.edu.sa).

<sup>§</sup> Abdo Homaid, College of Science and Humanities, Shaqra University, Shaqra, Kingdom of Saudi Arabia. E-mail: [a3hd2000@yahoo.com](mailto:a3hd2000@yahoo.com)

\* Wail Alaswadi, College of Business Administration - Affif, Shaqra University, Shaqra, Kingdom of Saudi Arabia. E-mail: [wail\\_alaswadi@su.edu.sa](mailto:wail_alaswadi@su.edu.sa)



Kim, Njite, & Hancer, 2013). Green consumption is a broader category of ethical consumption (Carrington, Neville, & Whitwell, 2010).

The issue of green consumerism has rapidly increased in developed countries, and recently the idea has begun to take hold in developing economies (Raghavan & Vahanti, 2009). For example, some research has recognized green product purchasing behaviour in developing countries in Asia (Jaiswal & Kant, 2018). However, there is limited knowledge of the factors which affect consumers' green purchasing behaviour (Joshi & Rahman, 2017). Thus, understanding the consumer perspective of green product purchasing intention is vital for marketers (Chan & Lau, 2002) since it assists in formulating a suitable strategy to develop green product markets. In addition, Sreen, Purbey, and Sadarangani (2018) remarked that future research needs to investigate how some factors impact environmental self-identity, personal values and consumer values besides the culture of customers' intentions towards green purchasing. This may offer a clearer picture to practitioners for strategy implementation.

In comparison with the West, Arab world consumers are only in the first stages of green consumption, and there is little understanding in this part of the world regarding the green purchasing behaviour of young consumers (Mostafa, 2007). Most research in relation to green consumerism has been carried out in developed nations, and there has been a significant lack of research into the subject in Saudi Arabia where the level of consumer awareness about green products is low; Saudis are unaware of the green initiatives used by companies, meaning that greater effort is required from organizations (Rehman, 2017).

Indeed, the green purchasing behaviour of the younger generation is crucial since they represent the future consumer. Several studies emphasize the importance of young consumers in green purchase (do Paço et al., 2013; Pham et al., 2019) as they are pivotal in affecting changes in favour of green consumption (Joshi & Srivastava, 2019). In addition, young consumers have flexible attitudes and are able to understand the importance of green purchasing. As well as recognizing the social and ecological concerns (Kanchanapibul et al., 2014), they seem well educated about environmental issues and sustainability (Furlow & Knott, 2009). Finally, their disposable income is more than in past generations, and they are innovators and workers representative of society's future (Farris, Chong, & Danning, 2002; Hume, 2010). Young consumers, therefore, represent a key segment on which to conduct research.



Specifically, the younger generation are more prepared to accept innovative ideas; they are purposeful in nature; they are culturally, environmentally, and socially conscious; they require individual experience and demand a rationale because they display greater scepticism than past generations (Hume, 2010; Sheahan & Sheahan, 2005; Sullivan & Heitmeyer, 2008). Therefore, through understanding the green buying behaviours of the young consumer, and which factors affect them, organizations can develop sustainable marketing strategies which target these consumer groups (Kanchanapibul et al., 2014). Opoku (2012) saw a crucial need for more research into the factors that influence purchasing behaviour of young people in Saudi Arabia, because they make up a large proportion of the population of the kingdom.

Behaviour theorists in consumer buying (e.g. Armstrong, 2005; Moorhead & Griffin, 1995) have long argued that there are four factors which influence consumers' behaviour: psychological factors (beliefs and attitudes, learning, perception, and motivation); personal factors (e.g. personality and self-concept, economic situation, occupation, lifestyle, age and life cycle stage); social factors (namely, family, reference groups, and roles and status); and cultural factors (including social class, culture, subculture). Thus, this study contributes significantly to the marketing literature by identifying what drives young Saudi consumers' intentions and behaviours in purchasing green products. It specifically aims to investigate the influence on young consumers in Saudi Arabia of Purchase Behaviour (PB), Purchase Intention (PI), Collectivism Culture (COC), Willingness to Pay (WTP), Peer Pressure (PP), and Environmental Self-Identity (ESI) on the PI of green products. It also examines the effects of PI on the PB of green products on consumers in the Saudi Arabian context. The study provides additional information to narrow the research gaps regarding understanding the factors which influence the green purchasing intentions of young consumers in a specific culture (Arab and Saudi Arabian), using TPB as an underpinning theory.

### **Literature review and development of hypotheses**

This research is based on the theory of planned behaviour (TPB), which assumes that subjective norms, perceived behavioural control, and attitude influence individuals' intentions and subsequently their actual behaviour (Ajzen, 1991). This extends the theory of reasoned action (TRA), which states that behavioural intention is determined by only two variables, attitude and subjective norms, in affecting individuals' behaviour. This means that including perceived behavioural control is required because of TRA's inability to deal with behaviours where the individual has incomplete volitional control. Volitional control is the

degree to which behaviours can be performed at will (Blackwell, Miniard, & Engel, 2006). Behavioural intention is said to be best able to predict future behaviours when it is volitional, and the person can develop robust intentions of behaviour (Ajzen, 1991; Karahanna, Straub, & Chervany, 1999). In particular, TPB speculates that individual behavioural intentions are determined by three considerations, namely, attitudes, subjective norms and perceived behavioural control. Perceived behavioural control is seen as the perceived difficulty or ease in executing a specific behaviour; it reflects past experiences and anticipated impediments (Ajzen, 1991). Subjective norms represent the perceptions of social pressure in performing, or not performing, the behaviour (Ajzen, 1991). Attitude towards behaviour is defined as individuals' unfavourable or favourable behavioural assessments (Ajzen, 1991). Behavioural intention is seen as an immediate antecedent of behaviour and refers to the individual's readiness to perform specific behaviours (Ajzen, 1991). In recent years, scholars have also used the TPB model to explore green behaviours. For example, Chen and Tung (2010) found that it is a useful framework for explaining consumers' recycling intentions. Moreover, several studies have employed the TPB model in predicting consumers' behavioural intention and actual behaviour regarding green products (Emekci, 2019) and it is considered as a key model in green purchasing behaviour research (Joshi & Srivastava, 2019). More specifically, Sun and Wang (2019) found that the TPB model is an appropriate theory for investigating consumers' attitudes toward and intentions to purchase green products through social media.

This research attempts validation of the TPB framework by looking at the influences of Environmental Self-Identity (ESI) (a vital part of attitudes towards the environment), Peer Pressure (social norms) and Willingness to Pay (WTP) (a component of perceived behavioural control) on the behavioural intentions of consumers of green products in Saudi Arabia. It also extends TPB through the inclusion of a cultural dimension, Collectivism Culture (COC), as Saudi Arabian culture is collectivist (Al-Habeeb & Qureshi, 2000; Opoku, 2012; Smith, Achoui, & Harb, 2007). Generally, culture is vital in determining green product consumption (Ritter et al., 2015; Tseng & Hung, 2013).

The next section presents the study variables.

### **Environmental self-identity and purchase intention**

Environment self-identity is defined as how much one views oneself as someone acting in an environmentally friendly manner (Van der Werff, Steg, & Keizer, 2013). It also refers to individuals' self-perceptions based on possible engagement in particular eco-friendly behaviours (Mannetti, Pierro, & Livi, 2004). Barbarossa and De Pelsmacker (2016)



and Nguyen, Lobo, and Greenland (2016) agreed that environmental (green) self-identity affects positively purchasing intention and the purchasing of eco-friendly products. A study by Lian and Yoong (2019) concluded that environmental concern has a significant effect on young Malaysian consumers' intention to purchase organic food. Previously, Sparks, Shepherd, and Frewer (1995) discovered that people identifying as 'green consumers' purchased organic food more than those who did not. Based on this, the following hypothesis is proposed:

H<sub>1</sub>: Consumers' environmental self-identity has a positive influence on their purchase intention.

### **Peer pressure and purchase intention**

Brown (1990) states that the term peer group applies to everything from best friend interactions to an individual's ties with the whole age cohort. Peers belonging to the normative reference group influence individuals' attitudes, values, and norms through direct interaction (Bristol & Mangleburg, 2005). Cohan (2009) defined peer pressure as psychological pressure where the person's experience is compared with their actions. Youngsters and teenagers can be vulnerable to peer pressure and tend to develop behaviours and make decisions which comply positively with peer expectations (Gillani, 2012). Consequently, peer influence has a large role in consumer behaviour; for example, teenagers appear to have no problem in purchasing expensive goods when their peers tend to (Grant & Stephen, 2006). Valor et al. (2012) stated that responsible consumption behaviour develops in various timespans of a person's life, beginning in childhood; the individual's environment and social network influence the development of his/her responsible consumption behaviours. Valor and Carrero (2014) argued that social consumption is a social activity and consumers believe that personal projects and responsible consumption are affected by others' beliefs and norms in their interpersonal network. Likewise, Sharaf and Isa (2017) discovered that peer pressure significantly influences the green purchasing intentions of young consumers in Malaysia. However, Jitrawang and Krairit (2019) found that peer pressure does not have a relationship with purchase intention of organic rice in Thailand. They said this might be a reflection of cultural differences in the influence of peer pressure, as most Thai people like to be trend leaders rather than followers. More recent research by Joshi and Srivastava (2019), Bhutto et al. (2019) and Nguyen, Nguyen and Hoang (2019) has found that social influence is a significant predictor of consumers' behavioural intention to purchase green products in India, Malaysia and Vietnam

respectively. On the basis of these arguments, the study proposes the following hypothesis:

H<sub>2</sub>: Peer pressure has an influence on young consumers' purchasing intention toward green products.

### **Willingness to pay and purchasing intention**

Price is an important factor in determining consumers' decision processes. For a young consumer, price is an important attribute on which to base purchasing decisions (Benedetto, Rugani, & Vázquez-Rowe, 2014). Likewise, Suki (2013) states that price is one of the attributes which consumers reflect upon when making green purchasing decisions. However, green products are usually more expensive because of the higher costs accrued in the progression from material to certification (Ling, 2013). High product prices are conceded as barriers to green consumption (Bezawada & Pauwels, 2013; Gleim et al., 2013; Nasir & Karakaya, 2014; Zhu, Sarkis, & Lai, 2013). Ling (2013) reports that willingness to pay is increasingly negatively correlated with the purchasing intentions of a green personal care product. However, Lung (2010) states that over 80% of Korean and Malaysian consumers and almost 95% of Thai consumers showed greater willingness to pay more for a green product, whilst Australian and Hong Kong consumers displayed 60% less willingness to pay more. Cronin et al. (2011) stated that consumers with concerns about environmental issues do not display price sensitivity and consequently accept higher prices. Moreover, some consumers show greater willingness to pay a premium for a green product (Prakash & Pathak, 2017; Shrum, McCarty, & Lowrey, 1995). However, Yadav, and Pathak (2017) concluded that willingness to pay a premium was not found to have a significant influence on green purchase intention in India. Nevertheless, a study by Chaudhary (2018) found that willingness to pay is significantly and positively related to the behavioural intentions of young Indian consumers. Sharaf and Isa (2017) also state that price significantly influences young consumers' decisions in purchasing green products in Malaysia. In regard to these findings, the study proposes the following hypothesis:

H<sub>3</sub> : Willingness to pay has an influence on young people's intentions to purchase a green product.

### **Collectivism culture and purchasing intention**

Culture is a collective programming of the mind, distinguishing a group's members from others (Hofstede, 1984). Culture has an important role in environmental impact and influence upon green product consumption (Ritter et al., 2015; Tseng & Hung, 2013). It is crucial in understanding consumers' behaviours and has been utilized



in research explaining consumers' purchasing behaviours of green products, primarily in developed markets (Sarigöllü, 2009). Studies performed on consumer purchasing intentions include five dimensions of culture: individualism versus collectivism, power distance, masculinity, long-term orientation, and uncertainty avoidance (Hofstede, 2001). Of these five dimensions, collectivism is the most widely accepted in determining green purchase intentions (Cho et al., 2013; Leonidou, Leonidou, & Kvasova, 2010; Sreen et al., 2018). Collectivism can be defined as the will of the consumer to do something which yields environmental advantages (Chen, Chen, & Tung, 2018). Thus, there is an assumption that individuals have a tendency to protect their environment (Corbett, 2005). In collectivist cultures peoples show greater willingness to share rare resources with others in the same society and acquire positive attitudes toward behaviours which helps society to thrive (McCarty & Shrum, 1994). This cannot be said about Saudi Arabian culture although it is recognized as collective (Al-Habeeb & Qureshi, 2000; Opoku, 2012; Smith et al., 2007). Thus, Leonidou et al. (2010) suggest that collectivism has a positive effect on internal environmental attitudes, showing that individuals seek a product that yields an advantage to the environment. Clearly, more sophisticated analysis is needed of the cultural impact on green purchase behaviour (Liobikienė, Mandravickaitė, & Bernatoniene, 2016). Collectivists believe environmental damage from green products should be kept to a minimum (e.g., in manufacturing and materials processes), with a positive evaluation of green products which meets given standards (Laroche, Bergeron, & Barbaro-Forleo, 2001). Additionally, Chan (2001) emphasized that collectivism has a significant positive influence on attitudes towards green purchases. Nguyen et al. (2016) showed that a collectivist society has a strong willingness to purchase a green product. Similarly, Sreen et al. (2018) state that collectivism is related significantly to attitudes toward green products. Thus, the hypothesis is formulated as:

H<sub>4</sub>: Collectivism culture positively influences young consumers' intentions in purchasing a green product.

### **Behavioural intention and purchasing a green product**

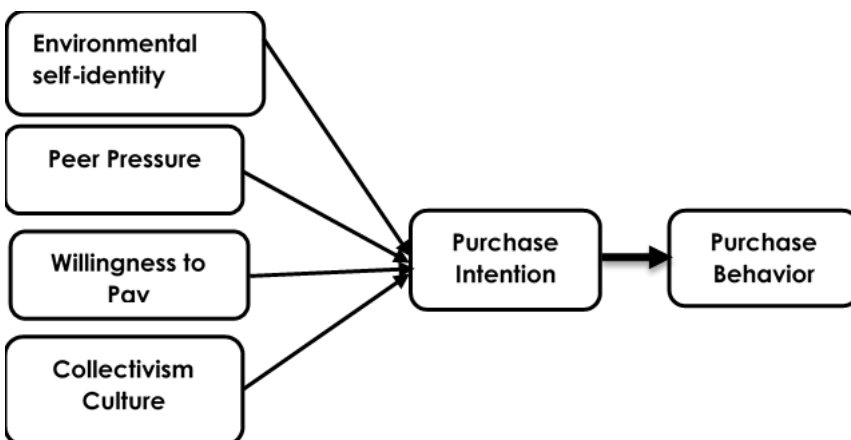
In general, intention indicates the willingness of individuals to perform certain behaviours, since it captures the incentive to prepare them for performing that particular behaviour. The TPB assumes intention as an antecedent of behaviour, especially when these behaviours are voluntarily controlled (Ajzen, 1991). Previous research, such as Chan (2001) and Chan and Yam (1995) proved that purchasing intentions have a significant and positive relationship with purchasing

behaviour. That is, buying-behaviour research for organic foods has shown a significant positive relationship between purchasing behaviour and purchase intention (Saba & Messina, 2003; Thøgersen, 2009). Additionally, scholars such as Kumar, Manrai, and Manrai (2017), Yadav and Pathak (2017), and Jaiswal and Kant (2018) have conducted research on the determinants of consumer behaviour of green products in an Indian context, confirming the relationship. Moreover, it is concluded that the link between behavioural intention of young Malaysian consumers and their actual purchase behaviour is significantly affirmed (Lian & Yoong, 2019). Nguyen et al. (2019) also confirmed that the relationship between behavioural intention and actual behaviour is significantly associated in the Vietnamese context. Thus, the literature reveals that intention can predict behavioural measures in environmental behavioural research. Therefore, this research aims to establish the existence of a fundamental relationship in the Saudi Arabian setting of green purchasing behaviour amongst young consumers, as expressed in the following hypothesis:

H<sub>5</sub>: Behavioural Intention to purchase has a positive influence on young consumer behaviour to purchase a green product.

Based on previous research and the Theory of Planned Behaviour, this paper presents a theoretical structure. As shown in Figure 1, six factors were identified from the literature review, revealing the influence of Environmental Self-Identity, Peer Pressure, Willingness to Pay, and Collectivism Culture on Purchase Intention and Purchase Behaviour.

**Figure 1.** Theoretical Framework





## **Methodology**

### **Data collection and the sample**

To test these hypotheses, a survey was conducted. The questionnaire has two sections; the first section consists of respondents' demographic details (target population) and consists of gender, income, age, and education level. The second part contains items for measuring environmental self-identity, willingness to pay, peer pressure, green purchasing behaviour intention, collectivism culture, and consumer purchasing behaviour, measured on a five-point Likert scale. The English-language questionnaire was translated into Arabic, then back-translation was performed by two professional English-Arabic translators.

The study sample was chosen primarily by using a mall intercept technique which relies on face-to-face contact with respondents and screening them for appropriateness (Green & Krieger, 1991). The candidates were personally contacted and were asked if they would take part in the study. They completed the survey, which was in the form of structured close-ended questions.

There were 370 responses to the survey, and after data screening 257 responses were used, with a valid response rate of 69%. The responses were drawn randomly from consumers in shopping centres in Riyadh, Saudi Arabia. Data collection took place from July -August 2017. Respondents' demographic characteristics are as follows, 75 (29.2%) female and 182 (70.8%) male. Every respondent was an adult, and the largest age groups were 18 (15%); 19-21 (58.8%); and 22-25 (26.2%). The monthly income of 7.6% of respondents was below SR 2000; 52.6% earned SR2000-SR2500 and 39.8% above SR2500. In terms of educational level 3% were less than high school; 15% high school level; 11% diploma; 67% bachelor level and 4% postgraduate level.

### **Measures**

The questionnaires were made using scales from previous studies. Each construct was measured with a 5-point Likert scale, where 5=Strongly Agree and 1=Strongly Disagree. Collectivism culture measures were adapted from Sharma's scale (Sharma, 2010). Environmental self-identity was used by adapting four items from a study by Nguyen et al. (2016). perceived value using five items (Chen & Chang, 2012). Willingness to pay was measured by adapting three items from a study by Jang et al. (2011), also used by Prakash and Pathak (2017). Purchase intention was assessed using three items adapted from Yadav and Pathak (2017). Actual consumer behavioural measurement items were adopted from Zhang et al. (2012).

## **Results**

### **Data analysis**

The current research utilizes the Partial Least Squares (PLS) technique, Smart PLS software version 3.00, for testing the study's theoretical framework. This is considered a variance-based method for analyzing structural equation modeling (SEM). The PLS approach is a powerful and convenient approach in social science studies (Goodhue, Lewis, & Thompson, 2006). In particular, the two-stage data analysis approach, that is the measurement model and structural model, was used, as suggested in previous studies (e.g., Fernandes, 2012; Hair et al., 2016; Henseler, Ringle, & Sinkovics, 2009). The measurement model confirms the validity and reliability of the latent constructs through four tests: indicator reliability, convergent validity, discriminant validity, and internal consistency reliability of the measures. The structural model consists of an evaluation of the R<sup>2</sup> values, model predictive relevance and path coefficient significance level. The study's hypothesized relationships were tested using the bootstrapping algorithm resampling technique.

### **Measurement Model Analysis**

To establish the fitness of the study model, the four key evaluations outlined above are performed to ensure the reliability and validity of the constructs (Fernandes, 2012; Hair et al., 2011). The indicator reliability and internal consistency reliability tests were used to confirm the reliability of the measures while the convergent validity and discriminant validity were employed to affirm their validity.

### **Reliability Analysis**

The indicator reliability of the measures was examined using standardized item loadings. When the standardized item loading values are greater than 0.70, they show that the indicator reliability has been established (Fernandes, 2012; Hair et al., 2016). Table 1 shows that the standardized item loadings exceed the cut-off point of 0.70, denoting construct indicator reliability. Cronbach's alpha and composite reliability (CR) criteria were used for examining the measures' internal consistency reliability (Peterson & Kim, 2013). Table 1 also shows Cronbach's alpha and CR results for all variables which exceed the threshold of 0.70, concluding that internal consistency reliability of the measures is established.

### *Convergent Validity*

Convergent validity of the construct measures was performed using the Average Variance Extracted (AVE) test, a widespread and commonly used indicator (Hair et al., 2016). The AVE values in relation



to each construct should be greater than 0.50 to confirm adequate convergent validity (Hair et al., 2016). The AVE values, as shown in Table 1, were above the suggested 0.50 cut-off, confirming strong convergent validity.

**Table 1.** Reliability and Validity

Construct		Items	Loadings	Cronbach's Alpha	CR <sup>a</sup>	AVE <sup>b</sup>
<b>Collectivism (COC)</b>	<b>Culture</b>	COC1	0.903	0.954	0.963	0.812
		COC2	0.904			
		COC3	0.909			
		COC4	0.896			
		COC5	0.908			
		COC6	0.888			
<b>Environmental Identity (ESI)</b>	<b>Self-</b>	ESI1	0.900	0.940	0.957	0.847
		ESI2	0.933			
		ESI3	0.924			
		ESI4	0.923			
		ESI5	0.923			
<b>Purchase Behaviour (PB)</b>		PB1	0.917	0.909	0.943	0.846
		PB2	0.936			
		PB3	0.907			
		PB4	0.907			
<b>Peer Pressure (PP)</b>		PEP1	0.930	0.939	0.956	0.845
		PEP2	0.935			
		PEP3	0.915			
		PEP4	0.930			
<b>Purchase Intention (PI)</b>		PI1	0.949	0.940	0.962	0.893
		PI2	0.952			
		PI3	0.934			
		PI4	0.934			
<b>Willingness to Pay (WTP)</b>		WTP1	0.921	0.912	0.945	0.851
		WTP2	0.930			
		WTP3	0.915			

*Discriminant validity*

Discriminant validity was examined using cross loadings in addition to the Fornell and Larcker (1981) criterion, based on the recommendations of Hair et al. (2016). The indicator cross loadings should be greater than every other loading on other constructs. The results shown in Table 2 show that all item loadings were higher than the cross loadings, proving discriminant validity. This was also measured through comparisons of the AVE square root values with latent correlations constructed based on the Fornell and Larcker (1981) criterion. The AVE square root values, shown in Table 3, were higher than the latent construct correlations, confirming discriminant validity. Thus, it is concluded that discriminant validity, reliability convergent validity, internal consistency, and indicator reliability, were all verified. This confirms the goodness of the measurement model.

**Table 2.** Factor Analysis and Cross Loadings

Items	COC	ESI	PB	PP	PI	WTP
COC1	<b>0.903</b>	0.726	0.713	0.760	0.655	0.738
COC2	<b>0.904</b>	0.756	0.718	0.781	0.658	0.746
COC3	<b>0.909</b>	0.720	0.719	0.761	0.670	0.740
COC4	<b>0.896</b>	0.711	0.724	0.746	0.661	0.741
COC5	<b>0.908</b>	0.711	0.727	0.770	0.667	0.727
COC6	<b>0.888</b>	0.710	0.726	0.768	0.672	0.725
ESI1	0.730	<b>0.900</b>	0.701	0.782	0.652	0.789
ESI2	0.729	<b>0.933</b>	0.685	0.755	0.679	0.791
ESI3	0.737	<b>0.924</b>	0.715	0.769	0.690	0.776
ESI4	0.755	<b>0.923</b>	0.698	0.776	0.684	0.790
PB1	0.727	0.682	<b>0.917</b>	0.683	0.610	0.682
PB2	0.765	0.733	<b>0.936</b>	0.733	0.668	0.747
PB3	0.714	0.682	<b>0.907</b>	0.668	0.625	0.710
PP1	0.791	0.785	0.740	<b>0.930</b>	0.685	0.792
PP2	0.790	0.788	0.691	<b>0.935</b>	0.700	0.773
PP3	0.745	0.785	0.699	<b>0.915</b>	0.685	0.748
PP4	0.793	0.719	0.648	<b>0.896</b>	<b>0.676</b>	0.737
PI1	0.687	0.693	0.655	0.697	<b>0.949</b>	0.683
PI2	0.688	0.709	0.655	0.722	<b>0.952</b>	0.707
PI3	0.713	0.683	0.648	0.699	<b>0.934</b>	0.717
WTP1	0.772	0.795	0.723	0.782	0.678	<b>0.921</b>
WTP2	0.757	0.785	0.729	0.767	0.715	<b>0.930</b>
WTP3	0.731	0.785	0.694	0.747	0.663	<b>0.915</b>

**Table 3.** Correlation and Discriminant Validity

Variable	COC	ESI	PB	PP	PI	WTP
Collectivism Culture (COC)	0.901					
Environmental Self-Identity (ESI)	0.802	0.920				
Purchase Behaviour (PB)	0.800	0.760	0.920			
Peer Pressure (PP)	0.849	0.837	0.756	0.919		
Purchase Intention (PI)	0.737	0.735	0.690	0.747	0.945	
Willingness to Pay (WTP)	0.817	0.855	0.776	0.830	0.744	0.922

### Structural model analysis

The structural model quality was tested by the  $R^2$  values, the predictive model relevance and the significance level of the path coefficients



(Chin, 2010; Fernandes, 2012; Hair et al., 2011). The  $R^2$  indicator is an important criterion for evaluating structural model quality (Fernandes, 2012), identifying the variance amount in the endogenous latent variables explained by the independent variables (Chin, 2010). The  $R^2$  value and predictive relevance results are displayed in Table 4. The  $R^2$  value of PI was 0.628, which suggests 62.8% variance in the endogenous latent variable; it is explained by the four exogenous variables ESI, PP, WTP and COC. Additionally, the  $R^2$  value of PB was 0.477, which indicates 47.7% variance in the endogenous latent variable; it is explained by the exogenous variable PI. The cut-off point of 0.10 for  $R^2$  as a minimum is acceptable (Falk & Miller, 1992). For Cohen (1988),  $R^2$  values of 0.26, 0.13 and 0.02 for the endogenous variables are substantial, moderate, and weak, respectively. Therefore, the  $R^2$  values of the two endogenous latent variables (PI and PB) were in a substantial range. To verify the study model's predictive relevance, the cross-validated redundancy value must be greater than zero (Fornell & Larcker, 1994; Hair et al., 2011). The results in Table 4 show that the cross-validated redundancy values of GDI is 0.531, which shows an adequate predictive relevance of the study model.

**Table 4.**  $R^2$  and Predictive Quality Indicators

Dependent Variable		Variable Type	R square	Cross-Validated Redundancy	Cross-Validated Communality
Purchase Intention (PI)	Endogenous	0.628	0.528	0.535	
Purchase Behaviour (PB)	Endogenous	0.477	0.382	0.379	

The structural model tested the postulated hypothesized relationships by looking at the study model path coefficient using a bootstrapping resampling technique with 5,000 subsamples (Hair et al., 2016; Henseler et al., 2009). In particular, it focuses on how the independent variables (i.e. ESI, PEP, WTP and COC) affect PI and hence PB of Saudi Arabian consumers of green products. The bootstrapping test results for the study variables include path coefficients, t-values and p-values, as shown in Table 5. Consequently, the effect of ESI on young consumers' intentions to purchase green products was significant ( $\beta = 0.181$ ,  $t = 2.185$ ,  $p < 0.05$ ), confirming H1. Also, PEP significantly influenced young consumers' intentions in purchasing a green product ( $\beta = 0.224$ ,  $t = 2.023$ ,  $p < 0.05$ ), supporting H2. Additional testing of the path coefficient showed that WTP significantly affected young consumers' green product purchasing intention ( $\beta = 0.226$ ,  $t = 2.893$ ,  $p$

<0.01), meaning that H3 is confirmed. A collectivism culture has a significant and positive effect on young consumers' intentions in purchasing green products ( $\beta = 0.217$ ,  $t = 3.125$ ,  $p < 0.01$ ), supporting H4. Lastly, PI is significantly related to PB ( $\beta = 0.690$ ,  $t = 14.542$ ,  $p < 0.001$ ). Therefore, it is concluded that H5 is supported.

**Table 5.** Bootstrapping Results

No.	Hypothesis Path	Path Coefficient $t$	Standard Error	T Value	P Value	Result
H1	ESI -> PI	0.181*	0.083	2.185	0.029	Supported
H2	PP -> PI	0.224*	0.111	2.023	0.044	Supported
H3	WTP -> PI	0.226**	0.078	2.893	0.004	Supported
H4	COC -> PI	0.217**	0.069	3.125	0.002	Supported
H5	PI -> PB	0.690***	0.047	14.542	0.000	Supported

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ ; \* $p < 0.05$

## Discussion and Conclusion

This study is among the first to contribute to the existing body of knowledge by incorporating environmental self-identity, peer pressure, willingness to pay and collectivism culture as antecedents of green purchasing intention and green behavioural intentions among young consumers in an emerging market, based on the TPB framework. The study's objective was achieved by examining the determinants of purchasing behaviour towards green products amongst young consumers in a Saudi Arabian context. It contributes significantly to the green marketing literature by integrating unique variables, to identify the most significant factors influencing purchasing decisions towards green products. The study proves the premise of the TP Band, which by extension provides empirical evidence for the significance of the TPB variables and the additional variables, namely, collective culture in predicting the purchase intention and behaviours decisions towards green products among young Saudi consumers. The findings demonstrate a strong positive influence of ESI on their intention to purchase green products. The findings are consistent with those of several other authors (Barbarossa & De Pelsmacker, 2016; Nguyen et al., 2016; Sparks et al., 1995). The more strongly these individuals see themselves as acting environmentally, the greater their intention towards purchasing green products. This significant role of environmental self-identity in purchasing green products should thus be leveraged by marketers and policymakers. They should focus on the personal benefits which the consumer can derive from purchasing and consuming green products in terms of enhancing their environmental self-identity. Additionally, marketers should design appropriate communication



strategies to create positive perceptions about eco-friendly products in regard to opportunities to contribute to both good health and the environment.

The results confirm that peer pressure strongly affects the behavioural intentions of young Saudi consumers in purchasing green products. This shows that social norms are a vital construct in forming these behavioural intentions. This is in line with previous studies, for example Sharaf and Isa (2017). Additionally, it supports the argument of Gillani (2012) that young consumers' behaviour, as well as their decisions, are influenced by peer pressure expectations. This shows that peer pressure has a major role in the behavioural intentions of young consumers towards green products in Saudi Arabia. Thus, marketers should construct strategies focusing more on social media, especially Snap-shot, Instagram and Twitter, as they are popular among Saudi Arabian youth.

The results also show a significant association between the behavioural intention of young consumers towards green products and willingness to pay. The findings agree with previous studies (e.g. Chaudhary, 2018; Prakash & Pathak, 2017; Shrum et al., 1995). However, other studies, such as Ling (2013), found a negative correlation between the behavioural intention of consumers to buy green personal care products and willingness to pay more. Our results show that young Saudi Arabian consumers show greater willingness to pay more if the green products are available, disagreeing with research showing that price is one of the barriers to green product consumption (Bezawada & Pauwels, 2013; Gleim et al., 2013; Nasir & Karakaya, 2014). The fact that young consumers' are willing to pay more for a green product suggests that they have more knowledge about green products. Thus, marketers can enhance the spread of knowledge amongst consumers regarding the importance of purchasing green products through implementing effective marketing channels which will lead to green consumption patterns.

Researchers such as Cho et al. (2013), Leonidou et al. (2010) and Sreen et al. (2018) have found a significant influence of cultural values (in terms of collectivism) on young consumers' intention to purchase a green product. People in a collectivist society will sacrifice an individual goal for a group goal, attempting to make a decision which society supports. Marketers and governments must focus on instilling collective beliefs on individual groups so that purchasing intention for green products increases. Accepting a green product can help to provide a positive belief regarding it. This can be achieved by consumer awareness regarding societal benefits from these products. Hence an improved understanding of the antecedents of green

purchasing intention provides green marketers and the Saudi Government with useful insight into improving the effectiveness of their promotional and educational campaigns.

Therefore, marketers, policymakers and socio-environmental organizations in Saudi Arabia should promote green products via mass media (e.g. TV, advertisements, radio) and social media (e.g. Facebook, Twitter, Instagram) to attract customers' intention toward green products.

In addition, this study significantly contributes to knowledge by investigating the effects of behavioural intention to purchase, which previous studies have failed to investigate in the Saudi Arabian context. Of the study's hypotheses, the strongest relationship between the variables confirms the TPB framework's robustness in predicting the purchasing behaviour of green product consumers in different cultures, such as Arab culture, and in Saudi Arabia in particular. This result is consistent with previous studies (e.g., Chaudhary, 2018; Prakash & Pathak, 2017; Yadav & Pathak, 2017). This research contributes to the literature by extending TPB through the inclusion of additional constructs, specifically collectivism which is a significant predictor of behavioural intention in purchasing green products amongst young Saudi consumers. Crucially, it concludes that environmental self-identity, peer pressure, and willingness to pay are significant antecedents of behavioural intention to purchase. This opens the door for additional research on purchasing intention and behaviour by employing additional constructs in the TPB framework.

### **Limitations and suggestions for future studies**

Although this study contributes to the green product literature, like any other study it is not without limitations. First, it was conducted in one city using a convenience sample. Consequently, the findings can not be generalized to every Saudi consumer. Additionally, other variables mentioned in the marketing literature which might affect consumer purchasing behaviour, such as price conciseness and social media marketing, were not included in this study. In future research, this study could be replicated using different samples and adding other variables to the research model, which might offer a better understanding of the green purchasing concept. Second, the study's scope was restricted to green products in general. Thus, it is recommended to further investigate this model with specific green products to gain additional insight. Third, this research used a cross-sectional research method to test the hypothesized relationships. Therefore, using a longitudinal approach would be an advantage in validating the results.





## References

- Ajzen, I., (1991). The Theory of Planned Behaviour . *Organizational Behaviour and Human Decision Processes*, 50(2), 179-211.
- Al-Habeeb, T. A. & Qureshi, N. A. (2000). Smoking Among Male Psychiatric Outpatients in Saudi Arabia. *Annals of Saudi Medicine*, 20(3-4), 218-223. doi:10.5144/0256-4947.2000.218
- Armstrong, G. (2005). *Marketing: An Introduction*. Upper Saddle River : New Jersey: Pearson Education.
- Barbarossa, C., & De Pelsmacker, P. (2016). Positive and Negative Antecedents of Purchasing Eco-Friendly Products: A Comparison Between Green and Non-Green Consumers. *Journal of Business Ethics*, 134(2), 229-247.
- Benedetto, G., Rugani, B. & Vázquez-Rowe, I. (2014). Rebound Effects Due To Economic Choices When Assessing the Environmental Sustainability of Wine. *Food Policy*, 49, 167-173. doi.org/10.1016/j.foodpol.2014.07.007
- Bezawada, R. & Pauwels, K. (2013). What is Special about Marketing Organic Products? How Organic Assortment, Price, and Promotions Drive Retailer Performance. *Journal of Marketing*, 77(1), 31-51. doi.org/10.1509/jm.10.0229
- Bhutto, M. Y., Zeng, F., Soomro, Y. A., & Khan, M. A. (2019). Young Chinese consumer decision making in buying green products: An application of theory of planned behaviour with gender and price transparency. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 13(3), 599-619.
- Blackwell, R. D., Miniard, P. W. & Engel, J. F. (2006). *Consumer Behaviour Thomson/South-Western*.
- Bristol, T. & Mangleburg, T. F. (2005). Not Telling the Whole Story: Teen Deception in Purchasing. *Journal of the Academy of Marketing Science*, 33(1), 79-95.
- Brown, B. B. (1990). Peer Groups and Peer Cultures. In *At the threshold: The developing adolescent*. Cambridge, MA, US: Harvard University Press.pp. 171-196
- Carrington, M. J., Neville, B. A. & Whitwell, G. (2010). Why Ethical Consumers Don't Walk Their Talk: Towards A Framework for Understanding The Gap Between The Ethical Purchase Intentions and Actual Buying Behaviour of Ethically Minded Consumers. *Journal of Business Ethics*, 97(1), 139-158. doi: 10.1007/s10551-010-0501-6
- Chan, R. Y. (2001). Determinants of Chinese Consumers' Green Purchase Behaviour. *Psychology Marketing*, 18(4),389-413. https://doi.org/10.1002/mar.1013
- Chan, R. Y. & Lau, L. B. (2002). Explaining Green Purchasing Behaviour, A Cross-Cultural Study on American and Chinese Consumers. *Journal of International Consumer Marketing*, 14(2-3), 9-40. https://doi.org/10.1300/J046v14n02\_02
- Chan, R. Y. K. & Yam, E. (1995). Green Movement in A Newly Industrializing Area: A Survey On The Attitudes And Behaviour of The Hong Kong Citizens. *Journal of Community Applied Social Psychology*, 5(4), 273-284. https://doi.org/10.1002/casp.2450050405.

- Chaudhary, R. (2018). Green Buying Behaviour in India: An Empirical Analysis. *Journal of Global Responsibility*, 9(2), 179-192. <https://doi.org/10.1108/JGR-12-2017-0058>
- Chen, C.-C., Chen, C.-W. & Tung, Y.-C. (2018). Exploring The Consumer Behaviour Of Intention To Purchase Green Products In Belt And Road Countries: An Empirical Analysis. *Sustainability*, 10(3), 854-872. doi: 10.3390/su10030854
- Chen, Y.-S. & Chang, C.-H. (2012). Enhance Green Purchase Intentions: The Roles of Green Perceived Value, Green Perceived Risk and Green Trust. *Management Decision*, 50(3), 502-520. <https://doi.org/10.1108/00251741211216250>
- Chen, M.F. & Tung, P.J. (2010). The moderating effect of perceived lack of facilities on consumers' recycling intentions. *Environment and Behaviour*, 42(6), 824-844. <https://doi.org/10.1177/0013916509352833>
- Chin, W. W. (2010). How To Write Up and Report PLS Analyses. In *Handbook of Partial Least Squares*: Springer. pp. 655-690
- Cho, Y.-N., Thyroff, A., Rapert, M. I., Park, S.-Y. & Lee, H. J. (2013). To Be or Not To Be Green: Exploring Individualism and Collectivism As Antecedents of Environmental Behaviour. *Journal of Business Research*, 66(8), 1052-1059. <https://doi.org/10.1016/j.jbusres.2012.08.020>
- Chuvieco, E., Burgui-Burgui, M., Da Silva, E.V., Hussein, K. & Alkaabi, K. (2018). Factors affecting environmental sustainability habits of university students: intercomparison analysis in three countries (Spain, Brazil and UAE). *Journal of Cleaner Production*, 198, pp. 1372-1380. <https://doi.org/10.1016/j.jclepro.2018.07.121>
- Cohan, M. (2009). Adolescent Heterosexual Males Talk About the Role of Male Peer Groups in Their Sexual Decision-Making. *Sexuality and Culture*, 13(3), 152-177. doi: 10.1016/j.jadohealth.2010.01.017
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioural Sciences* 2nd ed. In: Erlbaum Associates, Hillsdale.
- Corbett, J. B. (2005). Altruism, Self-Interest, and the Reasonable Person Model of Environmentally Responsible Behaviour. *Science Communication*, 26(4), 368-389. doi: 10.1177/1075547005275425
- Cronin, J. J., Smith, J. S., Gleim, M. R., Ramirez, E. & Martinez, J. D. (2011). Green Marketing Strategies: An Examination of Stakeholders and The Opportunities They Present. *Journal of the Academy of Marketing Science*, 39(1), 158-174.
- do Paço, A., Alves, H., Shiel, C., & Filho, W. L. (2013). A multi-country level analysis of the environmental attitudes and behaviours among young consumers. *Journal of Environmental Planning and Management*, 56, 1532-1548. <https://doi.org/10.1080/09640568.2012.733310>
- Emekci, S. (2019). Green consumption behaviours of consumers within the scope of TPB. *Journal of Consumer Marketing*, 36 (3), 410-417. <https://doi.org/10.1108/JCM-05-2018-2694>
- Falk, R. F. & Miller, N. B. (1992). *A Primer for Soft Modeling*. Akron, OH: University of Akron Press.
- Farris, R., Chong, F. & Danning, D. (2002). Generation Y, Purchasing Power and Implications for Marketing. *Academy of Marketing Studies Journal*, 6(1-2), 89.



- Fernandes, V. (2012). (Re) Discovering The PLS Approach in Management Science. *Management*, 15(1).
- Fornell, C. & Larcker, D. (1994). *Partial Least Squares*. Cambridge, MA: Blackwell Publishers. pp 52-78.
- Fornell, C. & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50. doi: 10.2307/3151312.
- Furlow, N. E., & Knott, C. (2009). Who's reading the label? Millennials' use of environmental product labels. *The Journal of Applied Business and Economics*, 10, 1–12.
- Gillani, F. (2012). Impact of Peer Pressure and Store Atmosphere on Purchase Intention: An Empirical Study on the Youngsters in Pakistan. *International Journal of Academic Research in Business Social Sciences*, 2(7), 323-332.
- Gleim, M. R., Smith, J. S., Andrews, D. & Cronin Jr, J. J. (2013). Against the Green: A Multi-Method Examination of the Barriers to Green Consumption. *Journal of Retailing*, 89(1), 44-61. doi: : 10.1016/j.jretai.2012.10.001
- Goodhue, D., Lewis, W., & Thompson, R. (2006). *PLS, small sample size, and statistical power in MIS research*. Paper presented at the System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference on. Hawaii, USA. January
- Grant, I. J. & Stephen, G. R. (2006). Communicating Culture: An Examination of the Buying Behaviour of 'Tweenage' Girls and the Key Societal Communicating Factors Influencing the Buying Process of Fashion Clothing. *Journal Of Targeting, Measurement Analysis for Marketing*, 14(2),101-114. <https://doi.org/10.1057/palgrave.jt.5740173>
- Green, P. E. & Krieger, A. M. (1991). Segmenting Markets with Conjoint Analysis. *The Journal of Marketing*, 55(4), 20-31. <https://doi.org/10.1177/002224299105500402>
- Hair, J. F., Hult, G. T. M., Ringle, C. & Sarstedt, M. (2016). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* 2nd ed., Sage Publications. Thousand Oaks, CA.
- Hair, J. F., Ringle, C. M., Sarstedt, M. & Practice. (2011). PLS-SEM: Indeed a Silver Bullet. *Journal of Marketing Theory*, 19(2), 139-152. doi: 10.2753/MTP1069-6679190202
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values* Newbury Park, CA: Sage Publications.
- Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviours, institutions and organizations across nations* (2nd Edition). Thousand Oaks, CA: Sage.
- Hume, M. (2010). Compassion without Action: Examining the Young Consumers Consumption and Attitude to Sustainable Consumption. *Journal of World Business*, 45(4), 385-394. <http://dx.doi.org/10.1016/j.jwb.2009.08.007>
- Jaiswal, D. & Kant, R. (2018). Green Purchasing Behaviour: A Conceptual Framework and Empirical Investigation of Indian Consumers. *Journal of*

- Retailing Consumer Services*, 41, 60-69. <https://doi.org/10.1016/j.jretconser.2017.11.008>
- Jang, Y. J., Kim, W. G. & Bonn, M. A. (2011). Generation Y Consumers' Selection Attributes and Behavioural Intentions Concerning Green Restaurants. *International Journal of Hospitality Management*, 30(4), 803-811. <https://doi.org/10.1016/j.ijhm.2010.12.012>
- Jitrawang, P., & Krairit, D. (2019). Factors Influencing Purchase Intention of Organic Rice in Thailand. *Journal of Food Products Marketing*, 25(8), 805-828. <https://doi.org/10.1080/10454446.2019.1679690>
- Joshi, Y. & Rahman, Z. (2017). Investigating the Determinants of Consumers' Sustainable Purchase Behaviour. *Sustainable Production Consumption*, 10, 110-120. <https://doi.org/10.1016/j.spc.2017.02.002>
- Joshi, Y. & Srivastava, A. (2019). Examining the effects of CE and BE on consumers' purchase intention toward green apparels. *Young Consumers*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/YC-01-2019-0947>.
- Kanchanapibul, M., Lacka, E., Wang, X. & Chan, H. K. (2014). An Empirical Investigation of Green Purchase Behaviour among the Young Generation. *Journal of Cleaner Production*, 66: 528-536. <https://doi.org/10.1016/j.jclepro.2013.10.062>
- Karahanna, E., Straub, D. W. & Chervany, N. L. (1999). Information Technology Adoption Across Time: A Cross-Sectional Comparison of Pre-Adoption and Post-Adoption Beliefs. *MIS quarterly*, 23(2), 183-213. <https://doi.org/10.2307/249751>
- Kim, Y. J., Njite, D. & Hancer, M. (2013). Anticipated Emotion in Consumers' Intentions to Select Eco-Friendly Restaurants: Augmenting the Theory of Planned Behaviour. *International Journal of Hospitality Management*, 34, 255-262. <https://doi.org/10.1016/j.ijhm.2013.04.004>
- Kumar, B., Manrai, A. K. & Manrai, L. A. (2017). Purchasing Behaviour for Environmentally Sustainable Products: A Conceptual Framework and Empirical Study. *Journal of Retailing Consumer Services*, 34, 1-9. <https://doi.org/10.1016/j.jretconser.2016.09.004>
- Laroche, M., Bergeron, J. & Barbaro-Forleo, G. (2001). Targeting Consumers Who Are Willing To Pay More For Environmentally Friendly Products. *Journal of Consumer Marketing*, 18(6), 503-520. <https://doi.org/10.1108/EUM0000000006155>
- Leonidou, L. C., Leonidou, C. N. & Kvasova, O. (2010). Antecedents and Outcomes of Consumer Environmentally Friendly Attitudes and Behaviour. *Journal of Marketing Management*, 26(13-14), 1319-1344. <https://doi.org/10.1080/0267257X.2010.523710>
- Lian, S. B., & Yoong, L. C. (2019). Assessing the Young Consumers' Motives and Purchase Behaviour for Organic Food: An Empirical Evidence from a Developing Nation. *Int. J. Acad. Res. Bus. Soc. Sci*, 9, 69-87. <https://doi.org/10.6007/IJARBS/v9-i1/5364>
- Ling, C. Y. (2013). Consumers' Purchase Intention of Green Products: An Investigation of the Drivers and Moderating Variable. *Elixir Marketing Management*, 57A, 14503-14509.
- Liobikienė, G., Mandravickaitė, J. & Bernatoniene, J. (2016). Theory of Planned Behaviour Approach To Understand The Green Purchasing Behaviour In



- The EU: A Cross-Cultural Study. *Ecological Economics*, 125, 38-46. <https://doi.org/10.1016/j.ecolecon.2016.02.008>
- Lung, S. (2010), Green consumerism – the way to effectively differentiate your products in Asia-Pacific market , available at: <http://ezinearticles.com/?Green-Consumerism---The-Way-to-Effectively-Differentiate-Your-Products-in-Asia-Pacific-Market&id%4875312> (accessed 25 August 2019)
- Mannetti, L., Pierro, A. & Livi, S. (2004). Recycling: Planned and Self-Expressive Behaviour. *Journal Of Environmental Psychology*, 24(2), 227-236. <https://doi.org/10.1016/j.jenvp.2004.01.002>
- McCarty, J. A. & Shrum, L. (1994). The Recycling Of Solid Wastes: Personal Values, Value Orientations, and Attitudes About Recycling As Antecedents of Recycling Behaviour. *Journal of Business Research*, 30(1), 53-62. [https://doi.org/10.1016/0148-2963\(94\)90068-X](https://doi.org/10.1016/0148-2963(94)90068-X)
- Moisander, J. (2007). Motivational Complexity of Green Consumerism. *International Journal of Consumer Studies*, 31(4), 404-409. <https://doi.org/10.1111/j.1470-6431.2007.00586.x>
- Moorhead, G. & Griffin, R. 1995. *Organizational Behaviour: Managing People and Organization*. Boston.
- Mostafa, M. M. (2007). A Hierarchical Analysis of the Green Consciousness of the Egyptian Consumer. *Psychology and Marketing*, 24(5), 445-473. <https://doi.org/10.1002/mar.20168>
- Nasir, V. A. & Karakaya, F. (2014). Underlying Motivations of Organic Food Purchase Intentions. *Agribusiness*, 30(3), 290-308. <https://doi.org/10.1002/agr.21363>
- Nguyen, T. N., Lobo, A. & Greenland, S. (2016). Pro-Environmental Purchase Behaviour: The Role of Consumers' Biospheric Values. *Journal of Retailing Consumer Services*, 33, 98-108. <https://doi.org/10.1016/j.jretconser.2016.08.010>
- Nguyen, H. V., Nguyen, C. H., & Hoang, T. T. B. (2019). Green consumption: Closing the intention-behaviour gap. *Sustainable Development*, 27(1), 118-129. <https://doi.org/10.1002/sd.1875>
- Opoku, R. (2012). Young Saudi Adults and Peer Group Purchase Influence: A Preliminary Investigation. *Young Consumers*, 13(2), 176-187. <https://doi.org/10.1108/17473611211233549>
- Peterson, R. A. & Kim, Y. (2013). On The Relationship between Coefficient Alpha and Composite Reliability. *Journal of Applied Psychology*, 98(1), 194-198. <https://doi.org/10.1037/a0030767>
- Pham, T. H., Nguyen, T. N., Phan, T. T. H., & Nguyen, N. T. (2019). Evaluating the purchase behaviour of organic food by young consumers in an emerging market economy. *Journal of Strategic Marketing*, 27(6), 540-556. <https://doi.org/10.1080/0965254X.2018.1447984>
- Prakash, G. & Pathak, P. 2017. Intention to Buy Eco-Friendly Packaged Products among Young Consumers of India: A Study on Developing Nation. *Journal of Cleaner Production*, 141, 385-393. <https://doi.org/10.1016/j.jclepro.2016.09.116>
- Raghavan, L. & Vahanti, G. (2009). Going Green in India. *Landor*, pp.1-5.
- Rehman, A. U. (2017). Green Values and Buying Behaviour of Consumers in Saudi Arabia: An Empirical Study. *International Journal of Green Economics*, 11(2), 154-164. <https://doi.org/10.1504/IJGE.2017.089017>

- Ritter, D., Vinson, D., Barnhart, E., Akob, D. M., Fields, M. W., Cunningham, A. B., McIntosh, J. C. (2015). Enhanced microbial coalbed methane generation: a review of research, commercial activity, and remaining challenges. *International Journal of Coal Geology*, 146, 28-41. <https://doi.org/10.1016/j.coal.2015.04.013>
- Saba, A. & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food quality preference*, 14(8), 637-645. [https://doi.org/10.1016/S0950-3293\(02\)00188-X](https://doi.org/10.1016/S0950-3293(02)00188-X)
- Sarigöllü, E. (2009). A Cross-Country Exploration of Environmental Attitudes. *Environment Behaviour*, 41(3): 365-386. <https://doi.org/10.1177/0013916507313920>
- Sharaf, M. A. & Isa, F. M. (2017). Factors Influencing Students' Intention to Purchase Green Products: A Case Study in Universiti Utara Malaysia. *Pertanika Journal of Social Science Humanities*, 25, 239-249.
- Sharma, P. (2010). Measuring Personal Cultural Orientations: Scale Development and Validation. *Journal of the Academy of Marketing Science*, 38(6), 787-806. <https://doi.org/10.1007/s11747-009-0184-7>
- Sheahan, P. & Sheahan, P. (2005). *Generation Y: Thriving and Surviving With Generation Y at Work* Australia: Hardie Grant Books Prahran, pp.72-77
- Shrum, L., McCarty, J. A. & Lowrey, T. M. (1995). Buyer Characteristics of the Green Consumer and Their Implications for Advertising Strategy. *Journal of Advertising*, 24(2), 71-82. <https://doi.org/10.1080/00913367.1995.10673477>
- Smith, P. B., Achoui, M. & Harb, C. (2007). Unity and Diversity in Arab Managerial Styles. *International Journal of Cross Cultural Management*, 7(3), 275-289. <https://doi.org/10.1177/1470595807083374>
- Sparks, P., Shepherd, R. & Frewer, L. J. (1995). Assessing and Structuring Attitudes toward the Use of Gene Technology in Food Production: The Role of Perceived Ethical Obligation. *Basic Applied Social Psychology*, 16(3), 267-285. [https://doi.org/10.1207/s15324834basp1603\\_1](https://doi.org/10.1207/s15324834basp1603_1)
- Sreen, N., Purbey, S. & Sadarangani, P. (2018). Impact of Culture, Behaviour and Gender on Green Purchase Intention. *Journal of Retailing Consumer Services*, 41: 177-189. <https://doi.org/10.1016/j.jretconser.2017.12.002>
- Suki, N. M. (2013). Green Awareness Effects on Consumers' Purchasing Decision: Some Insights from Malaysia. *International Journal of Asia-Pacific Studies*, 9(2), 49-63.
- Sullivan, P. & Heitmeyer, J. (2008). Looking At Gen Y Shopping Preferences and Intentions: Exploring the Role of Experience and Apparel Involvement. *International Journal of Consumer Studies*, 32(3), 285-295. <https://doi.org/10.1111/j.1470-6431.2008.00680.x>
- Sun, Y., & Wang, S. (2019). Understanding consumers' intentions to purchase green products in the social media marketing context. *Asia Pacific Journal of Marketing and Logistics*. 1355-5855 DOI 10.1108/APJML-03-2019-0178 <https://doi.org/10.1108/APJML-03-2019-0178>
- Thøgersen, J. (2009). Consumer Decision-Making With Regard To Organic Food Products. *Traditional Food Production Facing Sustainability: A European Challenge*, Ashgate, Farnham, 1,173-194.
- Tseng, S.-C. & Hung, S.-W. (2013). A Framework Identifying the Gaps between Customers' Expectations and Their Perceptions in Green Products. *Journal*



- of *Cleaner Production*, 59: 174-184. <https://doi.org/10.1016/j.jclepro.2013.06.050>
- Valor, C. & Carrero, I. (2014). Viewing Responsible Consumption as A Personal Project. *Psychology & Marketing*, 31(12), 1110-1121. <https://doi.org/10.1002/mar.20758>
- Valor, C., Merino, A., Carrero, I., Díaz, E., Labajo, V. & Bilbao, P. (2012). Why One Becomes A Responsible Consumer: The Creation And Maintenance of Responsible Consumption As A Self-Determined Personal Project. *Human Ecology Review*, 19(2), 159-174.
- Van der Werff, E., Steg, L. & Keizer, K. (2013). The Value of Environmental Self-Identity: The Relationship between Biospheric Values, Environmental Self-Identity and Environmental Preferences, Intentions and Behaviour. *Journal of Environmental Psychology*, 34, 55-63. <https://doi.org/10.1016/j.jenvp.2012.12.006>
- Yadav, R. & Pathak, G. S. (2017). Determinants of Consumers' Green Purchase Behaviour in a Developing Nation: Applying and Extending the Theory of Planned Behaviour. *Ecological Economics*, 134, 114-122. <https://doi.org/10.1016/j.ecolecon.2016.12.019>
- Zhang, X., Wan, C., Cheung, R., & Shen, G. Q. (2012). Recycling attitude and behaviour in university campus: a case study in Hong Kong. *Facilities*, 30(13/14), 630-646. <https://doi.org/10.1108/02632771211270595>
- Zhu, Q., Sarkis, J. & Lai, K.H. (2013). Institutional-Based Antecedents and Performance Outcomes of Internal and External Green Supply Chain Management Practices. *Journal of Purchasing and Supply Management*, 19(2): 106-117. <https://doi.org/10.1016/j.pursup.2012.12.001>.

