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Exploring consumers' green purchase behaviour towards online green advertising

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Abstract

In recent years there is growing environmental concerns and consumer attitudes towards the use of environmentally friendly products as well as to practice environmental behaviour. An astounding 90% of Malaysian consumers recorded their concern for environmental issues. One area that is interesting to look at would be to study consumers' response to green advertising in an online perspective. The main aim of this conceptual paper is to study consumers' green purchasing behaviour towards online green advertisement. The constructs in this study are identified as the predictors of online green advertisement (usability, trust and information); attitudes towards online green advertisement and consumers' green purchase behaviour. The sample will be obtained from Selangor which has the largest population of internet users of 27% (or 4.5 million) among the internet users in Malaysia. Respondents of the age between 20 – 24 will be selected being the largest internet users in Malaysia.

Keywords: green advertising

1. Introduction

The current marketing trend incorporates messages and using the advertising campaign to activities that are more open and engaging that constantly involve people with the brand and increasingly with each other (Grant, 2008). In recent years there is growing environmental concerns and consumer attitudes towards the use of environmentally friendly products as well as to practice environmental behaviour. This gives rise to an approach using the green marketing platform as a strategic marketing strategy. As such, the issues concerning the environment present great implications to organizations where strategic planning is concerned (Banerjee, 2002).

Nielsen's 2011 Global Online Environment and Sustainability Survey in 51 countries (more than 25,000 respondents) indicated an upward trend for the concern of environmental issues (Nielsen Report, 2011). Besides climate change, about 75% of consumers indicated environmental issues

with high concerns include air and water pollution; scarcity of water; use of pesticides; and not environmentally-friendly use of packaging. In the same report, an astounding 90% of Malaysian consumers recorded their concern for environmental issues particularly climate change.

83% of consumers believe that companies should have effective environmental programs. Products that use raw materials that are environmentally friendly have influences to 76% of consumers in their buying decisions as well as where to shop while willingness to pay more for environmentally friendly products makes up 22%.

More than 80% of global online consumers say that it is important that companies should produce products that are energy efficient and the use of recyclable packaging materials. Environmental issues that receive 60% to 69% responses are the use of packaging (69%); organic products (64%); source of product (61%) and distribution (60%). Other related concerns are place of origin (59%); fair trade (51) and animal testing (44%).

The industry as well as the academia has acknowledged the importance of environmental concerns for more than 30 years until today (Haytko & Matulich, 2010). There is a need for corporates and government to educate and influence the community for green purchase decision (Ali et. al., 2011). Environmental awareness has become an expectation which leads brands to embrace green marketing strategies where Google recorded more than 15 million hits on the term going-green in early 2008 (Erdman, 2008). Consumer concerns have also been on the rise (Chitra, 2007). These concerns lead businesses in taking steps to address issues relating to environmental performance (Chen, 2008). As such, meeting the needs of green consumers by developing goods and services becomes imperative to marketers (D'Souza et al, 2007).

Green advertising facilitates the communication and development of green marketing strategies which started in the 1970s (Haytko & Matulich, 2010). Consumers purchase behaviours in terms of willingness to buy green products have seen positive changes in the development of green marketing strategies through green advertising (Neff and Thompson, 2007). However, a Green Gauge survey by GfK finds that although 93% of consumers are now more concern about energy conservation but unfortunately they are becoming less keen to pay more for green products (Adeage, 2012).

The Malaysian government has played a big part in addressing environmental issues by encouraging and promoting sustainable consumption practices through various strategies (Chen and Chai, 2010). For example, social advertising is used in order to communicate environmental awareness and concern among the Malaysian public (Haron et al., 2005). This is because the public awareness on environmental issues is important (Chukwuma, 1998).

Malaysia pledges to work on the reduction of carbon emission up to 40% in terms of emission intensity of GDP by 2020 compared with its 2005 levels (GreentechMalaysia, 2010). In Budget 2011 that was announced by the Malaysian Prime Minister, various green initiatives were proposed to encourage greater investments into green technology by companies (Ho, 2011). The recognition of pioneering status in the business of energy generation from renewable resources that qualify for investment allowances is an example for such initiatives. For these companies, they are also exempted from import duties and sales tax on factors of production associated with renewable energy generation.

Some of the other initiatives include the Product Certification Program for the classification of green products by SIRIM (Standards and Industrial Research Institute of Malaysia) and energy efficiency initiatives by the Malaysian Energy Commission (Rahbar and Abdul Wahid 2011).

Such initiatives and progressive moves are indications of the direction of the Malaysian economy towards embracing environmental behaviour. Such development in the move towards green adoption in Malaysia has certainly shaped a need in the efforts for creating awareness, educating, promoting and ultimately embrace green practice as a way of life to both the producers, corporates and individuals consumers. In other words, these stakeholders buy-in are required to successfully embrace green practices.

One area that is interesting to look at would be to study consumers' response to green advertising in an on-line perspective. Online advertising has gained increased popularity with more people spending time online. It is therefore relevant to understand consumers' environmental behaviour toward online green advertising. In a report from ADOI Magazine in 2007, approximately 60% of Malaysian population has direct access to the internet. In addition, the report also stated that the projected growth of the online advertising industry in Malaysia to be ten times the rate of the overall advertising industry.

Essentially, it now becomes important to study how consumers respond to online green advertising particularly in the context of consumers' green purchasing behaviour.

Problem Statement

Environmental problems and issues have been widely acknowledged and deliberated (Ali et.al, 2011). With the rising concern of environmental issues globally, consumers have started to realize that their purchasing behaviour can cause a huge impact to the environment (Abdul Wahid et.al, 2011).

Green marketers requires better understanding about the evaluation; tools; attitudes; intentions; and behaviours of consumers while the interest and relevance in the field of green marketing and advertising continue to grow (Abdul Wahid et.al, 2011). Moreover, there should be more studies on the identity and nature of green consumers (Peattie, 2001). It is also not easy to embark on studies relating to the understanding of environmental behaviour (McCarty and Shrum, 2001).

As more consumers are considering more environmentally friendly products in their purchase behaviour, environmental messages are being incorporated into the firms' advertising strategies to communicate with the consumers (Grillo et al., 2008; Ozkozac and Tuna, 2011). Green communication becomes a necessary communication tool for giving a green identification or image to companies' offerings. As such, the increase in popularity and relevance of green advertising is undeniable and plays an important role to green marketing strategy (Crane 2000).

Sensitivity of consumers' environmental attitudes, preferences, and purchases have seen an increasing trend (Sarigöllü, E., 2009). Chan and Lam (2002) also revealed the increasing concerns about environmental issues. Desire to purchase environmentally-friendly offerings made businesses to consider environmental practices as part of their business strategy (Kalafatis

et al., 1999; Laroche et al., 2001; Roberts, 1996). The need to identify consumers' preferences for green products and maximizing profit through pricing strategy for green products further support the relevance of green marketing hence, green advertising in the context of this research (Peattie & Crane, 2005).

Awareness and concern about environmental issues do not necessarily be reflected in purchase behaviours (Dunlap et. al, 2000: Kaplan, 2000). Most researchers studied the gap between consumers' reported attitudes and their actual purchasing behaviour. Their studies often used Ajzen's 'Theory of Planned Behavior' (Kalafatis, S. P., Pollard, M., East, R., and Tsogas, M. H, 1999) which described that intentions towards an act are determined by attitudes, perceived control and subjective norms. Intention, in turn, may lead to actual behaviour (Ali et. al, 2011). Researchers have examined values, beliefs, motivation and attitudes in order to understand the inconsistencies in findings in consumers' environmental behaviour (Allen and Ferrand, 1999; Dunlap and Mertig, 1995; Nordlund and Garvill, 2002). There are many factors that would influence or have an impact on whether environmentally conscious attitude leads to the actual behaviour of purchasing green products. As identified by Ali et. al., (2011) these factors are green purchase attitude, environmental knowledge (Mostafa, M. M, 2006), perceived product price and quality (D'Souza et al., 2007), company's environmental reputation (Schwepker & Cornwell, 1991), environmental concerns (Phau and Ong, 2007) and credibility of environmental advertising (Thøgersen, 2000).

Taking a step further to incorporate online green advertising, online advertising started with mere websites which was pictured as online brochures. It has grown to a wide range of tools over the years such as blogs and social network. With the birth of Google search engine, it has also changed the online advertising scene. Today the internet is an important tool in the mass media where it is used as a global communication tool for transferring and exchanging knowledge, goods and services across global boundaries.

Besides the upward trend, one of the main reasons for its major growth is the incentive from the Malaysian government to encourage Malaysians to be more internet savvy. The Nielsen Mobile Insights Malaysia (2010) research showed that 20-24 years old group was spending most time on the Internet. As such, it is imperative to conduct a study to understand young consumers' purchasing behaviour towards online green advertising.

Even though online users have increased but the influence of online advertisements towards forming positive purchase intentions needs to be studied to assist advertisers in using online green advertisements effectively in their marketing campaigns. Those who go online in Malaysia are mainly for social networking and instant messaging. Many of Malaysian internet users spend time online to socialize rather than to purchase. As such, it important for green marketers to be able to use the internet as a green advertisement tool to influence consumers' green purchase behaviour.

The emphasis of most research on online advertising had been on the advertiser rather than the consumer (Berthon, Pitt and Watson, 1996). Online advertising is very different from traditional advertising as consumers have control over when and how much online advertising content that they want to be exposed to. Therefore, this conceptual study is conducted to understand online consumers' attitude towards green advertising in order to encourage them to increase their

exposure to online green advertising particularly and subsequently influence their purchase behaviour of green products.

Emerging markets for environmental products, services and technologies in Malaysia mean promising opportunities for international as well as domestic green marketers. Having a large population comprising of the middle class, Malaysia is of prime importance for firms to understand their green purchasing behaviour towards on-line green advertising, to capture this strategic market and expand their business. Most studies have focused on the general environmental behaviour instead of specifically on consumers' purchasing behaviour towards green products (Ganet et al, 2008). Therefore, gaps exist in the literature with regards to understanding consumers' purchasing behaviour. There are some ignored areas in contemporary green marketing research regarding Malaysia. Research is needed to add in the existing literature. Asia-based green marketing studies are comparatively small when weigh against the Western works (Lee, 2008). No study has been done so far on consumers green purchasing behaviour towards on-line green advertising.

Research Objectives

The study attempts to investigate the consumers green purchasing behaviour; and their attitude towards online green advertising. This is done by examining the causal link between information, trust and information and their green purchasing behaviour towards green online advertising. In order to explore the research, the following research objectives will be met:

- To determine the effects of online green advertising towards consumers' green purchasing behaviour
- To identify the difference in genders in green purchasing behaviour.

Significance of the Study

Marketers will find this study relevant. By understanding consumers' green purchase behaviour and their attitudes towards green online advertisement, the advertisers can make the necessary efforts to increase consumers' exposure to online green advertising.

While there is increasing attentiveness on green products usage among the green consumers, this is also creating a confusion regarding the green products. In particular, one often finds distrust regarding the credibility of green products. Hence, to ensure consumer confidence, marketers of green products need to be engaged with much more promotional activities, since the existing kind of promotional activity- green advertisement has not been sufficiently reach these consumers. In connection with this, the present study enables the green marketing managerial personnel to evaluate consumer's behaviour towards green product. It will also address the green marketers' question of - what will be the impact of green advertisement on consumer buying behaviour.

The results of this study could assist advertisers in planning and designing their online green advertisements by considering the relevant predictors. Effective planning of online green advertising will help reduce the numbers of consumers who find online green advertisements repulsive. This would provide a friendlier online green advertising platform.

Besides marketers, this study is also useful to government and non-government agencies in planning and designing their online green advertising as these agencies also use online advertising in communicating their environmental messages.

2. Literature Review

Attitudes towards the advertisement have been defined as “a learned preposition to respond in the consistently favourable or unfavourable manner to advertising in general” (Metha & Purvis, 1995). Kotler and Keller (2006) suggested that an attitude is someone’s persistent positive or negative evaluations, emotional feelings and action inclinations toward an entity or an idea. Therefore, a positive attitude towards advertising is based on the favourable evaluations and willingness to consume it. Metha (2000) argues that the influence of attitudes is an important area to study because of its implications on the industry. In order to be effective or successful in the context of the advertising landscape today, an advertiser has to break through the clutter to get the needed attention (Metha and Purvis, 1995).

Attitudes exist because they serve as a function for a person and are driven by a person’s motives. People can have the same attitude towards an object but there can be different reason behind it (Solomon et. al., 2010). Attitude and attitude changes can influence a person’s feeling and can have a direct or indirect effect upon their behaviour in several situations (Cacioppo et. al., 1991). Understanding attitudes are important for advertisers since it is the attitude they need to make more favourable, toward a brand or a product (Solomon et al., 2010). In other words, to create advertisements that result in a positive attitude from consumers, it is important to understand what factors affect the attitude as well as to be able to know what kind of appeals to use to achieve the desired result. It is also important to remember that advertising is often an unwelcomed intrusion and is therefore considered to be a source of irritation. Advertisers must therefore consider using the advertisement message to differentiate themselves on the market, and at the same time be aware of the risk of sceptical consumers (Ahmad, Shah and Ahmad, 2010).

Usability is seen as an important element in web site functionality. Time saving, convenience, attractive, ease of use, loading speeds and information structure are some of the reasons on why consumers opt for accessing information online. This is supported in the study by Nah and Davis (2002) who defined web usability as “the ability to find one’s way around the Web, to locate desired information, to know what to do next and, very importantly, to do so with minimal effort”. In developing an information system, usability is one of the important quality criteria (Preece et al., 1994). Same goes for web sites (Osterbauer et al., 1999).

Davis (1992); Frankel (1992); Gillespie (1992); Ottman (1992 & 1998); Zinkhan & Carlson (1995) studied the incentives for companies to use green advertising. Frankel (1992) studied the consumer responses to green advertising and products in terms of loyalty while Phillips (1999) and Schlossberg (1992) studied the willingness to pay higher prices. The perceptions of product safety or environmental harm were studied by Davis (1994) and Wheeler (1992).

In a research conducted by Haytko & Matulich (2010), the researchers included the items on whether green advertising reinforces company image; willingness to switch to green products (Chan, 2001); and preferences for eco-labelled packaging. The study was modelled after the

research conducted by Manrai, Lascu and Ryans (1997). The results indicate that consumers who practice environmental behaviours respond more positively towards green advertising.

Many literatures talk about environmental behaviour (Irawan & Darmayanti, 2012) in general rather than addressing specifically about green purchasing behaviour (Lee, 2009). Green purchasing behaviour can be defined as consuming products that are conservable, environmentally beneficial, and responding to environmental concern (Lee, 2009). A study by Irawan & Darmayanti (2012) found that environmental concern, perceived seriousness of environmental problems, and perceived environmental responsibility were significantly affecting green purchasing behaviour of university students in Jakarta. These factors positively influence the green purchase behaviour of the respondents.

According to research studies, Green Purchase Intention is a significant predictor of Green Purchase Behaviour, whereby purchase intention would positively affect consumer's decision in buying green products (Chan, 2001; and Beckford et al., 2010). Straughan and Roberts (1999) argued that a person with positive environmental behaviour have greater preference to increase the frequency of buying green products with greater frequency. This argument is supported by Cornelissen et al., (2008). Studies conducted by Ali et. al., (2011) concur with this finding but added that price and quality must also be competitive with non-green products in addition to instance convenience or durability (Diamantopoulos et. al., 2003). Related studies also found positive relationship between environmental consciousness and attitude; decisions and environmental participation (Haron et al. 2005: Fraj, E, & Martinez, E., 2006: Yam-Tang & Chan, 1998).

A survey by Reitman (1992) showed consumers are prepared to pay an additional 7% to 20% more for green products which are also supported by Bhate and Lawle (1997). However, D'Souza et al., (2006) in a research found that there is a negative association between customer's intentions to buy green products with higher price especially if these products are perceived to be lower in quality compared to non-green products. Green advertisement must communicate product superiority in order justify the higher price of the green products if green advertisement is to influence positive green purchase behaviour (D'Souza et. al., 2006; Schlegelmilch et. al., 1996).

According to (Pickett-Baker & Ozaki, 2008), consumers expect green products to have good functional values and will trust better known brands over the less known brands (Ali et. al., 2011). In addition, they do not only rely on environmental aspects of the products (Tang et. al., 2004) when making purchase decisions. As such, product attributes (such as brand name, price and quality) will still be considered when making green purchasing decision (Gan et. al., 2008).

The issue of product attributes do play an important in the study of green purchasing behaviour (Gan et. al., 2008). Roozen and De Pelsmacker (1998) did this study followed by a study conducted by the Massachusetts Department of Environmental Protection (2002) found that one of the challenge to green product purchases is due to the difficulty in identifying green products. Henson (1996), Gil et.al (2000), Canavari et.al (2003), Smed and Jensen (2003), Pickett-Baker, Ozaki (2008) and Banyte et. al., (2010) reported that consumers' willingness to pay for quality and safe green products leads to positive green purchasing behaviours. Ahmad and Juhdi (2008) concur with these findings.

Information provided on green products on the labels must not be overstated, inaccurate and confusing (Cary et. al., 2004). Ismail and Panni (2008), Ismail, Panni and Talukder (2006) and Panni (2006) confirmed these findings. Product attributes such as convenience, availability, price, and quality are other factors in the consumers' purchasing decision process. Price was the most important attribute in American consumers purchase decisions for wood furniture whereby consumers would prefer to pay a lower price for non-green certified wood furniture rather than paying higher price for green-certified wood furniture (Anderson & Hansen, 2004).

Lack of information about the green product impedes consumers green purchase decision (Brown and Wahlers, 1998). As availability denotes the level of ease or difficulty to obtain or consume a specific product, consumers demonstrated negative green purchase behaviour due to non-availability of these green products (Vermeir and Verbeke, 2004). The negative purchase behaviour is also due to insufficient availability and marketing of the environmental friendly products (Mainieri et al., 1997).

Attitude toward the online advertising is the consumers' view toward online advertisements. According to Olney, et. al. (1991), consumers' attitude toward online advertising is the direct human reflection toward the online advertising, which comprise the web content and format. These include hedonics, utilitarian, and interesting content of online advertising. After exposing and attending to online advertising, consumers could either form positive or negative attitude towards the ad.

Ducoffe (1996) in his research found that entertainment, information and irritation influenced attitudes toward online advertising. Entertainment and irritation were affective and information was cognitive that influenced consumer's judgement on online advertising. Other researchers brought on another important factor which was behavioural experiences that would influenced consumers' attitude toward online advertising (Eagly and Chaiken, 1993).

Cho and Leckenby, (1999) measured consumer response whether cognitive or affective through interactivity, involvement and trust that consumers have towards online advertising. Consumers believe that interactivity take place when online users are willingly exposed to the online advertising by clicking on the online ads (Cho and Leckenby, 1999).

A study conducted by Sukpanich & Chen (1999) found that there were three variables that affected attitude toward online advertising. These three factors consist of awareness, preference and intention. Rodgers and Thorson (2000) proposed that different consumer motives affect attitudes toward online advertisements.

Leong, Huang and Stanners (1998), discovered that the online advertising is a great medium to transmit information, is outstanding in the sense of expenditure to reach its target and is valuable for producing valuable brand (Leong, Huang and Stanners, 1998). Online technology could assist advertisers meet its challenges by targeting customers who are likely to be attracted in what is being sold and measuring the value of the advertisement (Young, 2000).

Sun and Wang (2010) investigated the relationships between consumers' belief toward online advertising, attitudes toward online advertising and consumer behavioural in China, Romania and U.S. In their research, they found that all five belief factors which include information, entertainment, economy, credibility and value corruption were significant predictors of attitude toward online advertising. In this research, two of these factors which are information and credibility will be studied in the context of young Malaysian consumers.

2.1. *Underpinning Theory*

Technology Acceptance Model

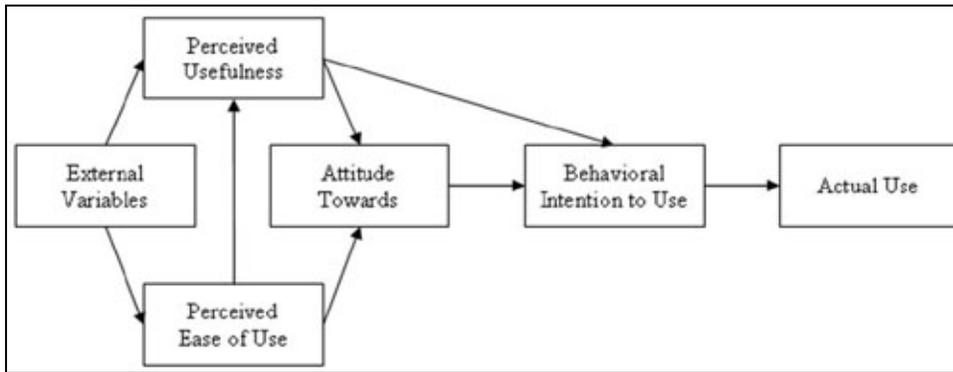


Figure 2.1: Technology Acceptance Model

Source: Davis, 1989.

Technology acceptance model was created by Davis in 1986. This model assists in predicting and explaining the online users' behaviour (Legris, Ingham, & Collette, 2003). This model sets a number of features that influence consumers' decision. The Technology Acceptance Model also deals with the when and how consumers will use information technology. According to Davis (1986), consumers' behavioural intentions, attitude, perceived usefulness of the system, and perceived ease of the system will influenced the consumers' usage of the technology system. This model also suggests that exterior factors influence intention and actual use act as a go-between with perceived usefulness and perceived ease of use.

This model is commonly chosen to study online consumer's attitudes. In this study, the technology acceptance model is applied as online green advertising is a type of technology and in this research the different factors that influence consumers' attitudes towards online green advertising which are usefulness (usability), trust and information are investigated. This model will assist in understanding how consumers accept technology and form attitudes toward particular system and in this case is online green advertising.

Theory of Planned Behaviour

The theory-of-reasoned-action model is a comprehension integration of attitude components which are cognitive, affective and conative put into a structure that could explain and predict behaviour (Fishbein and Ajzen, 1980). The theory of planned behaviour is an extension of the theory of reasoned action (Ajzen 1985, 1991). It added an additional factor leading to intention

which is perceived behavioural control which is the consumer's perception of whether the behaviour is or is not within his or her control.

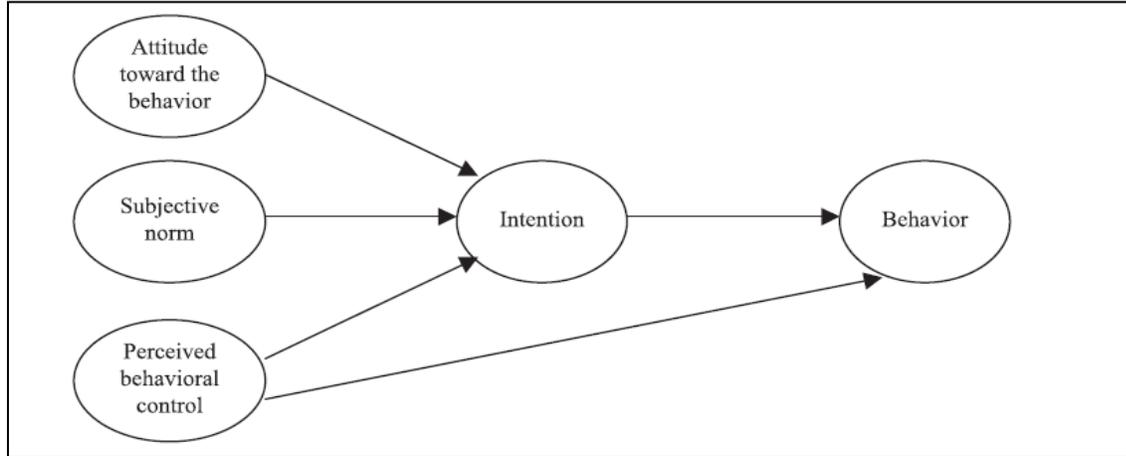


Figure 2.2: Theory of Planned Behaviour

Source: Ajzen, 1991

According to Ajzen and Fishbein (1985), an attitude toward behaviour is a positive or negative evaluation of performing behaviour. Attitudes are informed by beliefs. Norms are informed by normative beliefs and motivation to comply and perceived behavioural control is informed by beliefs about the individual's possession of the opportunities and resources needed to engage in the behaviour.

Intention is the cognitive representation of an individual's willingness to carry out a given behaviour, and it is reflected to be the antecedent of behaviour. The intention is based on attitude toward the behaviour, subjective norm, and perceived behavioural control, with each predictor weighted for its importance in relation to the behaviour. Behavioural intention is accepted as the main mediator in the relationship between behaviour and other factors such as attitude, subjective and perceived behavioural control (Ajzen and Fishbein, 1980). According to the theory of planned behaviour, perceived behavioural control, and behavioural intention, can be used directly to predict behavioural achievement.

Theory of planned behaviour offers a solid theoretical basis for testing whether attitudes are related to intent to engage in a particular behaviour which could be related to the actual behaviour. Based on this theory, attitudes towards online green advertisement should also influence green purchase behaviour.

3. Research Framework

The framework for this study relies on the models developed by Wang, Ying & Sun, Shaojing (2010) and Lodorfos, G.N. et.al (2006) where online green advertising is concerned. The model developed by Ahmad, et. al (2010) and Haytko & Matulich (2010) is used where green advertising and green purchase behaviours are concerned.

Wang, Ying & Sun, Shaojing (2010) developed a model assessing beliefs, attitudes, and behavioral responses toward online advertising in three countries. Whereby, Lodorfos, G.N. et.al

(2006) developed a model depicting e-consumers' attitude and behaviour in the online commodities market. These models have been used in the past to test consumer's attitude towards online advertising and commodities market. The framework depicted in Figure 3.1, Figure 3.2, Figure 3.3, Table 3.1 and Figure 3.4. have been used as the basis to form the theoretical framework for this study as shown in Figure 3.5.

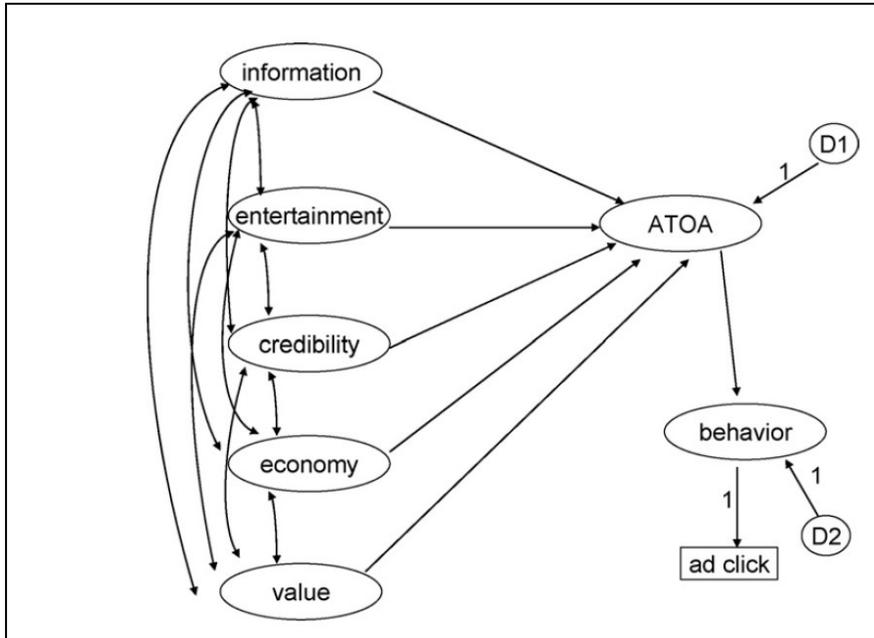


Figure 3.1 : Research Framework - Wang, Ying & Sun, Shaojing
 Source: Wang, Ying & Sun, Shaojing, 2010

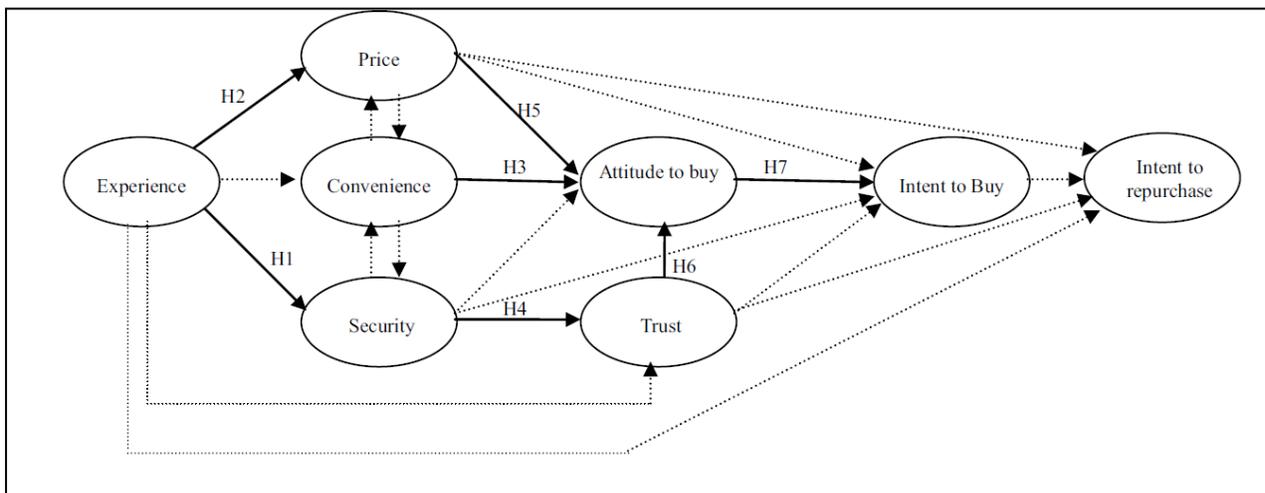


Figure 3.2 : Research Framework - Lodorfos, G.N. et.al
 Source: Lodorfos, G.N. et.al, 2006

However, the constructs usability, trust and information will be used in this study as the independent variables to test hypotheses. Besides that, Brackett and Carr (2001) has taken into account the demographic variables which they believe will influence consumers' attitudes toward

internet advertising. As such, for this study the demographic variables such as age, gender, race, time spend on internet and monthly disposable allowance (or income) will be taken into account.

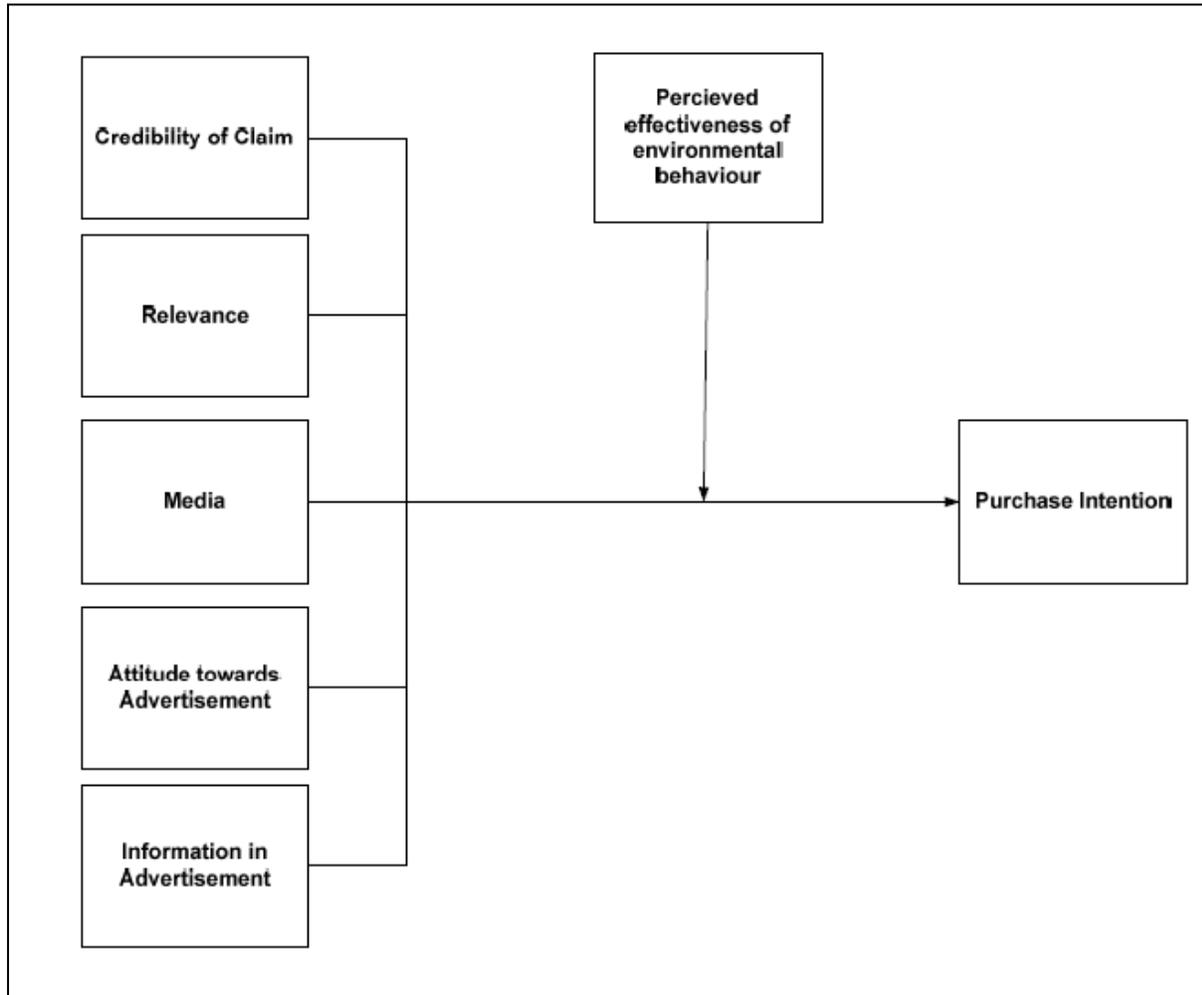


Figure 3.3: Research Framework - Ahmad, et. al

Source: Ahmad, et. al, 2010

The above model attempts to fill the gap by investigating the green buying behaviours of consumers and finding the important factors which marketers should keep in mind while doing green advertising.

Construct	Attitude toward green advertising	Green behaviours
Dimension	<ul style="list-style-type: none"> • Response to green advertising • Response to companies and their products • Ethical impact of green advertising 	<ul style="list-style-type: none"> • Environmental activism • Normal everyday behaviours • Emotional response to environmental problems • Possible future behaviours

Table 3.1.: Relationship between green attitudes and green behaviour

Source: Haytko & Matulich, 2010.

The model studies the two constructs - attitude towards green advertising and environmental behaviours to examine the relationships between green attitudes and green behaviours.

Further investigation into the model indicates the dimensions in the green behaviour construct possess items for the measurement of green purchase behaviours developed by Lee (2008).

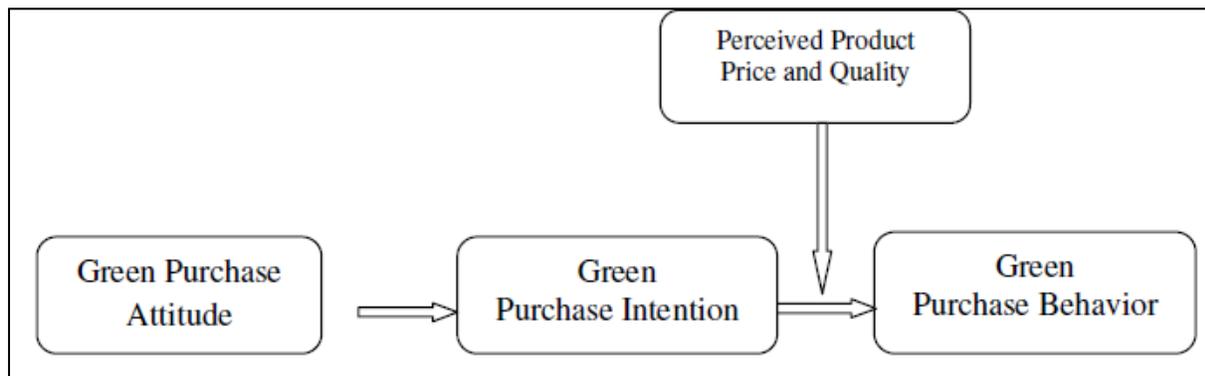


Figure 3.4.: Research Framework – Ali et.al.

Source: Ali et.al., 2011

Ali et.al (2011) developed a model that was used to determine the relationship of criterion variable and outcome variable i.e. Green Purchase Intention and Green Purchase Behaviour. The results from this study showed that consumers are ready to buy green products more often.

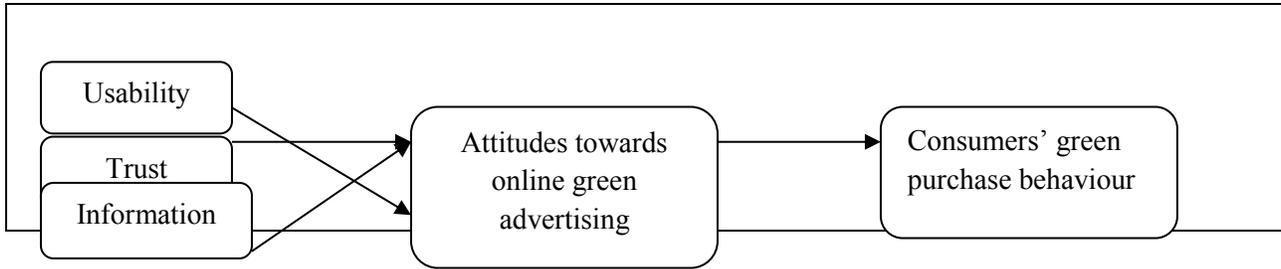


Figure 3.5. : Theoretical Framework

The constructs information, trust, usability; attitude toward online green advertising and consumers’ green purchase behaviour will be used in this study to test the hypotheses.

3.1. Research Design

To examine the hypotheses of the study, the researcher will conduct a quantitative research. The reason to employ a quantitative research is to develop mathematical hypotheses, theories and models that illustrate a phenomenon. This research will investigate the causal relationships between the independent and dependent variables of this study. The measurement using closed-ended questions on a survey instrument will be employed.

3.2. Hypothesis Development

From the research model, the hypotheses of the research are developed as follows:-

- H₁: Information has positive influence on consumer’s attitude towards online green advertising
- H₂: Trust has positive influence on consumer’s attitude towards online green advertising
- H₃: Price has positive influence on consumer’s attitude towards online green advertising
- H₄: Consumers’ attitude towards online green advertising are positively related to green purchase behaviour
- H₅: There is a difference in gender in green purchasing behaviour

3.3. Questionnaire Design

A survey based data collection method will be employed in this study. Nesbary (2000) defines survey research as “the process of collecting representative sample data from a larger population and using the sample to infer attributes of the population”. This can be done by obtaining information directly from a group of individual (Dane, 1990).

The survey will be conducted through a structured and standardized close ended questionnaire and data will be collected using a Likert-7 point scale.

3.4. Pilot Test

A pilot study of 100 respondents will be conducted. Conducting a pilot survey study will allow the researcher to inquire participants for suggestive feedback on the survey. The pilot study also

will assist the researcher to treat the data collected in the areas of content and the procedures to be followed. It will also give an avenue to the researchers to conduct a trial run for the questionnaire. These include examining the wording of the questions, spotting ambiguous questions, testing the method that was used to gather the data and evaluating the effectiveness of the respondents.

3.5. *Reliability Test*

According to Mertler (2006), reliability in quantitative data refers to the consistency of collected data. Reliability is fundamentally concerned with issues of consistency of measures (Bryman and Bell, 2011) and therefore with the robustness of the questionnaire. It refers to whether or not the questions will produce consistent findings at different times and under different conditions, such as with different samples (Saunders et al., 2007).

Nunnally (1978 cited in Yi, 2009, p.72) ‘suggested that an alpha of 0.70 be the minimum acceptable standard for demonstrating internal consistency’; whereas according to Kline (1999) which was cited in Field (2005, p.668) suggests that “when dealing with psychological constructs, values below even 0.7 can, realistically, be expected because of the diversity of the constructs being measured”. According to Maholtra (2009), a value that is less than 0.6 indicates that the internal consistent reliability is not satisfactory.

3.6. *Validity*

Validity, as observed by Bush (2002), in research should be concerned with the accuracy and truthfulness of scientific findings. Brink (1991) argued that a valid study should measure what it is supposed to measure. Measurement validity is concerned with the integrity of the conclusions that are generated from research and applies primarily to quantitative research (Bryman and Bell, 2011).

For this study, confirmatory factor analysis is used to assess the convergent and discriminant construct validity. Confirmatory factor analysis can be used to assess the overall fit of the entire measurement model and to obtain the final estimates of the measurement model parameters.

According to Spearman (1904), factor analysis has influenced perspectives on measurement in most of the social sciences. Lawley and Maxwell (1971) indicate that factor analysis is a branch of multivariate analysis that mainly focuses on the internal relationships of a set of variables. This study will scrutinise using the factor analysis technique. The principal components method will be employed with varimax rotation. A loading of 0.30 and above will be used to retain the items and the items that have a loading below 0.3 will be eliminated.

3.7. *Sampling Method*

As it is often impossible to study the whole online consumers in Malaysia due to number of people, places, or things within the population, this research make use of a sample to select research subjects who should represent the online consumers in Malaysia. In order to achieve representativeness, sampling procedures should follow certain standards and methodological principles (Sarantakos, 2005).

Patten (2004), states that obtaining an unbiased sample is the main criterion when evaluating the adequacy of a sample. In this study, the stratified random sampling which is a type of probability sampling as well purposive sampling will be employed. According to Sekaran and Bougie (2010), stratified random sampling is the most efficient among all the probability designs where all groups are adequately sampled and comparisons among groups are possible. In this type of sampling population is first divided into meaningful segments thereafter subjects are drawn in proportion to their original numbers in the population.

The Nielsen Mobile Insights Malaysia (2010) research showed that 20-24 years old group was spending most time on the Internet. As such, it is imperative to conduct a study on this age group to understand young consumers' green purchasing behaviour towards online green advertising. This study will use purposive sampling focusing on respondents who were already using the internet (Salman and Hasim, 2011).

The sample of this study will then be stratified according to gender at 50% male and 50% female below which is closely proportionate to the percentage of the internet users in Malaysia according to Malaysian Communications and Multimedia Commission Household Use of the Internet Survey of the year 2009 which state 51.3% male and 48.7% female. In addition, to get equal representation of gender, the sample is suggested to consist of an equal number of males and females (Salman and Hasim, 2011).

A study suggested that the minimum sample size to be 300 (Kline, 1986). Another study suggested the same (Nunnally and Bernstein, 1994). Some believe that a sample size of 300 is small (Segall, 1994). According to other studies, the minimum sample size for estimating the population coefficient alpha with precision is 400 (Charter, 1999). According to Krejcie and Morgan (1970), for a population of 1 million the sample size for 95% confidence with a 5% margin of error is 384. The sample will be obtained from Selangor which has the largest population of internet users of 27% (or 4.5 million) among the internet users in Malaysia. Roscoe (1975) proposes a good sample size for most research should be between 30 and 500. Hence, the sample size of more than 384 will be used in this research. 1000 respondents will be obtained in this case (to take into account possible response and non-response errors so that ultimately a sample size of at least 384 or more can be collected for analysis). Selangor is chosen as the state has the highest number of internet users.

The hypothesis of the study will be tested using Structural Equation Modelling via SmartPLS statistical software package.

4. Conclusion

With 90% of Malaysian consumers concern about green and environmental issues and the upward trend of internet users in Malaysia, it is imperative to conduct studies to understand the green purchase behaviour of Malaysian consumers towards online green advertising.

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