



## Review of researches on Eco-labelled products

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### **Abstract**

The concept of eco-labelling has been widely discussed in literature. Different studies have used different theories to explain behavioural intention towards the consumption of eco-labelled products. However, to date there has been a few studies which review recent studies. This paper reviews researches on Eco-labelled products. This paper highlighted that most of the researches on eco-labelled products used Theory of planned behavior. Only few studies used other theories such as Social cognitive theory. It identifies various variables which have been examined in their studies. This paper helps to develop new insights of researches on eco-labelled products and identifies gaps in this area which can be used to improve and promote the market for organic products.

**Keywords:** Eco-labelled product, Theory of planned behaviour, behavioral intention, social cognitive theory.



## Introduction

Public interest in environmental issues can be traced back to the 1960s and 1970s, since when there have been many debates about the issue in many countries. Environmental issues have increasingly impacted on the way people consume. Consumer behaviour is influenced by their observations, experience, and communication within the market. Peter, Olson, and Grunert (1999) also mention that the feelings, emotions and behaviour of consumers change because of the dynamic nature of human behaviour. Environmental concern in the form of 'green' consumerism first emerged in the late 1980s. It involves consumers making decisions on the purchase of products by considering their perceived environmental impact. Environmental references in advertising and labelling also have a bearing on this.

Eco-labelled products attract the attention of consumers, and can produce environmental benefits (Fransson & Gärling, 1999). Eco-labelled goods are gaining the attention of scientists as well as users. Businesses also use eco-labels in order to distinguish their own products from other products, to position their products in the minds of consumers, and to deliver eco-friendly information (D'Souza, 2000). Various studies have demonstrated the positive relationship between eco-labelling and environmentally-friendly purchase intentions (D'Souza, 2004; Rashid, 2009; Wahid, Rahbar, & Shyan, 2011). This paper covers some of studies in this area. According to studies, Although there are considerable obstacles to the sales of organic foods, such as their high price, the limited availability of organic products, and the existence of several competing and overlapping sets of organic standards and certificates (Chinnici, D'Amico, & Pecorino, 2002; Vermeir & Verbeke, 2006), eco-labelling has been shown to positively affect consumer intentions to purchase green products (Azizan & Suki, 2013).

## Consumer Behavioural intention of Eco-labelled Products

All Social cognition relates to the concept of behaviourism. Specifically, consumer behaviour contains thought, as well as feelings that they experience, in addition to the actions they complete in the usage practice. The environment affects the consumption course of action via other consumers, commercials, price, product packaging, and labelling (Peter et al., 1999). Besides, studies have demonstrated the importance of intention in measuring future behaviour (Morwitz, Steckel, & Gupta, 2007). Individuals notice the related ecological features of the products during their purchases. In fact, different personal, psychological, and social factors affect behavioural intention or purchasing behaviour, and these factors have an impact on consumer decision-making (Peter et al., 1999).



Consumer behavioural intention of eco-labelled products emphasize on eco-labels. Eco-label refers to specific information given in the product labelling that describes the potential impact of the product production process or usage on environment. Commonly, eco-label reflects eco-friendly production process or its ingredients are environmentally friendly (Rotherham, 2000). They act as green marketing tools that influence consumers' mental feelings as they offer psychological security, which make them trust the products, and lead to consumers' behavioural purchase intention. Moreover, studies concerning eco-labels have identified effective approaches or important predictors of green purchasing intention (D'Souza, Taghian, & Lamb, 2006). Most researches of behavioural intention have adopted the Theory of Planned Behaviour (TPB). In general, attitudes, values, subjective norm, perceived behavioural control, knowledge, and practices are recognized as predictors of consumer behavioural intention, particularly, consumers' motivation to pay for eco-labelled products that has been proven (Tsen, Phang, Hasan, & Buncha, 2006).

Table 1 shows recent studies pertaining to eco-labelled or green products purchase intention or purchasing behaviour.

**Table 1. Recent Studies on Eco-labelled or Green Products Behavioural Intention**

Authors	Context	Variables	Location and (Sample)	Findings
Hosseinihah Choshaly (2016)	Eco-labelled products	attitude, subjective norms, perceived control (Relationships study)	Malaysia(315 individuals)	Perceived control" and "attitude" were influential factors to practice green concepts (Reduce, Reuse and Recycle).
(Choshaly & Tih, 2015)	Eco-labelled products	Belief, familiarity, confidence (Relationships study)	Malaysia(125 individuals)	consumer confidence and beliefs towards eco-labeled products were positively correlated with purchasing intentions of eco-labeled products
(Abdusamad & Thilagavathy, 2015)	Green Hotels	Consumers' perception of green products and perceptions of the effectiveness of green products(Relationships study)	India (Trichy) (tourists)	Consumers supported green practices, saving energy, use of environmentally-friendly materials, and avoiding single-use consumables were recognized as the attributes of a green hotel.
Chen, Lee, and Griffith (2015)	Green claims of Starbucks coffee chain store	Green claims and Green psychological variables(Single relationship study)	Taiwan (Starbucks consumers)	Findings suggested that green claims of Starbucks led consumers to build a similar level of green brand image of Starbucks.



Fayyazi et al. (2015)	Green Human Resource Management (HRM)	Barriers of implementing green human resources management (Informative study)	Iran (31 members of oil's experts and HR managers)	There was a lack of plan to use green HRM and uncertainty of green values recognized as the most important barriers.
Meier et al. (2015)	Organic and conventional agricultural products	Parameters leading to differences in environmental impacts between organic and conventional products (Informative study)	Middle or northern European agriculture & USA (Review of 34 studies that used LCA)	It is not yet possible to conclude on the general environmental performance for various farming systems because comparative Life Cycle Assessment (LCA) on agricultural products from different farming systems often did not differentiate the specific characteristics of organic and conventional farming on the inventory level.
Nezakati and Hosseinpour (2015)	Green products	Attitude, subjective norm, and perceived behavioural control (TPB)	Malaysia (Consumers of Tesco, Giant, AEON, and Carrefour)	The result indicated that green purchasing was influenced by gender.
Parker et al. (2015)	Australian fisheries	Environmental and economic dimensions of fuel use (Informative study)	Australia (20 fisheries)	The matter of fuel performance should be considered by the fishing industries. They should focus on improving technology.
Trivedi, Patel, Savalia, Wright, and Harker (2015)	Green products	Consumers' pro-environmental behaviours, environmental locus of control, willingness to purchase (Relationships study)	India (consumers)	Willingness to pay (WTP) for green products was significantly predicted by pro-environmental behaviours (PEBs) and environmental locus of control (ELOC)
Chen and Tung (2014)	Green hotels	Determinants of (TPB)	Taiwan (Green hotels Consumers)	Determinants of TPB were positively related to the intention to visit green hotels.
Zhao et al. (2014)	Green Consumption	Attitude, perceived effectiveness, using behaviour, income, and age (TPB)	Qingdao, China (Chinese Consumers)	The independent variables were recognized as predictors of purchasing behaviour.
Gerrard et al. (2013)	Organic certification logos	Benefits of organic foods (Informative study)	UK (consumers)	Consumers related special advantage to organic foods.
(Lee et al., 2013)	Organic labels	Organic label (SCT)	US (115 consumers)	Impact of organic label on caloric estimations was less obvious amongst "those who read nutritional labels, bought them, and were involved in ecological activities".
Ragavan and Mageh (2013)	Organic Products	Beliefs, and Organic food perception (SCT)	India (300 Consumers)	Awareness towards organic food products, and buyers' beliefs about organic food were positively related to organic food purchase intention.



Suki (2013)	Young consumers' ecological behaviour	Nutritious life style, and ecological knowledge(SCT)	Malaysia (200 young respondents)	The study suggested that healthy way of life and environmental knowledge are predictors of ecological behaviour.
Yusof et al. (2013)	Green image of retailers, shopping value and store loyalty	Shopping value, green image ,store loyalty (Relationships study)	Malaysia (565 consumers)	There was insignificant relationship between green image and store loyalty. However, shopping value had a significant relationship with store loyalty, while green image had a significant relationship with shopping value.
Chang (2012)	Aquaculture firms	Eco-label use, and Income (Single relationship study)	Taiwan (560 households)	Consumption of eco-labelled products boosted income and the impact was more noticeable for producers.
Janssen and Hamm (2012)	Organic food	Eco-perception (Informative study)	Six European Countries (2441 consumers of organic food)	Consumer awareness regarding organic labelling was subjective in nature.
Probst et al. (2012)	Organic vegetables	Appearance, Taste, and Organic Certification (Informative study)	West Africa (180 Food vendors & 360 consumers )	Awareness of chemical contamination hazards was low. Consumers ascribed equivalent utility to preference and organic certification.
Xu et al. (2012)	Seafood	Green-labelled seafood, and willingness to pay (Single relationship study)	Beijing, China (Questionnaire information collected from 14 supermarkets)	There was a positive relationship between eco-label and willingness to pay more for eco-labelled products.
Sønderskov and Daugbjerg (2011)	Organic food	Labelling Confidence (Single relationship study)	US,UK, Denmark, & Sweden (1,000 Respondents)	Confidence in governmental organizations resulted in confidence in the labelling.
Oliver and Lee (2010)	Hybrid cars	Self-image congruence, green information, social value, green purchase(SCT)	USA, S. Korea (1083 US, 783 Korean drivers)	Factors, such as "self-image congruence, propensity to seek information, and perceived social value" were recognized as predictors for buying hybrid cars.
Ramayah, Lee, and Mohamad (2010)	Cloth diapers	Environmental consequences were not predictors (Informative study)	Malaysia (257working respondents)	Ecological outcomes were insignificant predictors for eco-friendly purchase intention.



Gupta and Ogden (2009)	Green product	Perceived critical mass(i.e. collective trust, cooperation, and perceived efficacy)(SCT)	USA (321 subjects)	Trust in group activity, group personality; expectation of others' assistance, and perceived efficacy were recognized as important predictors for green consumption.
Pickett-Baker and Ozaki (2008)	Supermarket Products	Beliefs and confidence (SCT)	UK (52 mothers)	There was a positive relationship between consumer confidence in green products and eco-friendly beliefs.
Della Lucia et al. (2007)	Organic coffee	Familiarity, price, and purchasing intention (TCT)	Brazil (144 consumers)	Acquainted brand name and high price negate purchasing intention.
Leire and Thidell (2005)	Eco-labels Nordic Swan label	Green information (Informative study)	Nordic countries (research on consumer)	Even though the product with ecological feature was missing for a variety of products, current information could be useful to help consumers.
Bjørner et al. (2004)	Toilet paper, paper towels, and detergents	Eco-label, and consumer choice (Single relationship study)	Denmark (Danish households)	Eco-labels positively influenced consumers' brand choices.
Ip (2003)	Eco-friendly products	Green knowledge, and willingness to use (Single relationship study)	China (20 Respondents)	When the Chinese discovered the issues regarding the eco-unfriendly products, they became more interested to use green products.
Loureiro et al. (2002)	Eco-labelled apples	Consumer characteristics, and willingness to pay (Relationships study)	Portland, Oregon (grocery store consumers;285 apple-buying consumers)	Females, especially those with children and high ecological concerns, were willing to pay more for eco-labelled apples.
Johnston et al. (2001)	Eco-labelled seafood	Product features, and consumer group (Informative study)	US, Norway (Households in each nation)	Different factors were recognized as predictors of seafood eco-labelled purchasing intention.  Consumer choices varied by price, types, buyer team, and certifying firm.



## Discussion and Conclusion

As the table 1 indicated, some researchers conducted cognitive studies that focused on SCT (Gupta & Ogden, 2009; Lee, Shimizu, Kniffin, & Wansink, 2013; Oliver & Lee, 2010; Pickett-Baker & Ozaki, 2008; Ragavan & Mageh, 2013). These studies mainly discuss different variables, such as organic labels, self-image congruence, green information, social value, green purchase, organic food perception, perceived critical mass, as well as beliefs and confidence with regard to green purchasing behaviour.

For instance, Suki (2013) focused on the cognitive theory and discussed the importance of healthy way of life as well as environmental knowledge in ecological behaviour, whereas Della Lucia, Minim, Silva, and Minim (2007) focused on TCT and discussed the impact of brand familiarity, price, and intention on ecological behaviour. On top of that, TPB has been discussed by Hosseinikhah Choshaly (2016), Chen and Tung (2014), Nezakati and Hosseinpour (2015), and Zhao, Gao, Wu, Wang, and Zhu (2014), as they explained the constructs, such as attitude, subjective norms, perceived behavioural control, perceived effectiveness, income, as well as age regarding green purchasing behaviour.

Apart from those mention above, other studies (Abdusamad & Thilagavathy, 2015; Bjørner, Hansen, & Russell, 2004; Brécard, Hlaimi, Lucas, Perraudeau, & Salladarré, 2009; Chang, 2012; Choshaly & Tih, 2015; Ip, 2003; Loureiro, McCluskey, & Mittelhammer, 2002; Sønderskov & Daugbjerg, 2011; Xu, Zeng, Fong, Lone, & Liu, 2012; Yusof, Musa, & Rahman, 2013) have looked into single relationship studies that discussed variables, such as green-labelled seafood, willingness to pay, labelling confidence, eco-label use, income, eco-labelling, product feature, consumer choice, green knowledge, willingness to use, consumer characteristics, green image, and perceptions of the effectiveness of green products.

Some were informative studies that mainly discussed product features, consumer group, green information, benefits of organic foods, eco-perception, appearance, taste, organic certification, environmental dimensions of fuel use, environmental impacts of organic and conventional product, as well as barriers of implementing green human resources management (Fayyazi, Shahbazmoradi, Afshar, & Shahbazmoradi, 2015; Gerrard, Janssen, Smith, Hamm, & Padel, 2013; Janssen & Hamm, 2012; Johnston, Wessells, Donath, & Asche, 2001; Leire & Thidell, 2005; Meier et al., 2015; Parker, Hartmann, Green, Gardner, & Watson, 2015; Probst, Houedjofonon, Ayerakwa, & Haas, 2012). Nonetheless, very few studies employed TCT in the area of green consumption, as most of the studies were informative and were single relationship studies.

This research helped to develop new insights of researches on eco-labelled products and identifies gaps in this area. It can be used to improve and promote the market for organic products. They can help organic producers to identify barriers to the organic products market, and therefore to formulate better strategies to overcome these.



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