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Consumers' Perception of Eco-labels in South Africa

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Abstract

This study explores South African consumers' perceptions of eco-labels on products by investigating consumers' awareness of eco-labels, consumers' ability to evaluate label information and consumers' degree of environmental concern. Over the past 20 years, eco- labels have been one of the most widely used voluntary instruments to indicate eco-friendly products. Eco-labels further help to foster and develop consumer awareness of their impact on the environment. Eco-labelling plays an important part in the consumer decision-making process because consumers are presented with the knowledge of products being environmentally friendly. Labels on products are powerful marketing tools that act as essential communication conveyers between businesses, public authorities and consumers. Environmental labels convey to consumers a sense of environmental consideration on the part of the manufacturer. Although past research has shown consumers easily adopt eco-labels and actively care about the environment, not much research has been done in the South African context.

A quantitative study was employed to empirically investigate a sample of 120 respondents who completed a self-administered, structured questionnaire. The results showed that most respondents recognised the European Union energy label. Concerning eco-labels on deodorants, most respondents recognised the Ozone Friendly eco-label whereas the least respondents recognized the ALU aluminium recycling eco-label. Sufficient evidence was found that consumers are generally aware of the environmental impact of products. Consumers, however, often struggle to identify environmentally friendly goods and are unable to verify the environmental claims made by these goods. As this was an exploratory study, the results indeed assisted in identifying areas for future research.

Keywords: Eco-Labels; Environment; Consumer

Introduction and Background

According to Treves and Jones (2010: 491), labels on products are powerful marketing tools that act as essential communication conveyers between businesses, public authorities and consumers. Koos (2011: 131) states that environmental labels convey to consumers a sense of environmental consideration on the part of the manufacturer.

In the 2000s, there has been an ever-growing concern with regards to the earth's fragile sustainability. Issues such as climate change (Taufique et al. 2014: 2177), the gradual destruction of the ozone layer, and wide-spread pollution have been hot topics of debate for many scholars (Edgeman and Wu 2015: 450). Mankind has predominantly been blamed to be the cause of these problems (Korstanje and George 2012: 332).

Continual overconsumption of natural resources and careless disposal of waste are all harmful results accredited to mankind's pursuit for growth (Chen and Chai 2010: 27). Many fear that humankind will not be able to sustain mankind's way of life for much longer at the current rate of consumption and the ongoing rate of depletion of the earth's natural resources (Galloway et. al 2004:188). A natural solution would be a change in human behaviour by altering the way in which humankind consumes and dispose of waste (Grauerholz et al. 2015: 1). A shift in consumers' demand toward more environmentally friendly and sustainable products could act as a starting point on the road to sustainable living.

Businesses would have to adapt their strategies to meet the rising concerns and demands of environmentally conscious consumers (Aubin et al. 2006: 1263). Although there are already a diverse range of environmentally friendly products on the market, people tend to struggle to identify them and question their credibility (Pickett- Baker and Ozaki 2008: 290). Eco-labels could thus aid consumers as eco-labels foster and develop consumer awareness of their impact on the environment (Brécard et al. 2009: 116). Businesses can certify their businesses for eco-label products with certification organisations such as GENICES (Genices Guide 2018), but the use of this in developing countries still need to be researched.

Many businesses also use eco-labels to differentiate their products to ensure an increase in market share as environmentally conscious consumers are attracted to it (Brécard et al. 2009:119). Past research revealed that businesses can command a price premium for their eco-labelled products and this in turn, however, could have a negative effect as price- sensitive consumers might opt for a cheaper non-eco-labelled alternative (Bougherara and Combris 2009:324, Delmas and Grant 2014:13, Froger 2015). In a study done by Fuerst and Shimizu (2016:117), however, it was discovered that households in Tokyo, Japan are willing to pay a price premium for eco-labelled condominiums.

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Problem Statement and Primary Objective

Previous research regarding eco-labels has mostly been done on developed nations (Sammer and Wüstenhagen 2006; Brécard et al. 2009), with little research being carried out in developing nations and with even less focus on South Africa. With the advent of eco-labels, consumers are demanding more recyclable and sustainable products from businesses (Albu and Chitu 2012: 9). This increase in demand for recyclable and sustainable products shows a clear shift in some consumers concern towards the environment as result of the implementation of eco-labels (Albu and Chitu 2012: 9). There is no sufficient evidence, due to a lack of previous research, that South African consumers have similar concerns. It is not clear whether South African consumers are aware of eco-labels, whether they can evaluate label information and their degree of environmental concern. Eco-labels assist concerned consumers in identifying products with verified environmental attributes (Shingrup 2013: 53). It is therefore necessary for research to be conducted in a South African context to determine whether a similar scenario is present in South Africa.

This study will thus examine past research and investigate South African consumers' perceptions of eco-labels on products. In particular, the consumers' awareness of eco-labels, consumers' ability to evaluate label information and consumers' degree of environmental concern will be investigated and whether demographics such as gender, age, home language and the level of education of South African consumers influences their perceptions.

Literature Review of Eco-labels

Defining Eco-labels and Process

Atkinson and Rosenthal (2014: 34) state that eco-labels are information tools with the aim of providing consumers with information regarding the external effects a product has on the environment regarding the production, consumption and disposal of the product (Bougherara and Combris 2009: 321). For this study, eco-labels will be viewed as certification marks or seals of approval that help consumers identify the environmental qualities of a product or service through a logo, while assuring consumers of the truthfulness of these claims (Atkinson and Rosenthal 2014: 34).

Typical environmentally friendly product labels' claims are usually unverified (Gingerich and Karaatli 2015: 45) as opposed to products containing eco-labels which have to go through a certification process (D'Souza et al. 2007: 372). Eco-labels thus try to diminish consumer confusion and simplify their decision making when judging the ecological claims of the multitude of diverse range of products available in the marketplace (Thøgersen et al. 2010: 1787).

Delmas and Grant (2008: 2) briefly refer to three important steps in the eco-labelling process. The first step involves the business adopting

environmentally friendly practices. The second step involves a third party certifying the environmental practices of the business (Delmas and Grant 2008: 2). The last step involves the labelling of the eco-certification through a label posted on the product for consumers to view (Delmas and Grant 2008: 2). A credible and effective eco-label program would be one that evaluates the product in terms of the entire life cycle of the product during production, distribution, use, and when the product is disposed of (Rashid 2009: 133).

Types of Eco-labels

ISO 14000 classifies eco-labels into three broad categories as Type I, Type II, and Type III, whereas other literature (Horne 2009) include a fourth category "Type I like".

Type I labels (ISO 14024 standard), are also known as official eco-labels and is certified by an independent third party (Horne 2009). Type I eco-labels take several factors into account and makes use of a logo (Horne 2009). These are voluntary programs that award a license authorising the use of environmental labels on products (ISO 14024). Type I-like eco-labels are third party certified but focus on single product groups or criteria (Horne 2009) unlike the ISO category Type I which focus on multiple criteria. Type II labels (ISO 14021 standard) are also known as self-declaration labels, and usually takes into account only a single environmental characteristic and coincides with the environmental claims made by producers and distributors (Lavalle and Plouffe 2004). Many producers use Type II eco-labels because of the lack of regulation needed for this type of eco-label. Third-party verification is not required and thus producers can add and remove type II eco-labels to and from their products when necessary. Type III eco-labels consist of quantified environmental data for a product. They provide quantitative life cycle environmental data in a more extensive report format (Horne 2009). Type III eco-labels are environmental product declarations, considering the entire life cycle analysis of the product. They may include specific mandatory information about the life cycle (Ogunyo 2013). These types of labels may include information such as reduction of carbon dioxide emissions for example by four times, and waste by ten times.

Benefits of Eco-labels for Stakeholders

The use of eco-labels could be advantageous for various stakeholders. The use of eco-labels does not only benefit the consumer, but also the manufacturer, as well as the natural environment (Cherian and Jacob 2012: 121, Rashid 2009: 133, Albu and Chitu 2012:14). Table 1 outlines the various benefits eco-labels could provide to consumers, manufacturers, and the natural environment.

Table 1. *Benefits of Eco-Labels*

Stakeholder	Benefits of Eco-Labels
CONSUMERS	• Eco-labels provide consumers with information at the point of purchase regarding the product or service's impact on the environment (Cherian and Jacob 2012: 121). • Aids consumers in identifying environmental friendly products (Shingrup 2013:53). • Eco-labelled product's help consumers identify verified environmental claims made by manufacturers (D'Souza et al. 2007: 375).
BUSINESS	• Businesses can ask a price premium for their certified eco-labelled products (Delmas and Grant 2014: 13). Eco-labels provide producers with a tool for product differentiation and which results in market place preference which ultimately leads to an increase in market share for businesses (Rashid 2009: 133). • Consumers' overall perceived image of the company is increased (Albu and Chitu 2012: 14). • Certain eco-labelling programmes act as market access requirements for specific industries and as such it could be more difficult for competitors, who do not adhere to these certification programmes, to enter the specific industry (Carlson and Palmer 2016: 132).
NATURAL ENVIRONMENT	• Increases awareness among consumers and businesses concerning environmental issues (Brécard, et al. 2009: 116). • Eco-labelling process contributes to the sustainable and efficient use of resources by manufactures (Albu and Chitu 2012: 14). • Reduces overall harm the eco-labelled product has on the environment during manufacturing, use and disposal of product (Albu and Chitu 2012: 14). • Increased degree of environmental protection (Albu and Chitu 2012: 14).

Source: Researchers' own compilation

Factors Influencing Consumers' Perceptions of Eco-labels

There are various factors influencing consumers' perceptions of eco-labels. This study will focus on consumers' awareness of eco-labels, consumers' ability to evaluate label information and consumers' degree of environmental concern. A study conducted by Taufique et al. (2016) stated that to investigate the increasing use of eco-labels in businesses, one should question how much of the labels are understood, used and recognized.

• *Awareness of Eco-labels*

A study done in Malaysia by Rashid (2009: 135) showed that there was a positive correlation regarding consumers' awareness of eco-labels, their attitude

towards environmental protection and their intention to purchase environmental friendly products. Conversely, the study done by Rashid (2009: 135) showed that the opposite was also true regarding consumers who had a low degree of awareness of eco-labels.

- *Consumers' Ability to Evaluate Label Information*

Consumers have to decipher the information being conveyed and unfortunately a misunderstanding of the information often arises (Borin, Cerf and Krishnan 2011: 77). Past research done by Thøgersen (2000) revealed that consumers often struggle to interpret what the eco-labels are trying to convey. D'Souza et al. (2006: 164-165) argue that a reason for consumers' inability to identify information on labels lies with the marketer's failure to adequately communicate the proper information to consumers in an understandable manner.

- *Degree of Environmental Concern*

D'Souza *et al.* (2006: 166) state that highly environmentally concerned consumers are those consumers who can be identified as purchasing environmentally friendly products at any opportune moment. These consumers are characterised as purchasing products to minimise their impact on the environment (Gleim et al. 2013: 45) even if the quality of the product is inferior and the price is high (D'Souza et al. 2006: 166). D'Souza *et al.* (2006: 166) state that highly environmentally concerned consumers are also the type of consumers who seek product labels with information regarding the green attributes of the product (such as recyclable and/or biodegradable) which justify their sacrifice in terms of price and quality. Eco-labels could thus be seen as important sought-after instruments that help environmentally concerned consumers in identifying products with verified environmental attributes (Shingrup 2013: 53).

Research Design

To investigate South African consumers' perceptions of eco-labels an exploratory quantitative study was conducted. As this field of study is new in this environment, it was decided to do an exploratory study first which can then guide a more comprehensive empirical study. In this section the research design of the study will be outlined.

Sample of the Study

The population for this study is consumers of household products. When conducting exploratory research, one would like to explore some variables and relationships and large samples are not necessary as exploratory research are not conclusive research (Struwig & Stead, 2013). Convenience sampling was

thus used to save time and costs. The sample size was a total of 120 respondents who completed the questionnaires. This number was large enough to perform some advance statistics (Anova). The respondents were consumers of household products in Port Elizabeth. Due to the exploratory nature of the study, this area was most convenient to the researchers.

Questionnaire

The questionnaires used in this study focused on collecting data on consumers' perception of eco-labels on products which include consumers' awareness of eco-labels, consumers' ability to evaluate label information and consumers' degree of environmental concern. Five fictional eco-labels were used in the questionnaire to provide a balanced view when testing the respondents' recognition of eco-labels. The intention of using fictional eco-labels was to see whether there are respondents who see them as real labels, which they are not. The questionnaire was derived and adapted from a study conducted in Nairobi, Kenya by Ogunyo (2013). This study was done in the African context and could provide guidance in the development of the questionnaire.

The questionnaire consisted of four sections. Section A of the questionnaire consisted of four biographical questions, including age, gender, home language, and level of education. Section B consisted of eleven questions relating to the environmental awareness of the respondent by using a five-point Likert-type scale, ranging from not important to very important. These questions address issues such as making use of recycling bins, buying energy efficient appliances, and the overall concern for the environment. The respondents' ability to identify eco-labels was tested in Section C of the questionnaire, where ten eco-labels were presented, and the respondent had to indicate the degree to which they recognise the eco-label. Section D consisted of questions relating to consumers ability to evaluate label information.

Data Collection

In this study, questionnaires were used as the method of primary data collection for the empirical findings. The majority questionnaires were hard copies and was personally delivered to the respondents. When the questionnaires were handed out, the researchers clearly explained the research topic and why the research is being conducted. Most of the questionnaires were handed out to the respondents and were completed immediately with the researchers present. However, some questionnaires were handed out and collected later. Allowing respondents to complete the questionnaire in their own time might result in more accurate answers. The data received from the questionnaires was captured in Microsoft excel where statistical measures such as mean and standard deviations was computed to identify possible trends and outliers.

Data Analysis

The computer programmes Microsoft Excel and Statistica Version 13 were used to capture and analyse the data. The information retrieved from the questionnaires was analysed using descriptive statistics. Descriptive statistics were also used to summarise and describe the sample's demographic data (Struwig and Stead 2013:159). Cronbach's alpha was used to measure the reliability of the results. ANOVAS was used to investigate the relationships between variables.

Empirical Results

Sample Description

Table 2 outlines the demographic profile of the respondents.

Table 2. *Demographic Profile of the Respondents*

Items	Frequency	Percentage (%)
Gender		
Male	70	58.33
Female	50	41.67
Total	120	100.00
Age		
18-30	66	55.00
31- 50	43	35.83
51+	11	9.16
Total	120	100.00
Home Language		
English	51	42.50
Afrikaans	59	49.17
Other	10	8.33
Total	120	100.00
Level of Education		
Low level of education	5	5.00
Medium level of education	50	41.67
High level of education	64	53.33
Total	120	100.00

Source: Researchers' own compilation

Table 2 shows that most respondents were male. The age group of most respondents was that of the 18 to 30- year category, whereas the category with

the lowest number of respondents was those over 50 years of age. The majority respondents spoke Afrikaans as their home language, while English was the second most spoken home language of respondents. Most of the respondents obtained either a diploma or a degree with the minority of respondents having a less education than a school leaving certificate.

Validity and Reliability Analyses

In order to ensure the reliability of the research, the researchers sourced all information from credible sources on the NMU database. To ensure validity, the researchers used an existing questionnaire by Ogunyo (2013) and adapted it to be relevant in the South African context.

A pilot study was conducted among a few peers before distributing it to their target population to ensure that the questionnaire is understandable and valid. Reliability of the measures was determined by Cronbach's alpha α.

Cronbach Alpha Results

The eleven statements in section B (Environmental awareness) of the questionnaire all had an alpha above 70, which is considered to be the threshold for reliability. Cronbach alpha of section B in its entirety was 0.81, well above average. Cronbach alpha's for section C (recognition of labels) of the questionnaire, which comprised of 10 statements, had an overall Cronbach alpha of 0.76 for section C. Cronbach alphas for section D (degree of environmental concern) of the questionnaire, with 10 statements in total, was 0.71, just above the threshold of 0.70. The measures were thus found to be reliable.

ANOVA Results

Table 3 shows a summary of the analysis of the results obtained from the one-way analysis of variance of the relationship between the independent variables (gender, age, home language, and level of education) and environmental awareness of respondents (section B of the questionnaire).

Table 3. *Summary of the Anova Analysis Results of Environmental Awareness of Respondents*

Construct Relationship: Environmental Awareness of Consumers	Result
Gender	Statistical significant relationship
Age	Statistical significant relationship
Home language	No statistical significant relationship
Level of education	No statistical significant relationship

Source: Researchers' own compilation

Table 3 shows that only gender and age had statistical significant relationships with the environmental awareness of respondents. Home language and level of education had no statistical significant relationship with the environmental awareness of consumers.

Table 4 shows a summary of the analysis of the results obtained from the one-way analysis of variance of the relationship between the independent variables (gender, age, home language, and level of education) and identification of eco-labels in South Africa (section C of the questionnaire).

Table 4. *Summary of the Anova Analysis Results of Identification of Eco-Labels*

Construct Relationship: Identification of Eco-Labels in South Africa	Result
Gender	No Statistical significant relationship
Age	No Statistical significant relationship
Home language	Statistical significant relationship
Level of education	No statistical significant relationship

Source: Researchers' own compilation

Table 4 shows that only home language had statistical significant relationships with the identification of eco-labels.

Table 5 shows a summary of the analysis of the results obtained from the one-way analysis of variance of the relationship between the independent variables (gender, age, home language, and level of education) and respondents' degree of environmental concern (section D of the questionnaire).

Table 5. *Summary of the Anova Analysis Results and Purchasing Decisions of Respondents*

Construct Relationship: Consumer Purchasing Decisions	Result
Gender	Statistical significant relationship
Age	Statistical significant relationship
Home language	No Statistical significant relationship
Level of education	No statistical significant relationship

Source: Researchers' own compilation

Table 5 shows that both gender and age have statistical significant relationships with the consumers' degree of environmental concern. Home language and level of education thus do not influence the respondents' concern for the environment.
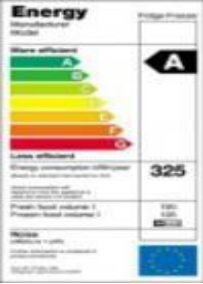
To summarise, there are only statistical significant relationships in the following:

- The gender of respondents and their environmental awareness
- The age of respondents and their environmental awareness
- The home language of respondents and their ability to identify eco-labels in South Africa
- The home language of respondents and their perception of eco-labels on deodorant
- The gender of respondents and their environmental concern
- The age of respondents and their environmental concern.

Results of Respondents' Recognition of Eco-labels

Table 6 shows the percentage respondents who recognised eco-labels.

Table 6. *Eco-labels Recognised by Respondents*

Eco-Label	Fictional Eco-Label	Percentage of Respondents that recognised the Eco-Label
European Union energy label	NO	65.84%
Green Dot eco-label	NO	61.67%
Energy Star eco-label	NO	50.83%
Forest Stewardship Council (FSC) Eco-label	NO	50%

Green Globe eco-label 	NO	37.5%
Fairtrade eco-label 	NO	33.33%
Eco StandardEco Product eco-label 	NO	27.5%
AFSA certified eco-label 	YES	20.83%
Water recycling eco-label 	YES	7.5%
Big 5 Alliance Certified eco-label 	YES	4.17%

Source: Researchers' own compilation

Table 6 showed that most respondents recognised the European Union energy label (65.84%) whereas the least respondents recognized the EconStandard EconProduct eco-label (27.5%). It should be noted that a very small percentage of respondents recognized the fictional eco- labels.

Practical Recommendations

As issues such as overconsumption and the need to live in a more sustainable and environmentally friendly manner become ever more prevalent, it creates a unique trend influencing consumers' demands towards more environmentally friendly goods. Businesses should strive to adhere to this trend and should aim to satisfy consumers' demands for more environmentally friendly goods.

Consumers, however, often struggle to identify environmentally friendly goods and are also unable to verify the environmentally claims made by these goods. Businesses should therefore make more use eco-labels to act as possible information tools to help consumers identify verified environmentally friendly goods.

The use of eco-labels in South Africa however seems to be problematic, as the majority of respondents in this exploratory study struggled to recognise eco-labels. From the eco-labels that were recognised, the actual eco-labels were recognised more than the fictional eco-labels. This reveals that consumers do indeed encounter eco-labels. Certain eco-labels are however small symbols on products and packaging and are often hidden among cluttered information and symbols (such as other brand symbols and product information) and therefore this might lead to most consumers not even seeing eco-labels on products. This notion is furthered supported by the fact that the majority of respondents in this study struggled to find the location of eco-labels on products. The most recognised eco- label in this study however was the Energy Label eco-label. The Energy Label eco-label's high level of recognition could be attributed to its size being proportionally larger than most eco-labels and usually being displayed in full view on a product\appliance for consumers to see. A possible solution for businesses to increase eco-label identification among consumers would be to increase the size of their eco-labels or add features to allow their eco-labels to stand out amongst the clutter.

The aesthetics of eco-labels however are not the prevailing problem contributing to their low recognition rate in South Africa. The majority of consumers are unaware of eco-labels, because they are not informed about eco-labels or their use. Businesses should therefore aim to increase the awareness of eco-labels and educate consumers about the potential use and benefits that eco-labels could provide to consumers.

Future Research and Conclusion

It should be noted that the study focused on only a few eco-labels in South Africa, and many other eco-labels exist in South Africa which were not used in the study. An increase in the number of eco-labels used in future studies might result in a more accurate representation of consumer knowledge on eco-labels in South Africa. The sample of the study was selected through convenience sampling and was limited to one geographical area in South Africa. This is a limitation as the sample results cannot be generalised and is only relevant to the

study respondents. It is therefore proposed that a similar study be undertaken with a larger sample, representing South Africa using this exploratory study as a base.

Despite these limitations, a valuable contribution was made by the study to the field of eco- labels as the study gave better insight into South African consumers' perceptions of eco- labels. Thus, this study will assist in improving the awareness and use of eco-labels among consumers.

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