NELSON MANDELA UNIVERSITY

CONSUMER PERCEPTIONS OF ECO-LABELLING IN SOUTH AFRICA

BY

NGOZA MAQETUKA
STUDENT NUMBER: 218198116
DATE OF REGISTRATION: 22 FEBRUARY 2022

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF

BACHELOR OF COMMERCE HONOURS

IN THE

FACULTY OF BUSINESS AND ECONOMIC SCIENCES

AT THE

NELSON MANDELA UNIVERSITY

STUDY LEADER: PROF M STRUIWIG

SUBMISSION DATE: 03 October 2022

DECLARATION

NAME: Maqetuka, N

STUDENT NUMBER: 218198116

QUALIFICATION: BACHELOR OF COMMERCE HONOURS

TITLE OF PROJECT: **PERCEPTIONS OF ECO-LABELS IN SOUTH AFRICA**

DECLARATION:

In accordance with Rule G5.6.3, I hereby declare that the above-mentioned treatise/dissertation/thesis is my own work and that I have not previously been submitted to another University or for another qualification

……

SIGNATURE

……03/05/2022……

DATE

DEDICATION

This study is dedicated to my parents, who have not only provided me with financial support throughout the duration of this study but have been my pillars of strength by motivating me.

This study is also dedicated to God, for providing me with the strength the complete this study and for protecting me throughout the entire research process.

ACKNOWLEDGEMENTS

I would hereby like to thank several people without whom this study would not have been possible.

- I would like to thank my supervisor Prof Miemie Struwig for her guidance and support. Her encouragement and assistance throughout the entire research process have been a blessing to me.
- Thanks to my family and friends for their moral support and being able to sacrifice spending quality time with me during the research process.
- Finally, I would like to thank the respondent that took part in the study, without them this study would not be completed.

ABSTRACT

Eco-labelling is an essential tool used by marketers to inform consumers about the environmental impact of products and have become popular research topics for researchers. Furthermore, how consumers perceive eco-labelling may affect consumer purchasing decisions and increase an organisations competitiveness. Consumer perceptions of eco-labelling in South Africa were investigated in this study by using variables such as environmental awareness, consumer response, and purchasing decisions of consumers. A sample of 16 consumers in South Africa was used to conduct an empirical investigation, through a convenient sampling technique. The findings indicated that South African consumers were aware of the impact of eco-labelling.

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1. INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

Increasing concerns from modern consumers about green products and methods which assist in identifying them, has been a trend in recent years. Therefore, according to de Souza Corrêa, de Oliveira, Abdalla & Fernandes (2022:100003) organizations adopted tools to mitigate the environmental effects of products and processes on the environment and boost their competitiveness.

Sharma & Trivedi (2016:8) explained that marketers adopted green marketing strategies called: eco-labels; eco-brands; and environmental advertising to communicate the effects of going green to consumers. Where eco-logical concerns are essential elements of political, social and economic aspects of the lives of people in developed countries yet there is limited knowledge in developing countries, and affects people's views on the environment (Hasnain, Raza & Qureshi 2020:27).

It is believed that a reduced impact on the environment can be achieved through consumers purchasing behaviours. Marketers and scholars have been investigating ecological behaviours in purchasing choices deeply, by putting emphasis on prospective determinants of green choices (Testa, Iraldo, Vaccari & Ferrari 2015:265). Taufique, Vocino & Polonsky (2017:529) suggest that there are two dimensions for customer's ecological awareness, which are: (1) ecology concerns must be expressed through the customer's attitude; and (2) concerns of environmental preservation must align with purchasing behaviour of consumers. However, at times consumers awareness on green products does not impact their purchasing behaviours and attitudes towards environmentally friendly products, as personal situations and preferences lead to consumers having different priorities.

1.2. PROBLEM STATEMENT

Due to increasing trends of South African consumers being concerned about the sustainability of natural resources, research on consumer perceptions of eco-labels is more emphasized in developed nations, and there is limited research focusing on nations like South Africa that are developing. Consumers find it difficult to identify and verify the credibility of eco-friendly products, meaning there is a lack of awareness from consumers. The purpose of this study is to review research on consumers perceptions of eco-labelling in South Africa, and identify the gaps in green marketing tools that assist in: promoting consumer awareness on green products; influences green purchasing behaviours; how different demographic influence eco-labelling; and proving credible information about green products.

The problem statement has led to the research question: What are the perceptions of consumers in South Africa regarding eco-labels?

1.3. RESEARCH OBJECTIVES

In this section, the purpose of the study as well as the objectives that this study aims to achieve will be discussed. The objectives of this study include the primary objective and secondary objectives.

1.3.1. Primary objectives

The primary objective of this study is to explore the perceptions of consumers in South Africa regarding eco-labels.

1.3.2. Secondary objectives

From the primary objective several secondary objectives are emanated, the following secondary objectives emanating from the primary objective are:

SO1: To identify the ecolabels currently present in the South African market

SO2: To determine recognition of and response to the present ecolabels by consumers in South Africa

SO3: To assess the impact of various consumer characteristics, for example age, sex, and education on consumer recognition of eco-labels.

SO4: To establish the relationship between environmental consideration when buying and recognition of ecolabels

1.3.3. Methodological objectives

MO1: To conduct a literature review on how South African consumer's perceive ecolabels

MO2: To determine a coherent quantitative study

MO3: To accurately collect and analyse data based on data collection instrument

MO4: To provide relevant conclusions and recommendations based on the findings of the study for future researchers

1.3.4. Research questions

Addressing this gap, in this study, this research therefore seeks to answer the following questions:

a) What is the importance attached to environment as a criterion in purchasing decisions?

b) What are the differences in consumer recognition of ecolabels within different geographical locations?

c) What eco-labels are currently present within the South African market?

d) Do consumers in South Africa recognize the present ecolabels and what is the response to eco-labels by consumers in South Africa?

e) What are the impacts of various consumer characteristics, for example age, sex, and education, on the consumers' recognition of ecolabels?

f) What is the relationship between environmental consideration when buying and recognition of ecolabels?

1.3.5. Significance of the study

It is envisioned that the findings of this study and the proposed theoretical framework would provide insight and serve as a guide for future researchers conducting research on consumer perceptions of eco-labels. The significance of this study is to broaden the knowledge of consumers about environmentally friendly products and increase consumer awareness in terms of eco-labels.

1.4. TIME FRAME OF THE STUDY

Research Matrix- week of 30 March

Chapter 1-3- week of 23 May

Chapter 4- week of 22 August

Chapter 5- week of 22 Sept

Draft treatise – week of 17 October

2. LITERATURE OVERVIEW

2.1 INTRODUCTION

Since there is little research done on consumers' perceptions of eco-labelling in South Africa, the following chapter aims to provide a literature overview of the study, putting emphasis on the key concepts of the study, previous research done on consumers' perceptions of eco-labelling in South Africa, the theoretical framework of the entire study and a summary of the whole chapter.

2.2. DEFINITIONS

The concepts and their definitions are highlighted below. These concepts and definitions assist the reader understand motive behind the study.

2.2.1. Defining eco-labelling

Eco-labelling is defined by Taufique, Polonsky, Vocino & Siwar (2019:314) as being a certification process of environmental performance and labelling practices carried out voluntary by manufacturers and distributors. The identification of the decreased environmental impact of products and services throughout their life cycle, from raw material extraction through to production, utilization and disposal, is enabled by eco-labels (Brècard 2017:364). Eco-labels thus try to diminish consumer confusion and simplify their decision making when judging the ecological claims of the magnitude of diverse range of products available in the marketplace. Since there is a wide range of products that claim to be ecological in the marketplace, Struwig & Adendoeff (2018:178) implies that eco-labels attempt to lessen confusion amongst consumers and clarify their decision making.

According to Laso, Margallo, Fullana, Bala, Gazulla, Irabien & Aldaco (2017:152) three types of eco-labels are suggested in relation to the International Organisation for Standardisation (ISO) 1402X standards, namely:

- Type I (Environmental labelling)- A license is granted for authorizing, through a voluntary program, the utilization of environmental labelling on products to display the entire desirability of the product within a selected product category based on its lifecycle considerations.
- Type II (Self-declared environmental claims)- making own environmental claims that are informative.
- Type III (Environmental declarations)- Voluntary programs whereby a qualified third party sets measured product environmental data based on the products life-cycle assessment, which is corroborated by the same or another qualified third party.

2.2.2. Environmental awareness and eco-labelling

Omoogun, Egbonyi & Onnoghen (2016:72) explains that the aim channelled to reducing the effects human activities on the environment is known as environmental awareness. The relationship between eco-labelling and environmental awareness is a positive one. This positive relationship stems from eco-labelling being a source of information regarding a products' environmental features, which also equips consumers with informal environmental knowledge (Safitri, & Putra 2020:263). Safitri & Putra (2020:263) further explain that eco-labelling in environmental education is a great method to ensure that individuals understand the environmental nature of the products they purchase, in terms of being environmentally friendly and not cause harm towards ecology and also not produce waste that would possibly damage the environment. Consumers taking eco-labels into consideration throughout the buying decision process, makes them a reliable environmental policy communication tool, where Risko, Dekoulou, Mylonas & Tsourvakas (2021:6867) conclude that eco-label information enables environmentally conscious consumers to purchase environmentally friendly products with the belief that environmental protection will be achieved.

2.2.3. Recycling

Unsustainable human behaviours have led to the production of waste material and to the rapid depletion of natural resources (Oke & Kruijsen 2016:285). According to Geiger, Steg van der Werff & Ünal (2019:97) recycling is a process whereby individuals collect waste with the intention and behaviour to allow the re-use of materials. However, the heavy reliance on natural resources to support the economy in developing countries such as South Africa is noted by Scott & Vigar-Ellis (2014:649) as a present issue for them to remain globally competitive.

Since the late 1990's, Godfrey & Oelofse (2017:54) highlighted that strong European influence has led to the emergence of policy and legislation in South Africa. Furthermore, they state that South Africa has been lagging in shifting from using landfill sites and strive towards reducing, reuse, recycling, and recovery, which has resulted in South Africa being left behind 20 to 30 years in comparison to other developed nations such as Europe. Moving towards more sustainable activities such as those highlighted by Godfrey & Oelofse above, will assist the nation to transition to a circular economy (Meis-Harris, Klemm, Kaufman, Curtis, Borg and Bragge 2021:127134). Public and private stakeholder involvement in recycling initiatives throughout waste management chains is inducted by converting waste into wealth, which also presents the opportunity of employment and mitigation of poverty with South African communities (Oyekale 2018:2371).

2.3. PREVIOUS RESEARCH

In this section of the study, research will be conducted on previous research of the research themes, theoretical view and research methods on consumer's perceptions of eco-labelling in South Africa.

2.3.1. Research themes

Table 2.1 illustrates the recurring topics in previous studies on consumers' perceptions of eco-labelling in South Africa.

1 TABLE 2.1: RESEARCH THEMES

Research theme	Definition	Reference
Consumer buying behaviour	How individuals process decisions and act when buying and using a product.	Sharma (2014:840)
Consumer awareness	Focuses on the level of consumer awareness, regarding their rights and responsibilities in the marketplace as a means of making informed purchase decisions.	Makanyeza (2015:183)
Environmental awareness	Being exposed to knowledge and acts that aim for environmental conservation and preservation	Jusoh, Kamarudin, Abd Wahab, Saad, Rohizat & Mat (2018:32)
Green marketing	Focuses on promoting marketing activities whilst preserving the environment.	Agustini, Athanasius & Retnawati (2019:56)
Product life cycle	Outlines product performance as it moves through the different phases of the life cycle, from introduction phase to decline phase in order to be able to fully take advantage of achieving profitability at each life-cycle phase.	Udokporo (2021)

2.3.2. Theoretical view

The following section will discuss previous research conducted on the research themes identified in table 2.1. These research themes include: green marketing; consumer buying behaviour; consumer awareness; environmental awareness; and product life-cycle.

Previous research on consumer' perceptions on eco-labels in South Africa, focused on eco-labels as a means of enhancing consumers' decision making when it comes to purchasing eco-friendly products, therefore, empowering consumers to purchase environmentally friendly products (Madiha 2017). Consumer buying behaviour is enhanced by consumer environmental awareness of labelled products. Risko et al. (2021:6867) explains that eco-label information provides consumers with knowledge of green characteristics of a product and the effects of the

product on the environment. For example, how incorrect disposal of a product will possibly affect the environment. In South Africa, consumer environmental awareness is slightly progressing, however, according to Mkhize & Ellis (2020) developed countries have the most competitive advantage in green consumer markets.

Green marketing tools that enforce implementation of corporate practises that meet green consumer needs and expectations, as a method of increasing the corporate image, decreasing costs, and improving efficiency (Masocha 2020:192). The green marketing tools closely inspect the total life cycle of the product (from introduction phase to decline phase). A Life Cycle Assessment (LCA) is widely used to evaluate environmental effects of a product's life cycle from beginning to end (Ranasinghe & Jayasooriya 2021:100037).

2.3.3. Research methods

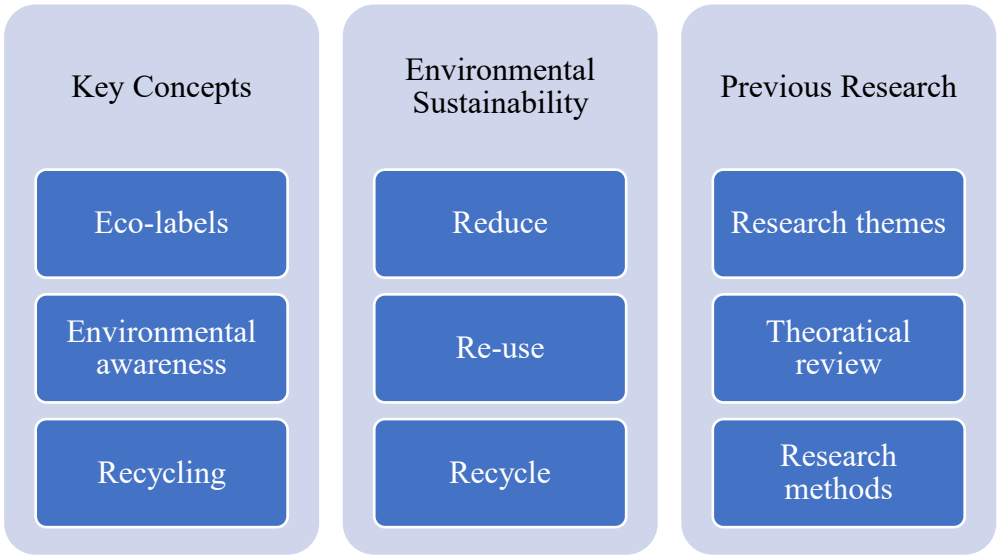
The methods used to conduct research into a topic through utilizing experiments, test and surveys, are known as research methods (Grounder 2012) and in summary they intend on finding answers to research problems. There are many types of research methods. However, the most common research methods include observation; questionnaires and surveys; interviews; focus groups; experiments; and mixed methods.

Various authors such as Dreyer, Botha, Van der Mrewe, Le Roux & Ellis (2016); Struwig (2018:178); and Riskos et al. (2021:6867) have developed and used structured questionnaires and surveys as their preferred method of collecting data from their respondents. These structured questionnaires comprised of closed-ended questions (yes/or no questions, multiple choice and Likert-scale questions) and the targeted respondents were reached through the internet (Roopa & Rani 2012:277).

2.4. THEORETICAL FRAMEWORK

The theoretical framework is a design of the research question of the entire treatise, where Osnaloo & Grant (2016:7) concur that the construction and support of a study is guided by the theoretical framework, in addition it provides the structure that defines the approach that one will use in the entire study. The proposed theoretical framework acts as guide through the structure of the literature overview of this study.

FIGURE 2.1 THEORATICAL FRAMEWORK OF THE STUDY



2.5 SUMMARY

The introduction provided the general topics discussed in the chapter, which are the definitions of key concepts, previous research, and the theoretical framework of the study. Section two of this chapter defined the following as the key concepts of the study:

- eco-labelling- the definition and the three types (Type I, Type II and Type III) of eco-labelling were discussed,
- environmental awareness- the relationship between environmental awareness and eco-labelling was discussed, and
- recycling- it was realized that this process is necessary and could led to employment opportunities and eradicate poverty in South Africa.

Previous research was conducted on consumers' perceptions of eco-labelling in South Africa in section three of this chapter. This section explored the research themes, theoretical view and research methods that were utilized in previous studies in relation to consumers' perceptions of eco-labelling in South Africa.

Finally, in the fourth section of the chapter, the theoretical framework was identified as being the blueprint for the entire study, where it highlighted different topics for the key concepts, environmental sustainability, and previous research for the study.

3 RESEARCH METHODOLOGY AND DESIGN

3.1 INTRODUCTION

Sileyew (2019:12) states that the path through which researchers need to conduct their research is created by a research methodology, and an appropriate framework of a study is provided by the research design. This section will establish the target population, sampling methods, sampling size and sampling techniques used in the study. Followed by data collection methods and a description of the data collection instrument used. It will also state how obtained data will be analysed. Finally, the ethical considerations that need to be adhered to during data collection are discussed.

3.2 RESEARCH POPULATION AND SAMPLING

A target population is a set or group of specific potential participants who meet particular criteria for a research study (Casteel & Bridier 2021:362). According to Alvi (2016) a population may possess two characteristics, as being homogeneous or heterogeneous. For the purpose of this study, the targeted population consists of heterogeneous individual and household consumers in South Africa. The consumers must be between 18 and 65 years of age. When conducting a study, the researcher wishes to gain insight on a phenomenon in a population in order to generalise the results of their findings (Bornstein, Jager & Putnick 2013:370). Sampling is defined by Majid (2018:7) as a process of extracting a sample of a group of individuals from the target population. An evaluation of the respondents' beliefs and attitudes is represented through a structured questionnaire known as a sampling survey (Rahi 2017:5). There are two broad types of sampling methods: (1) probability sampling; and (2) non-probability sampling.

Since this study uses a quantitative research method, a descriptive research design is used to describe the relationship between different variables within the study. The sampling method used in the study is a non-probability sampling method, which defined as a method of non-random sampling where each unit of the population does not have a known probability of being chosen in a sample (Bhardwaj 2019:157). The type of non-probability sampling technique used in the study is a convenient sampling technique, as it aims to approach convenient respondents to save time and efforts of the researcher. The sample size will consist of a total of 20 respondents, that will have successfully completed the data collection instrument.

3.3 DATA COLLECTION

Most researchers find data collection challenging as it is time consuming and stressful. Kabir (2016:275) defines data collection as the process of gathering and measuring data based on relevant variables, in a structured manner that allows the researcher to answer the research questions, test hypotheses, and assess the results. Primary data in this study was collected through questionnaires. Due to the limited time available to collect data, questionnaires will be distributed to respondents via email and social media platforms (Whatsapp, Facebook or Instagram). The respondents will receive a document that consists of an explanation of the topic; structure of the questionnaire and a link that will directly refer them to the questionnaire, and they will have enough time complete the survey. The questionnaire will be sent to 16 respondents.

3.4 DESIGN OF MEASURING INSTRUMENT

The data measuring instrument is an online, self-administered survey in the form of a structured questionnaire. The questions in the questionnaire are made up of multiple-choice questions, closed-ended questions, and Linkert scale questions. The structure of the questionnaire is as follows:

- Section A- biographic information of respondents. Consisting of multiple-choice questions,
- Section B- South African consumers' perceptions of eco-labels. Linkert scale questions ranging from strongly disagree to strongly agree.
- Section C- Consumers' purchasing decisions. This section also uses Linkert scale questions ranging from not important to very important.
- Section D- consumer recognition of labels. Multiple-choice questions are used to identify which labels are recognised by the respondents.

3.5 DATA ANALYSIS

Abdallah, Du & Webb (2017) describe data as being often unstructured when it is initially collected, but the process of data preparation converts data to be more structured and ready for further analysis. Once data has been successfully collected it is interpreted and presented. Data will be captured and analysed by computer programs, such as an Excel spreadsheet and Statistica. Simple bar graphs, pie charts and tables will be used to display the findings and further interpretations of the findings will be provided (Ibrahim 2015:104).

3.6 ETHICAL CONSIDERATIONS

It is crucial that all researchers take ethics into consideration when pursuing a study. Therefore, ethical clearance for this study was obtained on 16 May 2022 from Nelson Mandela University, with the reference number Ref: [H22-BES-BMA-019]. This study will involve human respondents, meaning the researcher will need to abide by the following in order to collect data ethically:

- Informed consent- Respondents need to agree to participate in the study and not be coerced by anyone.
- Confidentiality- All personal information of respondents needs to be hidden from the public and stored securely.
- Potential for harm- There should be no physical, psychological or any other type of harm posed on the respondents.

3.7 SUMMARY

The introduction of this section describes the research methodology and design used in the study. Section two refers to the research population and sampling. For the purpose of this study the target population consists of individual and household consumers in South Africa. The researcher aims to target a sample size of 20 respondents, through a non-probability sampling method and a convenience sampling technique to save time and efforts.

The third section stated that data will be collected from respondents in the form of a structured questionnaire, that will be distributed to respondents via email and social media platforms in order to save time and efforts. Followed by the fourth section that describes the structure of the data collection instrument which is a questionnaire.

The fourth section refers to data analysis, where data is collected, analysed, and interpreted through various computer programs and techniques. Finally, section six of this chapter consisted ethical considerations that will be adhered to during the data collection process and proves that ethical clearance was obtained from the institution.

4 FINDINGS AND INTERPRETATION OF THE DATA

4.1 INTRODUCTION

In the previous chapter the research design and methodology to obtain the information on the theoretical aspect of this study, as well as the empirical investigation, were discussed. This chapter will outline the results that were obtained from the empirical survey in order to investigate the perceptions of respondents on eco-labelling in South Africa. The data will be illustrated in the form of pie charts, bar graphs, and tables.

The first section of the chapter will discuss the demographic and sample description, thereafter the descriptive statistics of section B (Environmental awareness and Consumer response to Ecolabels) and section C (Purchasing decisions) of the questionnaire will be provided. Thereafter the respondents' recognition of labels will be discussed, the reliability of the questionnaire and the validity of the questionnaire will be outlined. To conclude some T-tests will be discussed to show the differences between demographics and environmental awareness and consumer response to ecolabels as well as their purchasing decisions. Some correlations will also be outlined.

4.2 DEMOGRAPHIC AND SAMPLE DESCRIPTION

The demographic and sample structure are described below in terms of:

Gender

Age

Education

Employment status

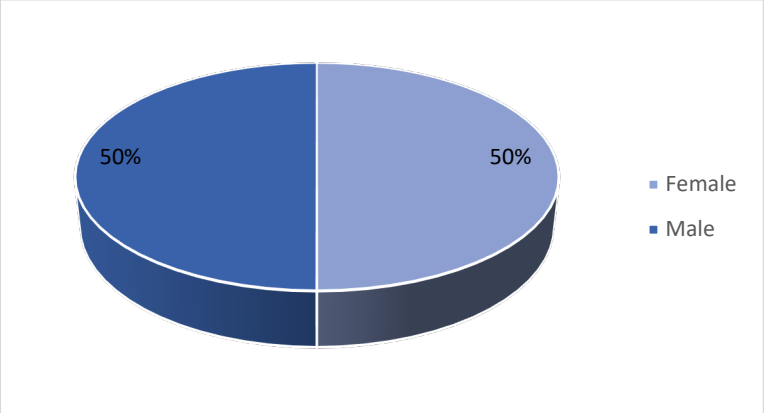
Frequency of shopping

Place of residence

The ethnicity of the respondents was optional, therefore, it will not be analysed and interpreted for that reason.

Figure 4.1 illustrates the gender composition of the respondents

2 FIGURE 4.1 GENDER COMPOSITION OF THE RESPONDENTS

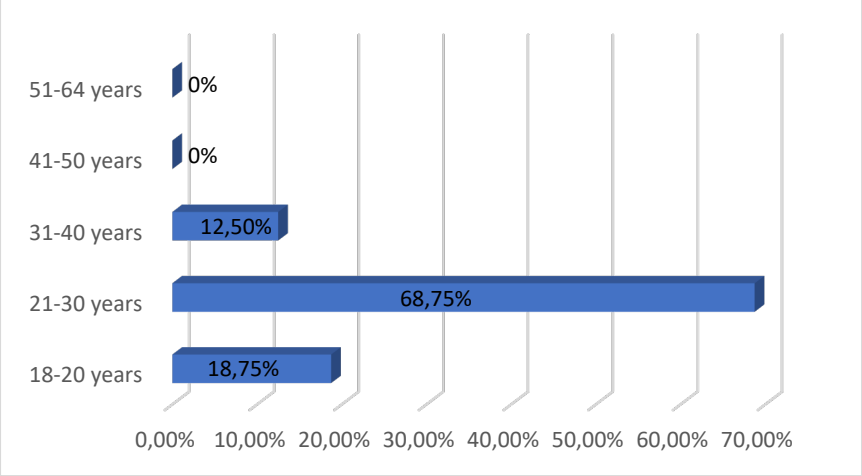


(n=16)

As indicated in Figure 4.1, 50% of the respondents were female, and 50% were male. The equal sample proves that the research topic is compatible for both female and male respondents.

Figure 4.2 illustrates the age distribution of the sample used in the questionnaire

3 FIGURE 4.2: AGE DISTRIBUTION OF SAMPLE USED IN THE STUDY

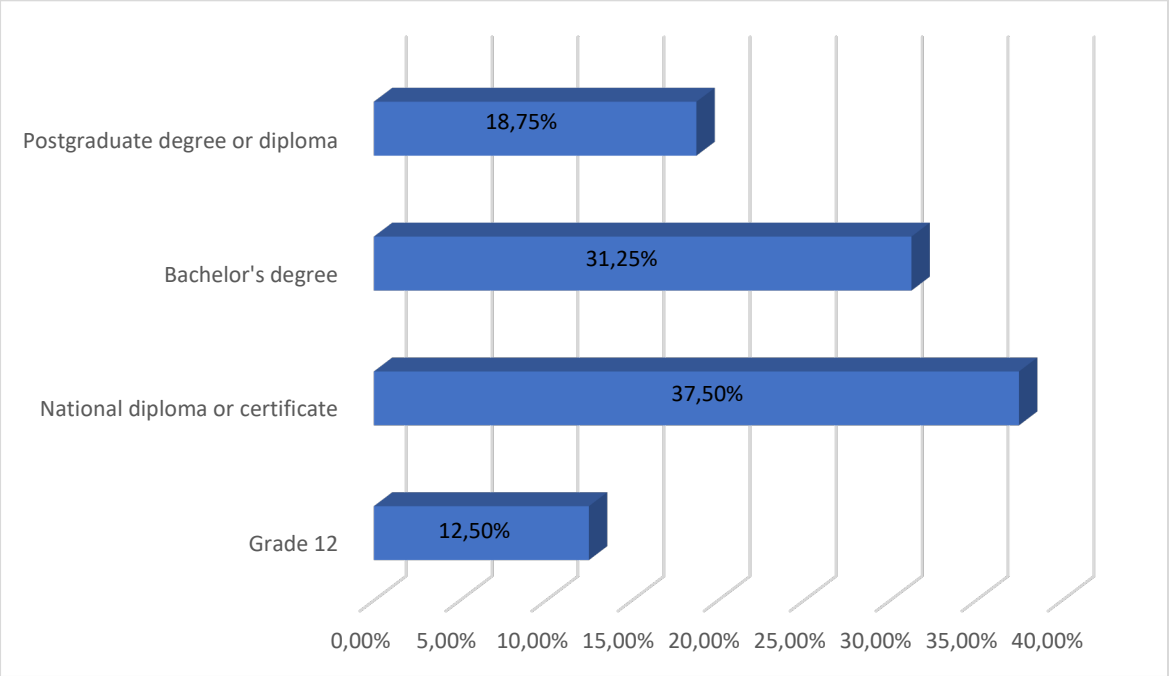


(n=16)

Figure 4.2 illustrates that the majority of the respondents, 68,75%, were between the ages of 21 and 30. This is expected because the majority of the respondents were young professionals that have recently completed their tertiary level studies.

Figure 4.3 illustrates the education level of the sample used in this survey

4 FIGURE 4.3: EDUCATION OF SAMPLE USED IN THE SURVEY

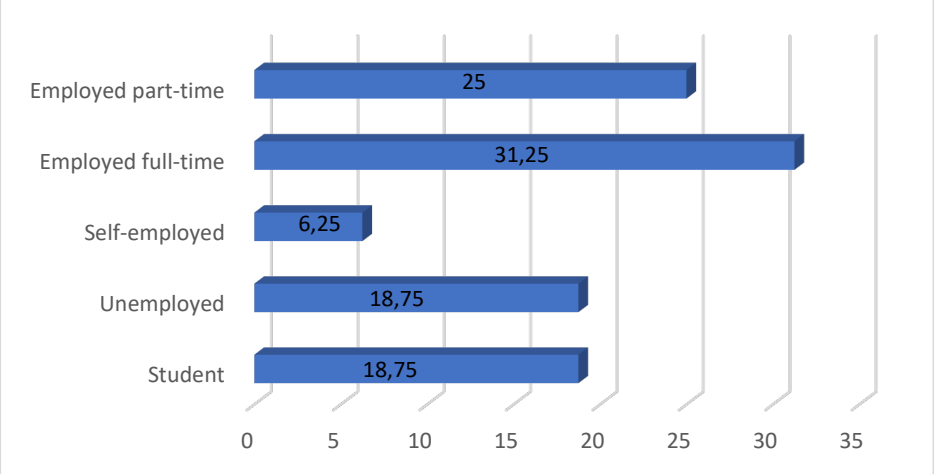


(n=16)

Figure 4.3 illustrates that the majority (37.50%) of the respondents had obtained a national diploma or certificate, followed by 31.25% being in possession of a bachelor's degree, where 18.75% have a post-graduate degree or diploma, finally 12.50% are in possession of a national senior certificate (grade 12). Therefore, most of the respondents have obtained a higher education level and it would be considered that the respondents have some knowledge about eco-labelling

Figure 4.4 illustrates the employment status of the respondents used in the survey

5 FIGURE 4.4: EMPLOYMENT STATUS USED IN THE SURVEY

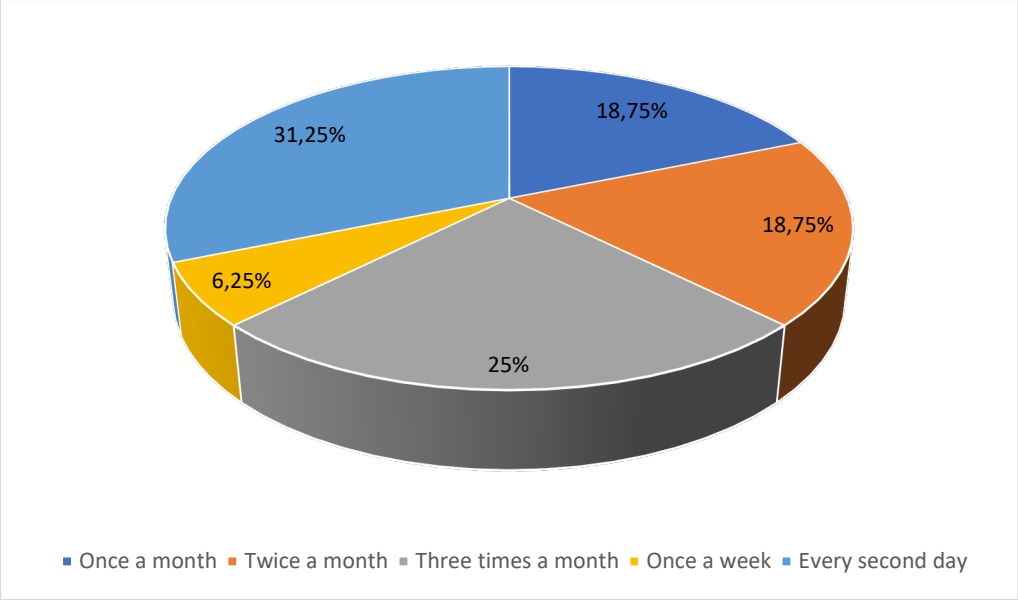


(n=16)

Figure 4.4 illustrates that 31,25% of the respondents are employed full-time while respondents that are employed part-time account for 25% of the respondents. The respondents may be exposed to eco-labelling in their place of employment.

Figure 4.5 illustrates the frequency of shopping of respondents.

6 FIGURE 4.5: FREQUENCY OF SHOPPING

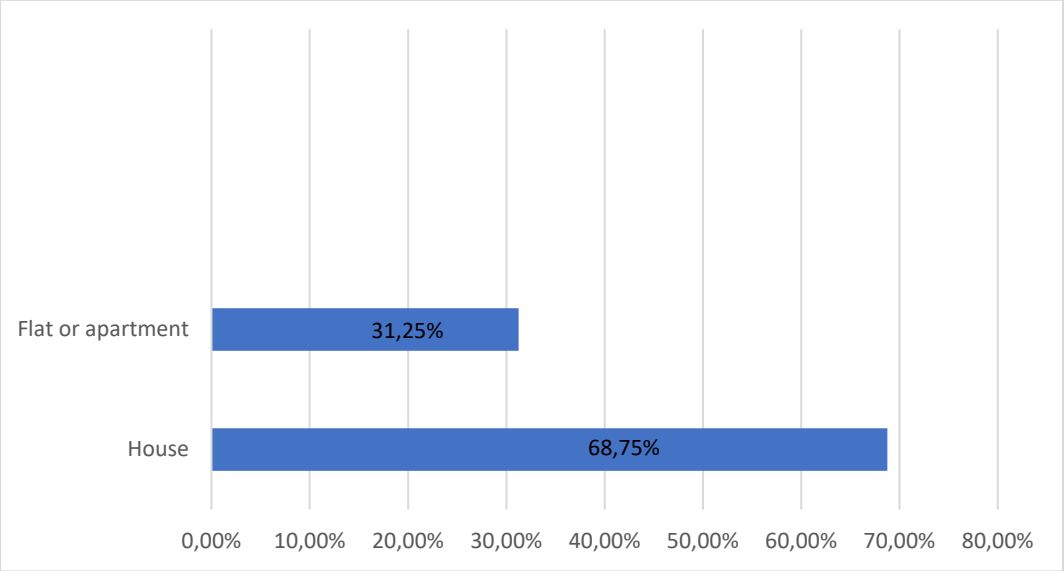


(n=16)

As indicated in figure 4.5, 31.25% of the respondents frequently went shopping every second day this frequent frequency of shopping may be triggered by the ease of use of e-commerce.

Figure 4.6 illustrates the place of residence of the respondents.

7 FIGURE 4.6: PLACE OF RESIDENCE OF THE RESPONDENTS



(n=16)

Figure 4.6 illustrates that the majority of the respondents, 68.75%, reside in a house while 31.25% reside in a flat or apartment. This may be because the sample mostly consists of young professionals that are still residing at home until they are able to move into their own house or apartment.

4.3 DESCPTIVE STATISTICS OF SECTION B AND SECTION C OF THE QUESTIONNAIRE

According to Sharma (2019) descriptive statistics is intended to provide summaries of the sample and measures concluded in a study. Since the summary describing the sample was provided in section 4.2, this section outlines the descriptive results of the main variables of section B and section C of the questionnaire. Table 4.1 provides the mean and standard deviation of section B and section C of the questionnaire.

2 TABLE 4.1: THE MEAN AND STANDARD DEVIATION OF VARIABLES MEASURING THE ENVIRONMENTAL AWARENESS, CONSUMER RESPONSE AND PURCHASING DECISIONS OF THE RESPONDENTS

Variable	Mean	Std. Dev	Disagree%	Neutral %	Agree%
ENV-AWARE	3.57	0.45	0%	50%	50%
CONRESP	3.39	0.43	0%	68.75%	31.25%
PURDEC	3.62	0.27	0%	50%	50%

The variables in Table 4.1 were measured using a five-point Linkert-type scale, whereby in Sections B and C of the questionnaire 1 and 2 represented that the respondents strongly disagree with the statement, 3 represented neutral and 4 and 5 categorised respondents that strongly agree with the statement.

In Table 4.1 the variable Consumer Response had a mean score of 3.39, with 68.75% which is the majority of the respondents being neutral to being influenced by eco-labels to purchase eco-friendly products. Environmental Awareness outlined a mean score of 3.57, where 50% of the respondents agreed, and 50% were neutral to managing their waste in order to preserve the environment. Purchasing Decisions reported the highest mean score of 3.62, where 50% of the respondents agreed, and 50% were neutral to the factors that influence them in making a purchase decision.

4.4 RELIABILITY OF THE QUESTIONNAIRE

Reliability is explained by Heale & Twycross (2015:67) as an indication of the consistency or stability of a measurement. Reliability tests were conducted in the study to ensure that there were absent or minimal measurement errors when measuring variables. Reliability tests, across different samples and conditions, ensure the constant interpretation of parts of the measuring instrument (questionnaire).

Statistica 10 was used to test for internal reliability of the questionnaire, so that the standard to which the test scores were accurate and consistent can be determined. The test scores were assessed for internal consistency by obtaining Cronbach's alpha coefficients. The results of the reliability tests conducted on the questionnaire of this study are presented in Table 4.2, Table 4.3, and Table 4.4.

3 TABLE 4.2: CRONBACH ALPHA FOR SECTION B OF THE QUESTIONAIRE-ENVIRONMENTAL AWARENESS

Variable	Item-Total Correlation	Alpha if deleted
Enviro1	0.50	0.60
Enviro2	0.61	0.60
Enviro3	0.10	0.68
Enviro4	0.59	0.60
Enviro5	0.53	0.60
Enviro6	-0.18	0.73
Enviro7	0.32	0.64
Enviro8	0.60	0.57
Enviro9	-0.16	0.71
Enviro10	0.46	0.61
Cronbach alpha: 0.66		

The Cronbach's alpha coefficient for Environmental Awareness is 0.66, which suggests that the scale measuring this variable is questionable.

4 TABLE 4.3: CRONBACH ALPHA FOR SECTION B OF THE QUESTIONNAIRE-CONSUMER RESPONSE

Variable	Item-Total Correlation	Alpha if deleted
ConsRes1	0.52	0.64
ConsRes2	-0.02	0.73
ConsRes3	0.47	0.65
ConsRes4	0.20	0.70
ConsRes5	0.39	0.66
ConsRes6	0.07	0.70
ConsRes7	0.28	0.68
ConsRes8	0.56	0.62
ConsRes9	0.37	0.67
ConsRes10	0.67	0.61
Cronbach alpha: 0.69		

The Cronbach's alpha coefficient for Consumer Response is 0.69, which suggests that the scale measuring this variable is questionable. However, this Cronbach alpha is slightly better than that of Environmental Awareness.

5 TABLE 4.4: CRONBACH ALPHA FOR SECTION C OF THE QUESTIONNAIRE-PURCHASING DECISIONS

Variable	Item-Total Correlation	Alpha if deleted
PDec1	-0.32	0.13
PDec2	-0.37	0.18
PDec3	0.33	0
PDec4	0.48	0
PDec5	0.10	0
PDec6	0.04	0
PDec7	-0.11	0
PDec8	0.09	0
PDec9	0.01	0
PDec10	-0.28	0.17
Cronbach alpha: -0.11		

The Cronbach's alpha coefficient for Purchasing Decisions is -0.11, which suggests that the scale measuring this variable is unacceptable. Therefore, it can be noted from the unacceptable Cronbach alpha that the questionnaire was not reliable since it supplied inconsistent results and will require the questions to be revised or replaced.

4.5 VALIDITY OF THE QUESTIONNAIRE

A questionnaire's score would be considered to be valid if the questionnaire measured the variables it aimed to measure (Taherdoost 2016:36).

4.6 CORRELATION ANALYSIS

The correlation analysis is defined by Senthilnathan (2019), as a measure that explores the relationship between constant variables of a study. The further away the value of the correlation is from the centralised '0' the more it shows increased strength of the relationship, ranging both -1.0 and 1.0. A negative and positive sign represent the direction of the relationship. The closer the correlation coefficient is to 1.0, the stronger the relationship between variables. Positive correlation coefficients indicate that higher variable 1 values tend to correspond with lower variable 2 values. The two variables in this study were the respondents' perception of the importance of eco-labelling (variable 1) and the respondents' perception of purchasing eco-labelled products (variable 2). Table 4.5 shows the results of the correlation coefficients of the variables in section B and the variables of section C of the questionnaire.

6 TABLE 4.5: CORRELATION COEFFICIENT OF SECTION B AND SECTION C OF THE QUESTIONNAIRE

	ENVI-AWARE	CONRESP	PURDEC
ENV-AWARE	1.00	0.42	0.57
CONRESP	0.42	1.00	0.11
PURDEC	0.57	1.11	1.00
Red indicates statistically significant correlations (p<0.05)			

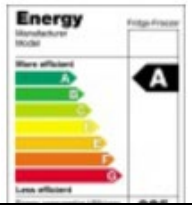
In Table 4.5 two of the three variables illustrate statistically significant correlations. Significant (p<0.05) positive correlations reported between Environmental awareness (ENV-AWARE) and Purchasing decisions (PURDEC) (r=0.57). The r-values reported reflect strong relations between these two variables.

4.7 RESULTS OF THE RECOGNITION OF LABELS

The last section of the questionnaire, section D, contained 10 eco-labels where respondents had to indicated whether they recognised it or not.

Table 4.6 indicates the results of the consumer recognition of eco-labels.

7 TABLE 4.6: THE FREQUENCIES OF CONSUMER RECOGNITION OF ECO-LABELS

NAME OF LABEL	LABEL	%
1. ENERGY STAR: USA		75%
2. EU ENERGY LABEL		100%
3. ALU ALUMINIUM RECYCLING ECO-LABEL		62.5%
4. FOREST STEWARDSHIP COUNCIL (FSC) CHAIN OF CUSTODY CERTIFICATION		75%

NAME OF LABEL	LABEL	%
5. AFRISCO CERTIFIED ORGANIC		12.5%
6. CERTIFIED WILDLIFE FRIENDLY ®		18.75 %
7. CFC BANNED ECO-LABEL		37.5%
8. NATRUE-LABEL		18.75 %
9. GREEN BUILDING COUNCIL SOUTH AFRICA		18.75 %
10. ISO APPROVED ECO-LABEL		18.75 %

Table 4.6 showed that most (100%) of the respondents recognised the EU energy label, and the least respondents (12.5%) recognised the Afrisco certified organic label. However, it should be noted that eco-label 7 and 10 in Table 4.3 do not exist and are fictious labels, but 37.5% recognised the CFC banned eco-label, and 18.75% recognised ISO approved eco-label. This could be because the respondents perceived that these fictious labels are similar to valid eco-labels.

4.8 SUMMARY

Statistica 10 was used to test the frequency tables, the descriptive statistics, reliability, validity, and correlation of the variables of the questionnaire. This chapter started by presenting an overview of the respondents of this study. The demographic information of the respondents reflected that 50% of the respondents were female and 50% of the respondents were male, all (100%) of them were of African ethnicity, majority of them obtained a National Diploma or Certificate qualification, where most are employed on a full-time basis, the majority frequency of shopping was every second week which accounted for 31.25% of the respondents, and most (68.75%) of the respondents resided in a house. These figures were represented in the form of pie charts and bar graphs.

Section three of this study presented the descriptive statistics of section B and section C of the questionnaire in the form of a table. The description of the sample was summarised using a five-point Linkert-scale, where Purchasing Decisions reported the highest mean score of 3.62, where 50% of the respondents agreed, and 50% were neutral to the factors that influence them in making a purchase decision.

Section four and five tested the reliability and validity of the questionnaire. The results of the respondents were assessed for internal consistency by obtaining the Cronbach's alpha coefficients of the variables. Section B presented Cronbach's alpha coefficients that were questionable due to them being below 0.7 which is considered to be a good score and section B had an alpha coefficient of -0.11 which is unreliable. Validity was not measured in this study since the sample size was too small.

Section six and the last section of this chapter show the analysis of the correlation of the variables and the frequency to which the respondents recognised the eco-labels, where eco-labels 7, and 10 do not exist. There was clear significant corelation between two variables, namely, Purchasing Decisions and Environmental Awareness. Finally, it was apparent that most of the respondents recognised the eco-labels in Table 4.6, but 37.5% and 18.75% of the respondents said they recognised the fictious labels.

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The following chapter provides a synopsis of all the chapters completed in this study. The primary objective of the study is to explore the perceptions of consumers in South Africa regarding eco-labels, was presented in chapter one. Chapter two provided the literature overview of the key concepts, previous research done consumers' perceptions of eco-labelling in South Africa, and the theoretical framework of the entire study. Chapter three provided the measured results and interpretation of the empirical findings. The final chapter of the study, chapter five, provides an overview of the study. A brief overview of the literature is also provided. The chapter indicates how research objectives were met and the research questions in chapter one are answered. There is more focus on relevant findings and recommendations based on the literature overview and empirical findings are made. Limitations of the study are indicated, and future research areas are suggested. To conclude the study, concluding remarks regarding the study are made.

5.2 SUMMARY OF RESEARCH

5.2.1 Summary of Chapter 1

Chapter one presented the introduction and background of the research topic. The research problem statements, significance of the study as well as the research objectives were briefly explained. Research questions and the time frame of the study were provided to guide the researcher throughout the course of the study.

5.2.2 Summary of Chapter 2

A literature review of the main concepts central to the study, namely eco-labels, environmental awareness, and recycling were given. Followed by the research themes, theoretical view, and research methods of previous research on consumers' perceptions of eco-labelling in South Africa. A proposed theoretical framework was designed to become the blueprint of the entire research study.

5.2.3 Summary of Chapter 3

The research design and methodology were employed to address the primary and secondary objectives (as presented in chapter one) of this study was provided in chapter three. Attention was given to the research methods employed in the study. The procure and collection of data including the population, sample size and selection as well as the administration of the measuring instrument was addressed. A measuring instrument in the form of a questionnaire was constructed and distributed to South African consumers to collect primary data. Respondents were requested to.

The measuring instrument consisted of four sections. The statistical techniques that were used to analyse the data in each section are also highlighted.

To conclude the chapter, an outline of the data analysis procedure was given. The ethical considerations taken by researcher were presented.

5.2.4 Summary of Chapter 4

Chapter four reported on the analysis of the data and empirical results of the study. A statistical overview of the demographic profile of the respondents was provided followed by a discussion of the descriptive statistics that were calculated. Cronbach's coefficient alpha was calculated and the values that were obtained suggested that the measuring scales used in the study were questionable and unreliable.

5.3 ACHIEVEMENT OF PRIMARY AND SECONDARY OBJECTIVES

The achievement of the research objectives and the findings which addressed the research questions are discussed in the sections below

5.3.1 Addressing the primary and secondary objectives

The primary objective of this study is to explore the perceptions of consumers in South Africa regarding eco-labels and secondary objectives were set to achieve the primary objective, namely:

SO1: To identify the eco-labels currently present in the South African market

This construct was analysed in chapter four, where three of the 10 eco-labels were identified as fictious labels. The results concluded that the majority of the South African market is able to identify the currently present eco-labels. However, some respondents failed to distinguish between the fictious and currently present eco-labels.

SO2: To determine recognition of and response to the present eco-labels by consumers in South Africa

This objective was analysed in chapter four, where 68.75% of the consumers were neutral and 31.25% agreed that they respond to the present eco-labels in South Africa. Therefore, this objective indicated that most consumers were neutral to responding (through making a purchase) to eco-labels that they recognised, and fewer consumers agreed to the above statement.

SO3: To assess the impact of various consumer characteristics, for example age, sex, and education on consumer recognition of eco-labels

The consumer characteristics were analysed in chapter four, where the gender, ethnicity, age, highest qualification, employment status, frequency of shopping, and place of residence of the consumers were analysed. Certain consumer characteristics such as age, highest qualification

and employment status supported this objective as these variables assisted some consumers on recognising eco-labels.

SO4: To establish the relationship between environmental consideration when buying and recognition of eco-labels.

It was reviewed in chapter one that when consumers make a purchasing decision, they take the environment into consideration. The findings proved that there were measuring errors when measuring the reliability of purchasing decisions. The objective was supported with significant value (0.57) showing that environmental consideration has a significantly positive influence on purchasing decisions.

5.3.2 Addressing the research question

The research questions that were based on the aim as well as the primary objective of the study were provided in chapter one. The findings addressed the research questions include:

(a) What is the importance attached to the environment as a criterion in purchasing decisions?

The study has proven that the environmental content of a product influences consumers in buying products. The findings in chapter four analysed the correlation between the two variables. The research question was supported with significantly positive value (0.57) showing the importance attached to the environment as a criterion in purchasing decisions.

(b) What are the differences in consumer recognition of eco-labels within different geographical regions?

The research question could not be answered since the study was only limited to one geographical area in South Africa. Therefore, the results could not be generalised and is only relevant to South African consumers.

(c) What eco-labels are currently present in the South African market?

The currently present eco-labels in the South African market were presented in chapter four. Although the study did not present all the eco-labels currently present in the South African market, the study included the following eco-labels:

- Energy Star: USA,
- EU Energy,
- ALU Aluminium Recycling Eco-label,
- Forest Stewardship Council (FSC) Chain of Custody Certification,
- Afirsco Certified Organic,
- Certified Wildlife Friendly,

- Natrue-label, and
- Green Building Council South Africa.

(d) Do consumers in South Africa recognise the present eco-labels and what is the response to eco-labels by consumers in South Africa?

Chapter two of this study reviewed that consumer recognition of eco-labels influence consumers to purchase environmentally friendly products. In chapter four it was analysed that South African consumers are able to recognise the present eco-labels. The consumer response to eco-labels is that they make a purchase based on the recognition of an eco-labels contribution to preserving the environment.

(e) What are the impacts of various consumer characteristics, for example age, sex, and education, on the consumers' recognition of eco-labels?

Certain consumer characteristics such as education and employment status have a positive impact on consumers' recognition of eco-labels. These consumer characteristics equip consumers with the knowledge of environmental awareness. Therefore, environmentally aware consumers are able to recognise eco-labels and the benefits of the labels towards the environment.

(f) What is the relationship between environmental consideration when buying and recognition of eco-labels?

Chapter four analysed consumer response to environmental consideration when buying and the recognition of eco-labels. However, the relationship or the correlation of the two variables was not measured, therefore, leaving the question unanswered.

5.4 MAJOR FINDINGS AND RECOMMENDATIONS BASED ON EMPIRICAL RESULTS

This section provides the major findings pertaining to the demographic profile of the respondents as well as the findings of the statistical tests employed to achieve the research objectives as stated in chapter one.

5.4.1 Demographic profile of the respondents

The analysis of the demographic findings of the empirical survey yielded the following results:

- The gender orientation of the respondents was equal, accounting for 50% female and 50% male respondents.
- All (100%) of the respondents were African.
- Majority (87.5%) of the respondents obtained and were in possession of a national diploma or certificate, bachelor's degree or post-graduate degree or diploma.

- The highest representation of the employment status of the respondents was those employed full-time (31.25%), followed by those employed part-time (25%), and those that are students unemployed (18.75%).
- The frequency of shopping of the 16 respondents was five (31.25%) every second day and four (25%) three times a month.
- The type of residence of the 16 respondents accounted for 11 (68.75%) residing in a house and 5 (31.25%) residing in a flat or apartment.

5.5 LIMITATIONS OF THE STUDY AND FUTURE RESEARCH AREAS

The limitations of any study are related to the possible weaknesses that are encountered by a researcher which are normally out of the researcher's control, and are strongly connected with the selected research design, data analysis constraints, funding constraints, or other factors present in the study (Theofanidis & Fountouki 2018:163). Since limitations are present in every study, and the researcher identified a few limitations in this study, which are discussed below:

- There were study limitations during data collection, due to the researcher targeting respondents of the same ethnicity group and it was noted that some respondents provided answers that would be favourable to the researcher.
- Also, study limitations were identified from the small sample size, which limited the researcher in effectively analysing some variables.

The limitations to the study have been discussed, and from the limitations the focus of future studies can be determined. Future studies need to put emphasis on data collection, by targeting respondents with a different biographical profile, for example, target respondents of different ethnicity and age orientation. Furthermore, the small sample size limits the researcher from accurately measuring certain variables. Therefore, future studies need to increase the sample size to between 60 and 100 respondents. The study focused on only a few eco-labels that were present in the South African market, whereas there are many other eco-labels present in South Africa but were not used in this study. Future studies need to use an increased number of eco-labels to ensure that consumers will be able to recognise more eco-labels.

5.6 CONCLUDING REMARKS

The study provides insight on South African consumer perceptions of eco-labelling. However, the study could serve as a guide to aid future researchers conducting a study on the research topic, since some research questions in this study remain unanswered. The measuring and interpretation of the relation between the variables of section A and section B and C of the measuring instrument should be considered to increase consumer knowledge and consumer use

of eco-labelled products. Future studies are required on the research topic, where a larger sample is sourced and more respondents with different demographic profiles are used.

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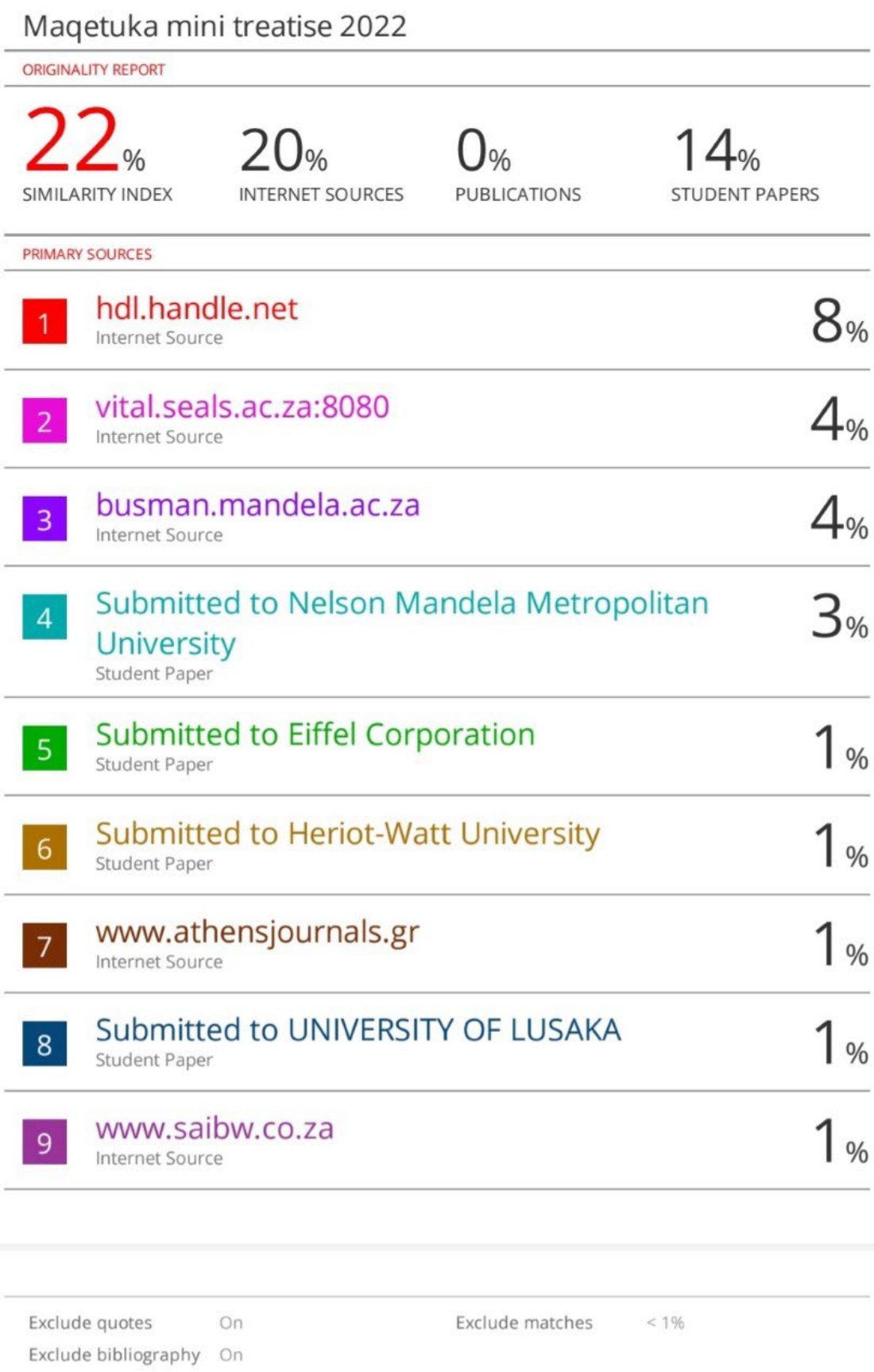
APPENDIX 1: TURNITIN REPORT



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APPENDIX 2: ETHICAL CLEARANCE

Ethical clearance for the study has been obtained from the institution (Nelson Mandela University). The ethics number is:

Ref: [H22-BES-BMA-019].

APPENDIX 3: DATA COLLECTION INSTRUMENT

Faculty of Business and Economics
Nelson Mandela University
Tel: +27 (0)41 504-2692
E-mail: s218198116@mandela.ac.za

Date: June 2022

Ref: H22-BES-BMA-019

CONSUMERS' PERCEPTIONS OF ECO-LABELS IN SOUTH AFRICA

Dear Respondent

I am conducting a study that will explore the perceptions of consumers in South Africa regarding eco-labels. Furthermore, the study will investigate whether respondents recognize eco-labels. The study will contribute to the lack of literature available on the implications of consumers perceptions of eco-labels in emerging countries. The results of this study will contribute to the treatises of the honours students and be used for a journal article. Prof Struwig is the Principle Responsible Person in this research. Prof Struwig may be contacted via email at Miemie.Struwig@mandela.ac.za.

The questionnaire includes four sections. Section A consists of data relating to the biographical information of the respondent while Section B will relate to perceptions of the respondents relating to eco-labels in South Africa. Section C involve questions relating to your perceptions regarding purchasing decisions. To conclude Section D will include eco-labels and you need to indicate if you recognise it or not. All data sources will be treated as confidential and will be used solely for research purposes. The collected data will exclusively be used for statistical analysis and no individual respondents will be identified in the research report. The collected data may also be utilised in future research.

You have the right to query concerns regarding the study at any time. Immediately report any new problems during the study, to me. Your participation in the study mean that you have consented to participate in the study.

To answer the questionnaire, click on the following link:

https://mandela.questionpro.com/t/AVdhqZskSy

DATA COLLECTION INSTRUMENT

Declaration/statement of consent: Please 'tick' (√) the box if you hereby understand the purpose of the study, you participate voluntarily, you understand that the study is anonymous as well as that all information is kept confidential.

☐ I consent to participate ☐ I dissent to participate

QUESTIONNAIRE

Please indicate by means of a cross (X) your answer to the statements in the following sections.

SECTION A

BIOGRAPHICAL DATA

Please indicate with a cross (X) in the appropriate block.

1. **Gender**

Female	1
Male	2

2. **Ethnicity (not compulsory)**

Group	African	Coloured	Indian	White	Other
Response	1	2	3	4	5

3. **Age in years**

16 – 20 years	1
21 – 30 years	2
31 – 40 years	3
41 – 50 years	4
51 – 60 years	5
60 years and above	6

4. **Highest qualification**

Grade 11 and lower	1
Grade 12	2
National diploma or certificate	3

Bachelor's degree	4
Postgraduate degree or diploma	5
Other	6

5. **Employment status**

Student	1	Employed full-time	5
Unemployed	2	Employed part-time	6
Retired	3	Unable to work	7
Self-employed	4	Other	8

6. **Frequency of shopping**

Once a month	1
Twice a month	2
Three times a month	3
Once a week	4
Every second day	5
Every day	6

7. **Place of residence**

House	1
Townhouse	2
Flat or apartment	3
Farm, estate or plot	4
Informal settlement	5
Other	6

DATA COLLECTION INSTRUMENT

SECTION B

ENVIRONMENTAL AWARENESS AND ENVIRONMENTAL PRODUCT DECLARATIONS/ ECOLABELS

AS A CONSUMER…		**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	I actively make an effort to manage the amount of waste that I produce.	1	2	3	4	5
2	I strive to limit my impact on the environment as far as possible.	1	2	3	4	5
3	I have a significant concern for protecting the environment.	1	2	3	4	5
4	I consider the environment by purchasing environmentally friendly products.	1	2	3	4	5
5	I strive to only purchase energy efficient household appliances.	1	2	3	4	5
6	I have replaced light bulbs in my house with those of smaller wattage so that I will conserve on electricity use.	1	2	3	4	5
7	If I understand the potential danger to the environment that some products cause, I then do not purchase those products.	1	2	3	4	5
8	I strive to purchase products that have less packaging	1	2	3	4	5
9	I purchase toilet paper that is made from recycled paper	1	2	3	4	5
10	I read the labels of products to understand more about the product	1	2	3	4	5

DATA COLLECTION INSTRUMENT

AS A CONSUMER…		**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
1	I consider the environmental friendliness of a product in my purchasing decisions.	1	2	3	4	5
2	I read the consumer packaging information on products.	1	2	3	4	5
3	The label information on products influences my purchasing decision.	1	2	3	4	5
4	I trust the environmental labelling on products.	1	2	3	4	5
5	I have a good awareness of which products are environmentally friendly.	1	2	3	4	5
6	I perceive the quality of eco friendly products to be better than other products	1	2	3	4	5
7	I often buy eco-friendly products	1	2	3	4	5
8	Eco-labelled products are my first choice	1	2	3	4	5
9	If a product has an eco-label it has a positive impact on society	1	2	3	4	5
10	If a product has an eco-label it is durable (last a long time)	1	2	3	4	5

DATA COLLECTION INSTRUMENT

SECTION C

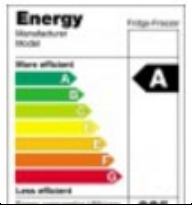
PURCHASING DECISIONS

What influence me in buying products		Not Important	Somewhat Important	Neutral	Important	Very Important
1	The price of the product	1	2	3	4	5
2	The brand of the product.	1	2	3	4	5
3	The environmental impact of the content.	1	2	3	4	5
4	The environmental impact of the packaging.	1	2	3	4	5
5	Whether it has an eco-label	1	2	3	4	5
6	The quality of the product	1	2	3	4	5
7	The durability of the product	1	2	3	4	5
8	The impact of the product on society	1	2	3	4	5
9	Whether I understand the meaning of its label	1	2	3	4	5
10	Whether a social media influencer uses the product	1	2	3	4	5

SECTION D

CONSUMER RECOGNITION OF LABELS

Please tick the boxes (x) to indicate if you recognise the labels. Do not tick it if you do not recognise the label

NAME OF LABEL	LABEL	TICK
11. ENERGY STAR: USA		
12. EU ENERGY LABEL		
13. ALU ALUMINIUM RECYCLING ECO-LABEL		
14. FOREST STEWARDSHIP COUNCIL (FSC) CHAIN OF CUSTODY CERTIFICATION		
15. AFRISCO CERTIFIED ORGANIC		
16. CERTIFIED WILDLIFE FRIENDLY ®		
17. CFC BANNED ECO-LABEL		

NAME OF LABEL	LABEL	TICK
18. NATRUE-LABEL		
19. GREEN BUILDING COUNCIL SOUTH AFRICA		
20. ISO APPROVED ECO-LABEL		

Thank you for completing this questionnaire