



**A SYSTEMATIC LITERATURE REVIEW OF ECO-LABELS IN
SOUTH AFRICA**

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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



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ABSTRACT

Due to concerns regarding climate change, end-users have become more invested in understanding how goods are produced and how those processes affect the environment. Eco-labels are a form of information signal that provide more information to the potential buyer, through the packaging or labelling on the product. This study aims to explore the research conducted on eco-labels in South Africa. This study aims to identify all research areas/foci in eco-label research in South Africa and provide future researchers with recommendations for future research. This study will follow a systematic literature review using mixed methodology protocol to achieve these goals.

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1.1 INTRODUCTION

In this chapter a background to the study will be provided, the problem definition will be stated and discussed; additionally, the primary- and secondary -research objectives, and research questions that this study aims to answer will be provided. Lastly, a summary of the chapter will be provided.

1.2 BACKGROUND TO THE STUDY

Due to the intense changes of shared ecological systems because of climate change, water scarcity, increased waste emissions, dwindling fossil fuel reserves, ozone-layer depletion, or the mass extinction of various important insect species, global ecological systems are being rapidly depleted or damaged. (Carroll, no date; UN Global Compact, 2010) The fallout from this means that economic environments are becoming more volatile due to increased government legislation, increased costs of living, increasing levels of consumer awareness regarding environmental preservation and increased costs of capital; businesses now need to find ways of increasing their operational- and production -efficiency in order to survive, and signal that their operations are sustainable. (Carroll, no date; Bennett *et al.*, 2018; Saleem *et al.*, 2021)

Ecolabels, also known as ‘eco-seals’ or ‘green-seals’ are a form of green marketing whereby the ‘labels’ provide some sort of information regarding the product’s environmental attributes and impact. (Bickart and Ruth, 2012) Global research regarding: the persuasive effect of eco-labels on consumer perception; the financial and reputational gain from the use of eco-labels; the quality signals of eco-labels on products; the negative effects of eco-label use; and the effect of stakeholder input on eco-label use has been identified (Chen, 2010; Luchs *et al.*, 2010; Bickart and Ruth, 2012; Sörqvist *et al.*, 2015; Fernandes Martins, Teixeira and de Oliveira Corrêa, 2022; Sigurdsson *et al.*, 2022; van der Ven, 2022), however the trends and topics of eco-label research in a South African context have yet to be identified.

1.3 PROBLEM DEFINITION

The global body of eco-label research has covered a vast amount of business sectors and stakeholder effects in these fields. Through this large body of research, researchers have been able to refer to-, and further expand on -previous research in order to provide recommendations to various business and government stakeholders on how to best use eco-labels as a marketing

tool, and on how to make use of eco-labels as an eco-innovation process. (Galarraga Gallastegui, 2002; Prieto-Sandoval *et al.*, 2016) Eco-label research in South Africa has previously been carried out; however, it is unclear which business sectors this research can be applied to, which trends and topics were researched, what recommendations or conclusions were made, and which research instruments were used in those endeavours.

Eco-labels are an important means of green marketing that signal that product design and production made use of sustainable practices for stakeholders. Eco-labels provide a means for businesses to pursue eco-innovation and seek a means of differentiation from their competitors.

In light of the above, it is clear that research into the area of the trends of eco-label research in South Africa is required. The problem statement of this study is to thus investigate the extent and impact of the themes and trends of eco-label research in South Africa. The problem statement has led to the research question: What are the themes of research into eco-labels in South Africa?

1.4 RESEARCH OBJECTIVES

In this section, the purpose of the study will be discussed. This comprises of the primary objective and the secondary objectives, and, the research questions.

1.4.1 PRIMARY OBJECTIVE

The primary objective of the research is to conduct a systematic review of Eco-label research in South Africa.

1.4.2 SECONDARY RESEARCH OBJECTIVES

In order to achieve the primary objective of the research the following secondary objectives have been identified.

SO₁: Clarify key concepts of Eco-labels in South Africa.

SO₂: Identify and discuss research themes related to Eco-labels in South Africa.

SO₃: Identify the areas/foci of Eco-Labels that still needs to be investigated.

SO₄: Compare research findings from international researchers to those of South African researchers.

1.4.3 RESEARCH QUESTIONS

In order to satisfy the research objectives, this research aims to answer the following questions:

- i. What areas of Eco-labels in South Africa have been identified?
- ii. What areas of Eco-labels in South Africa still need to be identified and researched?
- iii. How do various stakeholders perceive the presence of eco-labels on a product?
- iv. Who are Eco-label authorities in South Africa?
- v. Which business sectors in South Africa require more research into the use of eco-labels?
- vi. What were the conclusions of previous eco-label research in South Africa?

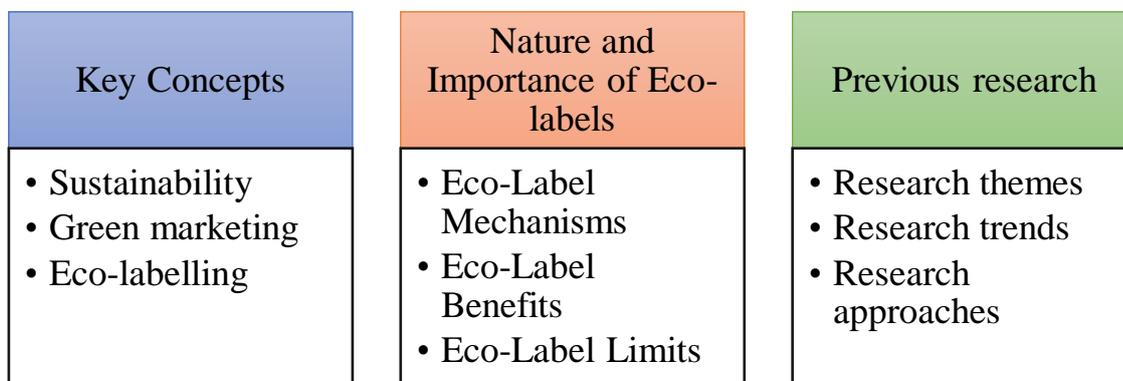
1.5 SUMMARY

This chapter provided the introduction and rationale for this research undertaking. It provided a brief background regarding the topic of eco-labels and green marketing. It also noted that the primary objective of the research is to conduct a systematic review of eco-label research in South Africa. Lastly, the chapter identified the secondary research objectives in support of the primary research objective, and finally, provided the research questions that, if answered, will help satisfy the gap in research of eco-labels in South Africa.

2.1 INTRODUCTION

In this section, a brief literature review will be provided. This literature review aims to cover the definitions of eco-labels and their various related concepts. It will detail the history of eco-label research and the previous global research undertaken regarding eco-labels. Figure 2.1 shows a theoretical framework of the literature review.

FIGURE 2.1: THE THEORETICAL FRAMEWORK OF THE LITERATURE OVERVIEW



Source: Author's elaboration

2.2 DEFINITION OF ECO-LABELS AND RELATED CONCEPTS

The purpose of this section is to provide a broad overview of all related eco-label concepts in order to establish a common base on which the discussion will take place.

2.2.1 SUSTAINABILITY

Sustainability, nominally defined as “seeking to meet the needs and aspirations of the present society without compromising the ability to meet those of future generations” (Carroll, no date), has become a discipline of much interest in business research.

2.2.2 GREEN MARKETING

Green marketing is defined as “all marketing activities designed and implemented to satisfy human needs in ways that do not have a negative impact on the environment”. (Saleem *et al.*, 2021) Marketing as a concept is defined as “the way in which firms create value for customers and build strong customer relationship in order to gain value from them”. (Kotler and

Armstrong, 2016) Marketing includes a broad range of activities such as product ideation, promotion, packaging, distribution and manufacturing. And similarly, green marketing includes but is not limited to: green product design, green manufacturing and integrated marketing communication. (Saleem *et al.*, 2021)

2.2.3 ECO-LABELS

Galarraga Gallastegui (2002) states that eco-labels seek to inform potential consumers about the environmental effects of their consumption of their product, and to encourage producers, governments and others to increase the environmental standards of products and services.

According to Horne (2009) product eco-labels can be differentiated along various means. Initially, eco-label schemes can be done voluntary or mandatory, also these certifications can be carried out via independent examiners or done internally.

Voluntary labelling, the International Standards Organisation uses three categories, namely Type I, II and III. (ISO, 1999a,b, 2000 cited in Horne, 2009) Type I labels refer to the environmental quality of a product compared with the rest of the products. These labels are the products of third party certification programmes. Their aim is to certify both products and production processes according to different criteria that relate to the entire lifecycle of the product. Type I labels are what are commonly referred to as “eco-labels”. (Galarraga Gallastegui, 2002; Horne, 2009) Type II labels consist of one-sided claims made by manufacturers, distributors or importers about product attributes. Type III labels give quantified information about products based on independent verification (Galarraga Gallastegui, 2002)

2.3 THE FINDINGS OF PREVIOUS ECO-LABEL RESEARCH

2.3.1 THE BENEFITS OF ECO-LABEL USE

According to (Chen, 2010) there are five reasons for the development of green marketing and, by extension, eco-label practices with regards to the business perspective: compliance with environmental limitations, obtaining competitive advantage, seeking new market opportunities, improving their company image and enhancing product value. From the analysis of the literature, these five reasons can constitute the general benefits of eco-label use, more specific benefits can be identified in relation to various industries, however, those specific benefits can be argued to fall under one or multiple of the five general reasons identified by

Chen (2010). An example of this can be found in Sucheran and Arulappan's (2020) analysis of eco-label benefits in the South African tourism industry. One of the identified benefits is that of cost-savings. Cost-savings would thus fall under "competitive advantage" according to Chen's (2010) benefits of green marketing development.

According to Fernandes Martins, Teixeira and de Oliveira Corrêa (2022), the use of eco-labels guarantees the presence of product differentiation, which may be a basis of competitive advantage, thus influencing producers in a combined way to enhance their practices. (Karieta *et al.*, 2015, cited in Fernandes Martins, Teixeira and de Oliveira Corrêa, 2022) The use of eco-labelling will also improve the management of natural resources (Fernandes Martins, Teixeira and de Oliveira Corrêa, 2022) and by guiding environmentally-conscious consumers in their purchasing habits. Eco-label programs can also increase awareness of environmental issues and problem in the general public. (Galarraga Gallastegui, 2002)

2.3.2 THE LIMITATIONS OF ECO-LABEL USE

Eco-labels and sustainability cues do not always have the intended effect on consumer purchase behaviour due to various interrelated and complex factors, research suggests that for the information to affect consumer choice, it needs to be available at point of sale and easily understandable. (Nikolava and Imman 2015, cited in, Sigurdsson *et al.*, 2022)

Eco-labels affect consumer perception through two main factors, specificity and the eco-label source. The specificity attribute refers to the vagueness of the information provided by the eco-label, whereas the eco-label source refers the credibility of the eco-label provider, these providers include: third parties, government agencies and the manufacturer of the product/service. (Atkinson and Rosenthal, 2014) Atkinson and Rosenthal (2014) found that while these attributes do not influence the purchase intention of potential consumers, they do influence consumer attitudes toward the product and label source as well as trust in the label. It is important to note that Atkinson and Rosenthal's (2014) study is limited in demographic and geographic scope due to the fact that respondents were of university going age in the South West of America.

According to Luchs *et al.* (2010) products which consumers associate with sustainability or higher degrees of perceived ethicality are seen to have more gentle attributes than others which are seen as having more strength related attributes. Luchs *et al.*'s (2010) research into this dichotomy corroborates this observation, and that for product categories where strength is valued, such as washing liquid or car tyres, using eco-labels to promote sustainability is a

liability because consumers tend to prefer the more unsustainable options due to the strength associations. (Luchs *et al.*, 2010)

The literature shows that consumers that are unaware of environmental issues are unlikely to make deliberate sustainable purchase decisions. (Sigurdsson *et al.*, 2022) Additionally, the literature suggests that consumers have difficulties understanding exactly what eco-labels are attempting to communicate. (Thorgersen *et al.*, 2010, cited in Sigurdsson *et al.*, 2022) Other barriers that may prevent consumers from purchasing eco-labelled products are the associated price premiums. (Prieto-Sandoval *et al.*, 2016)

2.4 PREVIOUS RESEARCH APPROACHES TO ECO-LABEL USE

This section tabulates some of the methods used by research papers used in the literature overview section of this paper. The purpose of this section is to identify potential trends and approaches to eco-label research used by international researchers before undertaking the systematic literature review. All the papers tabulated below were found in the Mendeley Reference Database, and are from researchers who are not based in South Africa, nor were the participants in their research from South Africa.

The main result from the studies tabulated in Table 2.1 is the focus on the consumer perception group. An explanation for this may revolve around the fact that businesses need an economic justification for any production and product decisions, and the heavy research into consumer perception provides that justification for whether to adopt eco-labelling practices. (Chen, 2010; Fernandes Martins, Teixeira and de Oliveira Corrêa, 2022)

TABLE 2.1: TRENDS IN ECO-LABEL RESEARCH APPROACHES

Title	Author	Data Collection Method	Country of Study	Dimension	Industry
Signaling the green sell: The influence of eco-label source, argument specificity, and product involvement on consumer trust	Atkinson L, Rosenthal S	Online surveys	United States of America	Consumer Perception	Electronics, Food
The Sustainability Liability: Potential	Luchs M, Naylor R, Walker J, Irwin J,	Online surveys	United States of America	Consumer Perception	Cleaning Instruments, Personal

Title	Author	Data Collection Method	Country of Study	Dimension	Industry
Negative Effects of Ethicality on Product Preference	Raghunathan R				Hygiene, Car Tyres
The Drivers of Green Brand Equity: Green Brand Image, Green Satisfaction, and Green Trust	Chen Y	Questionnaire	Taiwan	Consumer Perception	Electronics
Increasing the effectiveness of ecological food signaling: Comparing sustainability tags with eco-labels	Sigurdsson V, Larsen NM, Pálsdóttir RG, Folwarczny M, Menon V, Fagerstrøm A	Questionnaire	Iceland, Norway, New Zealand (research participants from United States of America)	Consumer Perception	Food
Systematic literature review on sustainable products: Impact on organizations, research opportunities and future perspectives	Corrêa R, de Oliveira U, Abdalla M, Fernandes V	Systematic Literature Review	Brazil, Chile	Review	Review
The use of eco-labels: A review of the literature	Galarraga Gallastegui I	Systematic Literature Review	Spain	Review	Review
ECO-labels as a multidimensional research topic: Trends and opportunities	Prieto-Sandoval V, Alfaro J, Mejía-Villa A, Ormazabal M	Systematic Literature Review	Spain, Colombia	Review	Review

Source: Author's Elaboration

2.5 SUMMARY

This chapter provided a literature overview regarding the results of research regarding eco-label use: the benefits of eco-label use, the limitations and the mechanisms to consider when using eco-labels. It also summarised a few of the approaches used by international researchers when undertaking eco-label research, and that most research tends to focus on the consumer perception of eco-labels.

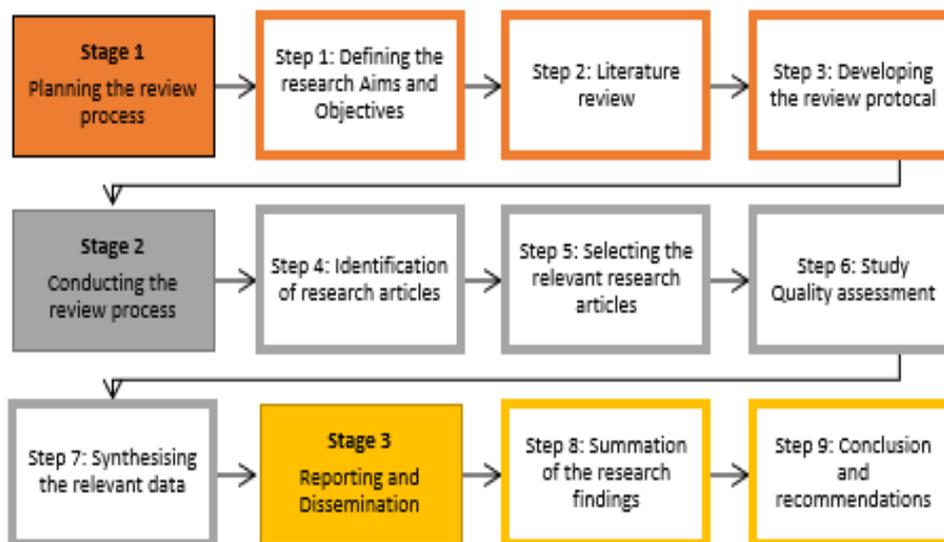
3.1 INTRODUCTION

Knowledge production in the business research field continues to accelerate at an immense speed whilst remaining interdisciplinary and fragmented. This is why the use of a literature review has become an important facet of business research. (Snyder, 2019) This section will establish the secondary research methodology, the research design which comprises of the data collection method, and the data analysis method, this section will also establish the significance of the study, the structure of the research, the proposed time framework and then concludes with a summary of the contents.

3.2 SECONDARY RESEARCH

This study will employ mixed methodology approach to a systematic literature review. A systematic literature review can be explained as a research method, and process of identifying, analysing and synthesizing all relevant research in a way that is transparent and reproducible. (Lame, 2019; Snyder, 2019) The aim of using a systematic literature review is to identify all empirical evidence that fits all specified inclusion criteria to answer a research question. (Snyder, 2019) A literature review will be conducted in order to identify as many trends, approaches and themes used and measured in eco-label research in South Africa. Accredited Nelson Mandela University affiliated databases Sage Journals, Sabinet Online Databases, Scopus and Lexis Nexis will be used for the research process. A combination of qualitative and quantitative data analysis methods will be used in this study.

FIGURE 3.1: FLOWCHART OF THE RESEARCH PROCESS



Source: Author's elaboration

3.3 RESEARCH DESIGN

The research design of this study is influenced by the studies done by Prieto-Sandoval *et al.*, (2016) and Corrêa *et al.* (2022). The first portion of the research design is the data collection method, where the protocol for collecting and selecting the relevant articles will be performed. The second portion is the data analysis which will consist of the analysis methods to identify the trends and approaches in eco-label research in South Africa.

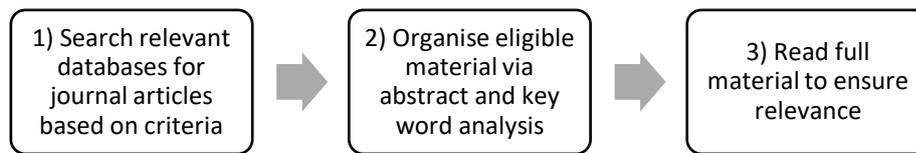
3.3.1 DATA COLLECTION

The benefit of using a systematic review is the fact that they are effective in synthesizing what the general consensus is of a collection of studies are in answering the research question. (Snyder, 2019)

For this literature review, only sources from the Sabinet Online Databases, Lexis Nexis, Sage Online Journals, and Scopus will be considered. Figure 2 illustrates the steps that will be taken in the data collection process. Step 1 corresponds to a search that will be carried out through the aforementioned databases for journal articles that contain:

- *Eco-labels in South Africa* as the main research topic.
- Key words and alternative phrases that allow for variation in the search such as “green labels” and “eco-labelling”..
- Articles written by a majority (>50%) of South African authors.
- Articles using samples from the South African public.
- Articles written in English.
- Articles from academic fields such as: business, economics, ecology, sustainable development, management, agriculture, food science, sociology and tourism.
- Articles were to be published from 2015 to 2023.

Step 2 entails that these articles will then be downloaded and organised by relevance through an abstract and key word analysis. Step 3 will then consist of the organised articles undergoing a full reading, in which the researcher will then organise the articles in descending order of relevance and a sample of 5 to 10 studies will be gathered for review. The sample will be taken from the most impactful articles based on their research ratings and the author’s estimation of their relevance to the topic.

FIGURE 3.2: DATA COLLECTION METHOD

Source: Author's elaboration

3.3.2 DATA ANALYSIS

Once the relevant articles have been sorted and decided on, the data analysis will then commence. A qualitative content analysis will be carried out on the relevant articles. The process from the content analysis will be guided by the processes outlined in (Skjott Linneberg and Korsgaard, 2019), the rationale for this is due to the fact that the processes outlined are based on other best for conducting qualitative content analysis and that the authors aimed their processes to guide novice and first time researchers. (Skjott Linneberg and Korsgaard, 2019)

The researcher will create a categorisation matrix derived from the existing literature for the main categories and subheadings related to eco-label research in South Africa. The researcher will then create coding rules for the main categories that appear in the research. The researcher will then carry out another full reading of the material and code the various trends and approaches to the main categories identified.

3.4 CODING PROTOCOL

The use of coding in qualitative analysis involves the operation of identifying segments of meaning in the data and labelling them with a code. (Skjott Linneberg and Korsgaard, 2019) According to Skjott Linneberg and Korsgaard (2019) there are several good reasons for coding. These include: the researcher acquiring a deeper insight into their data, making the data easily accessible and retrievable, providing a structure to the data, ensuring research transparency and ensuring validity.

This analysis will make use of a blended approach to coding, a blended approach consists of deductive coding, which consists of pre-defining codes and then matching the excerpts that fit into the codes; and inductive coding, which refers to the process of deriving codes from the excerpts of data. (Skjott Linneberg and Korsgaard, 2019)

3.4.1 CODING SCHEME

This section outlines the coding protocol to be used in this study to enable the systematic review.

3.4.1.1 Attribute Codes

Skjott Linneberg and Korsgaard (2019) define attribute codes are basic codes assigned to larger segments of data, typically in the form of their original category titles.

- Article publication date

The publication date is classified by unique codes. “DA” is a filler for “Date”, and the numerical value for its recency increases from DA1 to DA4. Table 3.1 lists the date of publication and the code value to be used in the data analysis.

TABLE 3.1: ARTICLE PUBLICATION DATE

CODE	DATE OF PUBLICATION
DA1	2013-2015
DA2	2016-2018
DA3	2019-2021
DA4	2022-2023

Author's elaboration

- Methodology employed

The methodology of the research undertaken in the source material is classified by unique codes. “ME” is a filler for “Methodology”, and the numerical value for its recency increases from ME1 to ME4. Table 3.2 lists the methodology and the code value to be used in the data analysis.

TABLE 3.2: METHODOLOGY USED

CODE	METHODOLOGY
ME1	Qualitative
ME2	Quantitative
ME3	Mixed Methodology

Author's elaboration

- Data Collection Method

The data collection method was classified by the code “DC” is a filler for “Data Collection”, and the numerical value for its recency increases from DC1 to DC4. Table 3.3 lists the data collection method and the code value to be used in the data analysis.

TABLE 3.3: DATA COLLECTION METHOD USED

CODE	DATA COLLECTION
DC1	Interviews/Focus Groups
DC2	Online Surveys
DC3	Document Study
DC4	Case Study

Author's elaboration

3.4.1.2 Descriptive Coding

According to Skjott Linneberg and Korsgaard (2019) descriptive codes are “codes assigned to segments of data based on what the segments are about.”

- Research Themes

The research themes were coded based on the themes identified in the literature review and, due to the special nature of South African society and its underpinning cultures, codes were also based on emergent themes evident in the source material. “T” is a filler for “Research Themes”, and the numerical value at the end ensures uniqueness. Table 3.4 lists the research themes used, whilst the Figure 3.3 displays the phrases and codes used for the themes.

TABLE 3.4: RESEARCH THEMES

CODE	RESEARCH THEMES
T1	The Benefits of Eco-Label Use
T2	Mechanisms of Eco-Label Perception
T3	Eco-Label Design and Recommendations
T4	Barriers to Eco-Label Use

Author's elaboration

FIGURE 3.3: CODING TABLE

Benefits of Eco-Labels	Mechanisms of Eco-Label Perception	Eco-label design and recommendations	Barriers to Eco-Label Use
<input type="checkbox"/> "Advantages of Eco-labels"	<input type="checkbox"/> "Consumer knowledge of eco-labels"	<input type="checkbox"/> "Eco-label Design"	<input type="checkbox"/> "Questions over effectiveness"
<input type="checkbox"/> "Benefits of Eco-Labels"	<input type="checkbox"/> "Environmental awareness"	<input type="checkbox"/> "Labelling practice" best	<input type="checkbox"/> "Barriers of Eco-Labels"
<input type="checkbox"/> "Increased performance after eco-label adoption"	<input type="checkbox"/> "Regulatory support"	<input type="checkbox"/> "Label Recommendations"	<input type="checkbox"/> "Lack of implementation skills"
<input type="checkbox"/> "Gains from eco-label use"	<input type="checkbox"/> "Information exposure"	<input type="checkbox"/> "Standardisation"	<input type="checkbox"/> "Lack of resources"

Author's elaboration

- Research Industries

The research themes were coded based on product industries identified in the literature review. "I" is a filler for "Research Industries", and the numerical value at the end ensures uniqueness. Table 3.5 lists the codes and research themes used.

TABLE 3.5: RESEARCH INDUSTRIES

CODE	RESEARCH INDUSTRIES
I1	Tourism
I2	Textile/Fashion
I3	Agriculture/Food
I4	Technology
I5	Health
I6	Beauty

Author's elaboration

3.4 SIGNIFICANCE OF THE STUDY

It is believed that the findings of this study will provide future researchers with additional information regarding the themes of research into eco-labels in South Africa. The significance of this study is identifying the themes of eco-label research in SA and identify gaps in the current body of knowledge.

3.5 STRUCTURE OF THE RESEARCH

Chapter 1: Introduction and background to the study

Chapter 2: Literature review on eco-label research in South Africa

Chapter 3: Research Methodology and Design

Chapter 4: Findings and Interpretation of Data

Chapter 5: Conclusions and Recommendations

3.6 PROPOSED RESEARCH TIME FRAMEWORK

The proposed research time framework is several months, from the start of June 2023 to the end of October 2023.

3.7 SUMMARY

This section details the research methodology to be used for the study. The study will employ a mixed methodology approach to a systematic review. The study will also make use of accredited Nelson Mandela University affiliated online databases to perform the data collection process. The relevant articles will be selected through various identified protocol. Then a content analysis will be undertaken to identify the themes, trends, and approaches to eco-label research in South Africa.

4.1 INTRODUCTION

This chapter comprises of the execution of the data analysis and research design stipulated in Chapter 4. This chapter will then present the findings of the analysis. The main aim of this chapter is to satisfy the research questions in Chapter 1 in order to fulfil the secondary and thus primary research objectives identified.

4.2 THE SAMPLE USED IN THE STUDY

Use of the search phrase. “Eco label(s)(ling) in South Africa” yielded 10 results from Scopus, expanding the search into including the phrases, “Sustainability Labelling in South Africa” and “Eco-Label(s)(ling) in South Africa” when searching for research published in the last 5 years, expanding the criteria to the last 10 years increased the results found to 17 documents. After conducting an Abstract Analysis, it was deemed that 3 of these articles were appropriate for this study. *“Green Marketing Practices: Green branding, advertisements and labelling and their nexus with the performance of SMES in South Africa”*, *“The importance of customer trust for social marketing interventions: a case of energy-efficiency consumption”*, and *“Eco-Labels in the Tourism Sector in South Africa: Benefits and Barriers”*, this particular article had already been used in the literature overview.

Use of the search phrase. “Eco label(s)(ling) in South Africa” yielded 97 results from Sabinet African Journals, expanding the search into including the phrases, “Sustainability Labelling in South Africa” and “Eco-Label(s)(ling) in South Africa” when searching for research published in the last 5 years, only one of those articles were deemed to be suitable for further review. Expanding the search criteria to the last 10 years increased the results found to 174 documents. From the Abstract Analysis, the initial article was the only article deemed suitable for further review, *“Consumers’ understanding and use of Textile Eco-Labels during Pre-Purchase Decision Making”*

Use of the search phrases, “Eco label(s)(ling) in South Africa”, “Sustainability Labelling in South Africa” and “Eco-Label(s)(ling) in South Africa”, amongst other variations on the theme, yielded 153 results from Sage Online Journals when searching for research published in the last 5 years, however, none of those articles were deemed suitable for further review. Expanding the search criteria to the last 10 years increased the results found to 306 documents. From the Abstract Analysis, 1 Article was deemed suitable for further review, *“The Role of*

Information Exposure in Female University Students' Evaluation and Selection of Eco-Friendly Apparel in the South African Emerging Economy”

4.3 THE RESULTS OF THE RESEARCH ARTICLES INCLUDED IN THE STUDY

Table 4.1 tabulates the samples used in the study. These samples were selected because they satisfied the protocol conditions discussed in Chapter 3.

TABLE 4.1: RESEARCH OUTPUTS USED IN THE STUDY

OUTPUT NUMBER	TITLE	AUTHOR/S(YEAR)	ONLINE DATABASE SOURCE
1	The Role of Information Exposure in Female University Students' Evaluation and Selection of Eco-Friendly Apparel in the South African Emerging Economy	N. Sonnenberg, B. Jacobs, D. Momberg	Sage Online Journals
2	The importance of customer trust for social marketing interventions: a case of energy-efficiency consumption	P. Issock Issock, M. Roberts-Lombard, M. Mpinganjira	Scopus
3	Consumers' Understanding and use of Textile Eco-Labels During Pre-Purchase Decision Making	H. Dreyer, E. Botha, D. Van der Merwe, N. Le Roux, S. Ellis	Sabinet African Journals
4	Eco-Labels in the Tourism Sector in South Africa: Benefits and Barriers	R. Sucheran, L. Arulappan	Scopus
5	Green Marketing Practices: Green Branding, Advertisements and Labelling and their Nexus with the Performance of SMES in South Africa	R. Masocha	Scopus

4.4 RESULTS OF THE DATA ANALYSIS

This section will comprise of a quantitative and qualitative analysis, and a summary of the main points and conclusions of the five articles will be provided.

4.4.1 QUANTITATIVE RESULTS

Table 4.2 tabulates the quantitative findings from the coding protocol discussed in Chapter 3. The articles identified in Table 4.1 were analysed and their themes were extracted and discussed in Table 4.2.

TABLE 4.2: THE QUANTITATIVE RESULTS OF THE STUDY

OUTPUT NUMBER	PUBLICATION DATE	METHODOLOGY	DATA COLLECTION	INDUSTRY	OUTCOME
1	DA1	ME1	DC1	I2	T2
2	DA3	ME2	DC2	I4	T2
3	DA2	ME2	DC2	I2	T2
4	DA3	ME3	DC2	I1	T1/T4
5	DA4	ME2	DC2	-	T1

The findings in Table 4.2 will be discussed in this section.

Article 1 made use of a qualitative approach to their methodology. Article 2, 3, and 5 used quantitative methodologies in their approach, whereas Article 4 employed mixed methodology.

Article 1 was the only journal used in this study that made use of interviews and focus groups for its data collection method. Article 2-5 used online surveys as the main means of data collection.

Article 1 and 3 related to the use of eco-labels in the Textile/Fashion industry. Article 2 related to the technological industry, and article 4 related to the tourism industry. Article 5 was not considered to relate to any industry because the study comprised of various SMEs from different industries.

Article 1, 2 and 3 were classified as mainly dealing with theme 2, the mechanisms of eco-label perception. Article 4 was classified as dealing with both theme 1 and 2, the benefits of eco-label use and the barriers to eco-label use. Article 5 was classified as mainly dealing with theme 1, the benefits of eco-label use.

4.4.2 QUALITATIVE RESULTS

Theme 1: The Benefits of Eco-Label Use

Article 4 by Sucheran and Arulappan (2020b) directly listed the benefits of eco-labels and their certification programmes to the Tourism industry as perceived by members of the Tourism industry. The study used tourism businesses in South Africa that had eco-label certifications, a total sample size of 74 businesses were used. To qualify, businesses needed to be certified by either the Blue Flag award, Fair Trade Tourism, The Heritage Environmental Management Company or GreenLine. The study found that tourism businesses in South Africa generally felt that eco-labels benefitted them through a reduction of negative environmental impacts, brand and image improvements, allowing them to access the ‘green tourism’ market, increased customer loyalty and an improved relationship with the locals. These findings remain consistent with the earlier findings in the literature overview done in Chapter 2. All of the perceived benefits noted by tourism businesses would fall into line with Chen’s (2010) advantages of green marketing.

Article 5 by Masocha (2021) aimed to prove whether SMEs in the Limpopo province of South Africa felt that there was a positive correlation between environmental advertising (including eco-labelling) and the firm’s performance. The study made use of 156 participants from the Limpopo province in South Africa, each participant was either a part of management- or the owner- of a SME. The study established that eco-labelling does influence the purchasing decisions made by customers. Furthermore, the findings of the study established that eco-labelling, green branding and environmental advertising positively influence firm performance amongst SMEs in South Africa.

Theme 2: Mechanisms of Eco-Label Perception

Article 1 by Sonnenberg, Jacobs and Momberg (2014) aimed to describe the phenomena of eco-friendly apparel behaviour after exposure to information by South African females. A sample of 29 females aged 19-22 who were enrolled in the University of Johannesburg. The study made use of a qualitative methodology and used focus groups to collect data. The conclusion extrapolated from the study was that despite the participants’ vocal concern for the environment, price and quality were the main determinants for consumer purchase decisions. The study recommended that greater attention needed to be made to the dissemination of the meaning of eco-labels and how purchasing eco-labelled products can help protect the environment.

Article 2 by Issock Issock, Roberts-Lombard and Mpinganjira (2020) aimed to understand the trust that customers hold towards information displayed on energy-efficiency labels on electronic appliances. The study made use of 517 online surveys distributed to owners of energy-efficiency rated home appliances, over the age of 18. The evidence generated by the study shows that customer trust in energy-efficiency labels results from the level of satisfaction with regards to the environmental performance of the product, from the customer's attitude towards environmental issues, and from the customer's perception of product quality and price.

Article 3 by Dreyer *et al.* (2016) aimed to understand a customer's subjective and objective understanding and the use of eco-labels in the decision making process. The study made use of 234 participants over the age of 18 who resided in Pretoria, and who are literate and have access to a computer. The study made use of online questionnaires distributed through a third party survey software. The study concluded that respondents were environmentally conscious to a certain extent and did not have a deep understanding of actual eco-friendly production processes. The study also found that younger participants tended to be less environmentally conscious and that price was their main determinant of purchasing intention, this remains consistent with the findings in article 1 and in the earlier literature overview in Chapter 2, with specific reference to Sigurdsson *et al.* (2022) finding that customers who lack environmental awareness do not engage in deliberate eco-friendly purchasing.

Theme 3: Eco-Label Design and Recommendations

There were no articles that were related to the design of eco-labels.

Theme 4: Barriers to Eco-Label Use

Article 4 by Sucheran and Arulappan (2020b) also dealt with barriers to eco-labels in South Africa. The study reached the conclusion that Tourism businesses in South Africa felt that eco-labels are expensive to obtain and maintain; implementation and maintenance are time consuming; there is a lack of government support; eco-label products tend to be more expensive, that there is a lack of human-, social-, physical- capital to effectively implement eco-labels and that there is not a great demand for eco-label products.

Additional Points

In order to answer the research question, "Who are the eco-label authorities in South Africa?", another reading was performed with the goal of identifying any regulatory bodies that the articles mentioned. Article 1 by Sonnenberg, Jacobs and Momberg (2014) states that the "Proudly South African" logo is one such logo, and was given its mandate through the South

African government. Article 2 does not mention any eco-label authorities. Article 3 lists Eco-Choice Africa and the Eco-Standard South Africa as local eco-labels. The Ecolabelling Project is considered an initiative of the National Cleaner Production Centre South Africa, which is dually endorsed by the South African Department of Trade and Industry and the United Nations Industrial Development Organisation. (Dreyer *et al.*, 2016) Article 4 by Sucheran and Arulappan (2020b) lists the eco-label authorities for the tourism industry in South Africa, namely: the Wildlife and Environmental Society South Africa which awards the Blue Flag eco-label; the Fair Trade Tourism South Africa non-profit that endorses tourism companies that operate under 'Fair Trade' philosophies; and the Heritage Environmental Management Company which operates GreenLine and their namesake eco-label. Article 5 by Masocha (2021) states that the South African Bureau of Standards has its own environment mark.

4.4.3 FINAL SYNTHESIS OF DATA

From the data analysis, a conclusion can be drawn that there is a gap in eco-label research in South Africa regarding agriculture/food, health and beauty eco-labels. Additionally, despite the fact that certain articles made mention of eco-label regulatory bodies, there remains a lack of clarity regarding how these bodies interact and collaborate with each other.

Also, despite most articles making note of improving the design of eco-labels to make them easier to understand and see in their recommendations, none of the articles used in the sample provided any sort of suggestions on how to improve the eco-labels in design, or how to implement eco-labels best. Furthermore, most of the articles used in the sample focused on groups in Gauteng and the Northern parts of South Africa, an attempt could be made to understand consumer perceptions in areas of South Africa like KwaZulu Natal, the Western Cape and the Eastern Cape and whether any differences could arise in their perceptions and attitudes towards eco-labels.

Another issue that the research used in this study had, was the lack of quantifiable results regarding the financial benefits gained through the use of eco-labels. A point worth looking into for future research may be that of a comparison between the financial reports of similar sized businesses, some who produce eco-labelled products and those who do not. An example of this can be seen through the findings of the article by Masocha (2021) and the findings of the article of Sonnenberg *et al.* (2014) in which Masocha (2021) postulates that there is a positive nexus between the use of green branding and ecolabelling in SMEs in South Africa, as per the observations made by the managers and owners of those SMEs, which contrasts with

the findings from Sonnenberg *et al.* (2014) where participants stated that eco-labels and environmental concerns did not affect their buying behaviours, whereas price and quality did. Further research is required in order to bring clarity into this area.

4.5 SUMMARY

This chapter started by outlining the sample of the research, a sample of 5 articles regarding eco-labels in South Africa. Thereafter a quantitative analysis of the results was provided and then a qualitative analysis was given for each theme. Most of the sample articles focused on the perceptions of stakeholders on eco-labels on a product. A final synthesis of the data concluded the chapter, where it was stated that further research needed to be conducted on the financial benefits with regard to eco-label use and that research needed to be done on eco-label best practice and design. Chapter 5 will provide the conclusions and recommendations for the study.

5.1 INTRODUCTION

This purpose of this chapter is to provide recommendations and conclusions based on the previous chapters' findings. It links the work of the previous chapters together. It will start with a summary of the answers to the research questions asked in Chapter 1. Next, it will discuss the conclusions that can be made with the findings of the results and lastly it will provide recommendations for future research.

5.2 SATISFYING THE RESEARCH OBJECTIVES AND QUESTIONS

The primary objective of this study is to conduct a systematic review in to Eco-label research in South Africa. To achieve this, three secondary objectives were developed.

In order to satisfy the various research objectives, a collection of research questions were proposed in Chapter 1. Table 5.1 presents the answers to the research questions identified in Chapter 1.

TABLE 5.1: RESEARCH QUESTIONS ANSWERED

Research Question	Answer from research	Found in
What areas of Eco-labels in South Africa have been identified?	<ul style="list-style-type: none"> • The mechanisms of eco-label perception through consumer attitudes to the environment and their knowledge about eco-labels. • The benefits and barriers to eco-label use 	<ul style="list-style-type: none"> • Chapter 4 • Chapter 4
What areas of Eco-labels in South Africa still need to identified and researched?	<ul style="list-style-type: none"> • Eco-label best practice and design recommendations • 	<ul style="list-style-type: none"> • Chapter 4
How do various stakeholders perceive the presence of eco-labels on products?	<ul style="list-style-type: none"> • Stakeholders' perception is based on their knowledge of environmental issues • Purchasing intention is most reliably predicated on product price rather than eco-label signalling 	<ul style="list-style-type: none"> • Chapter 4 • Chapter 4

Research Question	Answer from research	Found in
Who are Eco-label authorities in South Africa?	<ul style="list-style-type: none"> • Proudly South African • Eco-Choice South Africa • Eco-Standard South Africa • Ecolabelling Project • National Cleaner Production Centre South Africa 	Chapter 4
Which business sectors in South Africa require more research into the use of eco-labels?	<ul style="list-style-type: none"> • Agriculture/Food • Health • Beauty • Energy 	Chapter 3 and Chapter 4
What were the conclusions of previous eco-label research in South Africa?	<p>Price and quality were the main determinants for consumer purchase decisions. Customer trust in energy-efficiency labels results from the level of satisfaction with regards to the environmental performance of the product, from the customer’s attitude towards environmental issues, and from the customer’s perception of product quality and price.</p> <p>South Africans were environmentally conscious to a certain extent and did not have a deep understanding of actual eco-friendly production processes. The study also found that younger participants tended to be less environmentally conscious and that price was their main determinant of purchasing intention.</p> <p>Tourism businesses in South Africa felt that eco-labels are expensive to obtain and maintain; implementation and maintenance are time consuming; there is a lack of government support; eco-label products tend to be more expensive, that there is a lack of human-, social-, physical-capital to effectively implement eco-labels and that there is not a great demand for eco-label products.</p>	Chapter 4

Research Question	Answer from research	Found in
	Eco-labelling does influence the purchasing decisions made by customers. Furthermore, the findings of the study established that eco-labelling, green branding and environmental advertising positively influence firm performance amongst SMEs in South Africa.	

In the following table, the objectives of the study are set and how they were achieved in the study are also identified.

TABLE 5.2: RESEARCH OBJECTIVES SATISFIED

Objectives		Found in	How the Objective was Reached
Primary Objective	The primary objective of the research is to conduct a systematic review of Eco-label research in South Africa.	Chapter 4	The objective was reached through: identifying and clarifying key eco-label concepts, themes, findings of previous research and identifying unresearched areas
SO₁:	Clarify key concepts of Eco-labels in South Africa.	Chapter 2 and Chapter 4	Chapter 2 identified and provided definitions for various eco-label concepts. Chapter 4 expanded on those concepts and related them to the South Africa context.
SO₂:	Identify and discuss research themes related to Eco-labels in South Africa.	Chapter 3 and Chapter 4	The themes used in the study and the rationale for their selection was discussed in Chapter 3. The themes were applied in the analysis in Chapter 4
SO₃:	Identify the areas/foci of Eco-Labels that still	Chapter 4	These areas were discussed at the end of Chapter 4.

Objectives		Found in	How the Objective was Reached
	needs to be investigated.		
SO4:	Compare research findings from international researchers to those of South African researchers.	Chapter 2 and Chapter 4	These comparisons were made in Chapter 4, which referenced some of the findings of Chapter 2.

5.3 CONCLUSIONS AND RECOMMENDATIONS

This study conducted a systematic review of Eco-label research in South Africa. This study has shown that there are various eco-label research themes, certain themes, such as those with regards to consumer perception tend to be more well researched than others. Through a 5 article sample, this study identified that research into eco-label perception mechanisms are the most well-researched foci of eco-label research in South Africa. This study also found that there exists little-to-no best practice guides for eco-label design and use. When one considers the general consensus that eco-label effectiveness is dependent on customer environmental awareness (Gutierrez, Chiu and Seva, 2020; Corrêa *et al.*, 2022; Sigurdsson *et al.*, 2022) and how easily understandable the label itself is (Nikolava and Imman 2015, cited in, Sigurdsson *et al.*, 2022) the lack of research regarding eco-label best practices does seem to be a field with much potential for future research.

The articles in the sample size consist of articles published in 2014 to 2021. Article one from the sample is based on the role of different types of information exposure to customers and whether it affects their decision making when purchasing clothing. One method of information exposure was that of eco-labels, and the article found that participants were not swayed through the presence of eco-label labels. Article two was based on the importance of relationship marketing and the importance of consumer trust on environmental labelling. Article three was based on the consumer decision making processes and how eco-labels effect that process. Article four was about the benefits and limitations of eco-labels in the tourism industry in South Africa. Article five attempted to relate how the use of eco-labelling, eco-branding and environmental advertising could affect the performance of SMEs in South Africa. From the sample used, it has been shown that eco-label research in South Africa is mostly focused on the mechanism of eco-label perception, and to a lesser extent the benefits and limitations of

eco-label use. An important point to note is that the research conducted tended to use sample populations from inland South Africa, rather than the coastal regions. It might be worth exploring whether there are any differences between sample groups from the coast and those from inland South Africa. Additionally, the studies in the sample did not account for individuals from poorer backgrounds in South Africa. All of the studies used participants who had acquired tertiary level education or who owned or managed businesses, recognising this coupled with the fact that South Africa is a country with a poverty rate of 55.5% (Wisevoter, 2023), eco-label research involving less economically privileged individuals has become a research blind-spot in South Africa.

Therefore, eco-label research foci in South Africa consists of research focusing on eco-label perception mechanisms, however, this study recommends that future research in this area focus on including those from economically disenfranchised backgrounds and those from the coastal regions in South Africa. This study also recommends that future research should investigate the themes of best practice and the most effective eco-label design. Future researchers should also consider researching the benefits and limitations of eco-label implementation for other industries in South Africa, such as the Health and Beauty industry, furthermore, the extent and stream of the financial benefits associated with eco-label implementation remains unclear, this is another recommended research area for future researchers to investigate.

5.4 LIMITATIONS OF THE RESEARCH

The research study was limited to 5 academic articles published between the years 2014-2021. The original brief allowed a sample of up to 10 articles, however, for this study, the articles had to be sourced from certain online databases affiliated with Nelson Mandela University, namely: Sabinet African Journals, Sage Online Journals and Scopus, this meant that the number of potential articles that could have been used in this study was limited and the use of more databases would have allowed for more recent and possibly, relevant articles. The use of 5 articles was also limited the study in the sense that more articles could have provided a more comprehensive sample of eco-label research in South Africa.

5.5 CONCLUDING REMARKS AND SUMMARY

This chapter provided the conclusions and recommendations for the systematic review in to eco-label research in South Africa. This chapter found that the study had 2 major limitations and postulated means of eliminating these limitations for future research. This chapter also

summarised the findings of the study and provided recommendations for future research foci in eco-label research in South Africa.

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APPENDIX 1

JNaidooTreatise

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APPENDIX 2

NELSON MANDELA
UNIVERSITY

FACULTY OF BUSINESS AND ECONOMIC SCIENCES

ETHICAL CONSIDERATIONS FOR ADVANCED DIPLOMA/HONOURS/POSTGRADUATE
DIPLOMA FOR NON-PUBLICATION PURPOSES

INSTRUCTIONS

- This form must be completed by student with the relevant explanation by and support of the supervisor and the student.
- It must be signed off by the student, supervisor and HoD.
- Submit the completed form to Ms Lindie van Rensburg
lindie.vanrensburg@mandela.ac.za.
- Please ensure that the research methodology section from the proposal is attached to this form.

Please note that by following this ethics route, the study will NOT be allocated an ethics clearance number.

SECTION A – STUDENT ACKNOWLEDGMENT

In completing this form I, Tshua Ndlovu (name and surname), acknowledge that my research project is for academic qualification purposes only. As such, the research report or any sections thereof may not be published in any publication, including an accredited journal.

I further acknowledge that my research project will be a desktop study and will only make use of publicly available documents or secondary data. No human subjects/ participants/ respondents will be involved in the study.

I understand that secondary data in this instance refers to data that was collected and processed by someone else for some other purpose but is now being used by the researcher for another reason (Tripathy, 2013). Research utilizing secondary data that both exists and has been collected in a public, academic database, for example Google Scholar, is considered desktop research and generally does not require full ethical approval (Creswell & Poth 2017).

APPENDIX 2: ETHICS FORM



HEAD OF DEPARTMENT

04/05/2023
DATE


STUDENT(S)

04/05/2023
DATE