

**GREEN MARKETING AND THE CONSCIOUS
CONSUMERS IN PORTUGAL**

Catarina Quintas Nunes

Dissertation submitted as partial requirement for the conferral of
Master in Marketing

Supervisor:

Prof. Hélia Gonçalves Pereira, Assistant Professor, ISCTE Business School,
Departamento de Marketing, Operações e Gestão Geral

Co-supervisor:

Prof. Maria de Fátima Salgueiro, Associate Professor (with Aggregation), ISCTE
Business School, Departamento de Métodos Quantitativos para Gestão e Economia

September 2019

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL
CATARINA QUINTAS NUNES

- Spine -

RESUMO

Este estudo pretende compreender o consumidor verde português, investigando o seu nível de preocupação ambiental, o comportamento ecológico consciente do consumidor. Adicionalmente, como este entende a credibilidade dos rótulos ecológicos, as características que considera mais importantes nos produtos verdes e, finalmente, quais são os principais obstáculos para fazer compras verdes. Além disso, foi explorado se o comportamento ecológico consciente do consumidor em Portugal divergia por meio de variáveis demográficas (sexo, idade, educação, ocupação e nível de rendimento mensal líquido). Foi publicado um inquérito online, tendo sido recolhidas 315 respostas válidas e posteriormente analisadas no programa estatístico SPSS, de forma a possibilitar a resposta às questões e hipóteses propostas para esta investigação.

Os resultados obtidos mostram que os consumidores portugueses estão preocupados com o ambiente e apresentam um comportamento de consumo consciente do ponto de vista ecológico. Concluiu-se que as mulheres são mais propensas a mostrar comportamento ecológico do que os homens, no entanto, não foram encontradas diferenças significativas de comportamento ecológico consciente do consumidor em relação às restantes variáveis demográficas em questão. Os resultados mostram que os rótulos ecológicos são considerados credíveis aos olhos dos consumidores verdes em Portugal. Além disso, verificou-se que as preocupações ambientais têm um impacto positivo no comportamento ecológico, bem como na credibilidade percebida dos rótulos ecológicos. Em contraste, as barreiras ecológicas têm um impacto negativo no comportamento ecológico. Adicionalmente, as características mais importantes dos produtos verdes são identificadas neste documento, juntamente com os principais obstáculos à compra verde.

PALAVRAS-CHAVE: Marketing Verde, Produtos Verdes, Comportamento Ecológico Consciente do Consumidor, Barreiras Verdes

JEL CLASSIFICATION: M31. Marketing

ABSTRACT

This study aims to understand the green consumer in Portugal by investigating their level of environmental concern and the ecological conscious consumer behaviour shown. Additionally, how they perceive the credibility of ecolabels, the characteristics they find most important in green products and, finally, what are the main obstacles to make green purchases. Furthermore, it was explored if the ecological conscious consumer behaviour in Portugal diverged by means of demographic variables (Gender, age, education, occupation and income level). An online survey was published, and 315 valid responses were gathered and analysed in the statistical program SPSS to make possible answering the research questions and hypothesis proposed for this investigation.

The results obtained show that the Portuguese consumers are environmental concerned and show high ecological conscious consumer behaviour. It was concluded that women are more prone to show green behaviour than man, however, there were not found significant differences of ecological conscious consumer behaviour relatively to the other demographic variables in question. Also, the results show ecolabels to be considered credible through the eyes of green consumers in Portugal. Furthermore, environmental concern was found to have a positive impact on green behaviour, as well as the perceived credibility of ecolabels. In contrast, green barriers have a negative impact on green behaviour. Additionally, the most important characteristics of green products are identified in this paper, along with the main obstacles of green purchase.

KEYWORDS: Green Marketing, Green Products, Ecological Conscious Consumer Behaviour, Green Barriers

JEL CLASSIFICATION: M31. Marketing

EXECUTIVE SUMMARY

The awareness of environmental issues such as global warming, pollution, destruction of natural habitats and the shorten of natural resources available, is beginning to rise in our society. This impacts consumers' attitudes towards their choices of life, including consumption. This awareness combined with the searching for ways to solve the environmental problems and the willing to personally help to reduce them or if possible, eliminate them, represents environmental concern (EC).

Companies must keep up with the change in consumers interests and concerns, hence, the appearance of green marketing, which attempts to harmonize the relationship between a company's activity and the environment. This concept appeared in the 70's and has evolved substantially until the present date, where it looks at all the harmful environmental consequences a firms activity has, aiming to create a sustainable economy. This present stage of green marketing is followed by a rising demand of green products and services.

In consideration of the importance of this subject in the current days, as well as the relevance it seems to gain in the future, this dissertation approached green marketing and the conscious consumers in Portugal. It focused on investigating the environmental concern (EC) of the conscious consumers in Portugal, their perceived credibility (PCQL) regarding ecolabels, the level of ecological consumer behaviour (ECCB); additionally, the differences of ECCB regarding demographic variables – gender, age, education, income level -, and the preferred characteristics of green products, as well as the obstacles to make green purchases in the eyes of consumers.

In the foundation of the present dissertation is an intensive literature review on its focal themes of interest was elaborated; and consequently, based on the literature review, seven hypothesis were elaborated to be further tested in this study. Furthermore, regarding methodology, this investigation is built over a quantitative research technique, more specifically, it was used the survey method.

An online survey was released during a period of 28 days, where from it were obtained 315 valid responses. The data gathered by the means of the questionnaire was analysed in the statistical program SPSS. The target population of the survey was individuals who are currently living in Portugal and are 18 years old or over, hence, it was necessary to integrate filter questions concerning the current residence and the age of the respondents. Responses from who didn't fit in the target of the study were put aside from analysis.

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

From the data analysis it was possible to test all hypothesis presented for this research, as well as the research questions developed in the beginning of the study. The results suggest green consumers in Portugal have a high environmental concern and ecological conscious consumer behaviour. Additionally, green consumers in Portugal show a moderate trust regarding ecolabels. Furthermore, ecological conscious consumer behaviour was found to be positively influenced by environmental concern and perceived credibility of ecolabels. Regarding the demographic variables being differentiating in explaining ECCB, only gender was found to be significantly differentiating ecological conscious consumer behaviour, in particular, women were found to be more prone to show green behaviour.

Another aim of this study was to understand which green characteristics were most valuable for consumers when looking at eco-friendly products; it was concluded that consumers' top 3 characteristics is the safety of products for the health of humans and animals, don't harm the environment with its production and are produced in a sustainable way. Finally, the barriers to green purchase for green consumers in Portugal were found to negatively impact ECCB; being that the high price of green products, the lack of information about green products and the requirement to change habits were found to be the three most common barriers to green consumers.

In sum, consumers in Portugal were found to be environmentally concern and showing that concern through their behaviour; however, there are some obstacles to purchase green, being the high price, the lack of information about green products and requiring of changing habits the most present barriers to purchasing green products for these consumers. Furthermore, green consumers in Portugal find ecolabels to be trustworthy, being this a high value information for green companies' communication. Finally, as for the main characteristics green consumers in Portugal give more importance when looking at green consumers, the safety for the health of humans and animals, the harmless production consequences in the environment and its sustainability, were found to be the ones indispensable in green products according to these consumers.

INDEX

TABLE INDEX.....	IV
GRAPH INDEX.....	VI
I. INTRODUCTION.....	1
RESEARCH PROBLEMATIC.....	2
MAIN RESEARCH QUESTIONS.....	4
OBJECTIVES DEFINITION.....	4
STRUCTURE OF THE DISSERTATION.....	5
II. LITERATURE REVIEW.....	7
1. GREEN MARKETING.....	7
2. GREEN PRODUCT.....	10
3. GREEN COMPANIES.....	11
4. GREEN COMMUNICATION.....	12
4.1 ECOLABELS.....	14
5. GREEN CONSUMERS, GREEN BEHAVIOUR AND BARRIERS TO GREEN PURCHASE.....	16
5.1 PROFILE OF THE GREEN CONSUMER.....	19
6. BARRIERS TO GREEN PURCHASE.....	22
RESEARCH HYPOTHESIS.....	23
III. METHODOLOGY.....	25
DATA COLLECTION.....	25
TARGET POPULATION.....	25
QUESTIONNAIRE.....	26
IV. DATA ANALYSIS.....	35
FILTER QUESTIONS.....	35
DESCRIPTIVE ANALYSIS.....	35
HYPOTHESIS TESTING.....	51

V. CONCLUSIONS, CONTRIBUTIONS, LIMITATIONS	
RECOMENDATIONS	57
RESULTS DISCUSSION	57
THEORETHICAL AND MANAGERIAL CONTRIBUTIONS	60
CONCLUSION	61
LIMITATIONS	63
FURTHER RESEARCH	64
BIBLIOGRAPHY	65
APPENDICES	74
Appendix 1 – Online Survey	74
Appendix 2 –Environmental Concern items Responses Percentage Table.....	83
Appendix 3– Environmental Concern scale (NEP) Cronbach’s Alpha.....	85
Appendix 4– Frequency table of Environmentally Concern Levels	85
Appendix 5– Credibility of Ecolabels Items Responses Percentage Table.....	85
Appendix 6– Perceived Credibility of a Quality Label (PCQL) Cronbach’s Alpha	86
Appendix 7– Frequency table of Perceived Credibility of a Quality Label Levels	86
Appendix 8 –Environmental Conscious Consumer Behaviour items Responses Percentage Table	86
Appendix 10– Frequency table of Environmentally Conscious Consumer Behaviour Levels.....	90
Appendix 11– Green Barriers individual frequencies and Responses Percentage Table by item.....	91
Appendix 12– Barriers to Green Purchase (GB) Cronbach’s Alpha.....	92
Appendix 13– Frequency table of Barriers to Green Purchase Levels.....	93
Appendix 14 – Model Summary and ANOVA outputs from the linear regression model outputs ECCB and PCQL.....	93
Appendix 15 – Model Summary and ANOVA outputs from the linear regression model outputs ECCB and EC	93

Appendix 16 – Group statistics of the Independent Samples t-test for ECCB and Gender	94
Appendix 17 – Ranks table of the Kruskal-Wallis for ECCB and EDUCATION.	94
Appendix 18 – ONEWAY ANOVA ECCB and INCOME LEVELS	94
Appendix 19 – Model Summary and ANOVA outputs from the linear regression model outputs ECCB and GB.....	95
Appendix 20 – FSC* Ecolabels (Source: https://ic.fsc.org/en/choosing-fsc/fsc-labels)	95

TABLE INDEX

Table 1 Revised New environmental paradigm scale.	29
Table 2 ECCB SCALE.	31
Table 3 PCQL scale.	32
Table 4 Green products characteristics.	33
Table 5 List of barriers to green purchase	34
Table 6 Descriptive statistics of Environmental Concern (NEP scale).	39
Table 7 Environmental Concern Score Descriptive Statistics.	41
Table 8 Descriptive Statistics of Perceived credibility of ecolabels (PCQL scales)	41
Table 9 Perceived Credibility of Ecolabels Score Descriptive Statistics.	43
Table 10 Descriptive statistics of Ecological Conscious Consumer Behaviour (ECCB scale).	44
Table 11 Ecological Conscious Consumer Behaviour Score Descriptive Sstatistics.	47
Table 12 Descriptive Statistics of Barriers to green purchase.	47
Table 13 Green Barriers Score Descriptive Statistics	50
Table 14 Linear Regression Coefficients for ECCB and PCQL	51
Table 15 Linear Regression Coefficients for ECCB and EC	52
Table 16 - Independent t-test for ECCB and Gender	52
Table 17 Kruskal-Wallis Ranks for ECCB and AGEGROUP	54
Table 18 Kruskal-Wallis Test Statistic for ECCB and AGEGROUP	54
Table 19 Kruskal-Wallis Test Statistic for ECCB and EDUCATION.	54

Table 20 Oneway ANOVA for ECCB and INCOME.....	55
Table 21 Linear Regression Coefficients for ECCB and GB	55
Table 22 Summary Results from each hypothesis testing	56

GRAPH INDEX

Graph 1 Green Products' Characteristics Frequency of Responses.....	37
Graph 2 Environmental Concern Percentage of responses.	40
Graph 3 Perceived Credibility of Ecolabels percentage of responses.....	42
Graph 4 Ecological Conscious Consumer Behaviour Percentage of Responses.....	46
Graph 5 Green Barriers Percentage of Responses.....	49

I. INTRODUCTION

The environmental impact of a consumerist society is undeniable. The effects of mass production, of the materials used to produce the products we buy and even the use of the products themselves has affected our environment in a way that to some extent it is impossible to revert.

Due to this, it is very important for companies and consumers to embrace a more sustainable and careful production and consumption (Cohen, 2014 in Groening *et al.*, 2018). The increasing awareness of the environmental issues such as pollution, global warming, and the greenhouse effect leads to a change in society's mindset (Chan, 1999 in Paço and Raposo, 2010). Both businesses and consumers are starting to understand that these issues are real and at some point, are going to affect the living of the human race. Hence, some of them are starting to do something about it by acting more environmentally friendly in their day to day lives, including in their purchases. This is where the Green concept appears.

Although the Green Marketing concept has been around since the late 70's (Henion and Kinnear, 1976), the environment and the consumer needs are changing, and marketers are consistently trying to be on top of these variations. Hence, it is very important to understand the Green Consumers and what they care for, as well as being informed of the priority environmental issues.

However, it was not only until the 80's that the environmental concerns reached the Portuguese society, along with the green movement creating awareness in consumers' minds regarding this subject (Lima and Schmidt, 1996 in Paiva and Proença, 2011). Besides the late arriving of green marketing to Portugal, its investigation and further understanding of this concept was also a slow process (Paiva and Proença, 2011), being this subject only firstly approached by Portuguese intellectuals in the 21st century. Hence, it is very important to deepen the knowledge about green marketing and green consumers in Portugal, so companies can better keep their target consumers satisfied and keep up with the consumers' overall interests and buying preferences.

RESEARCH PROBLEMATIC

Our planet provides us with an incredible amount of resources, which we are able to use in order to satisfy our needs and wants. But it is very important to note that these resources are limited, hence, we have to find an approach to manage them in a way that can sustain our survival and future generations. This limited amount of natural resources joined with the increasing human population growth, the climate changes, fair trade policies, labour rights and carbon emissions, are part of the economic, social and environmental issues, which are becoming a focus concern in our society nowadays (Ottman, 2011).

These types of issues brought up concepts such as sustainability, environmental-friendly, carbon footprint, recyclable, reusable and many more, including Green Marketing. The concept of green marketing can be defined as the “*marketing activities which attempt to reduce the negative social and environmental impact of existing products and production systems, and which promote less damaging products and services*”, according to Peattie (2001, p. 129).

As it is mentioned above, environmental concerns such as climate changes, pollution, carbon emission and the limited natural resources, are becoming a priority for consumers (Ottman, 2011). The awareness for these subjects has impact on consumers’ attitudes towards products, services and even businesses, and might have an effect on their purchase behaviour (Imkamp, 2000; Gatersleben *et al.*, 2012). In this case, customers with arising green (environmentally friendly) attitudes, might demonstrate green purchase behaviour. This behaviour is characterized by opting for products that are less harmful to our planet, this applies to the use of the product itself, the disposal and even the manufacturing and distribution of the product (Moisander, 2007).

Although environmental issues come from behaviours of every person (including companies) on Earth, society holds responsible, for some part of these concerns, the way marketing strategies promote consumerism and the reduced life span of products nowadays (Yam-Tang and Chan, 1998), making it urgent for businesses look for a greener way of continuing its activities. Taghian *et al.*, (2016) referred that, some individuals point out the failure of organizations to care for their consumers’ environmental concern. Additionally, several authors such as Valle *et al.* 2003 and Truninger (2000) identified that there is a deficiency when it comes to knowledge of green consumer behavior.

Moreover, it is important to understand that, to allow consumers to minimize their negative impact on the environment, it is necessary for companies to provide them with the appropriate products and services (Taghian, *et al.*, 2016). For this reason, businesses can have a leadership role when it comes to promote a more sustainable consumption (Peattie and Charter, 2003). Another study demonstrated that consumers' exposure to green product marketing communication is not sufficient, and that companies need to look at marketing to promote these green products and services in an efficient way (Pickett-Baker and Ozaki, 2008).

There is no denying, companies are embracing a green marketing perspective, even in a slow pace, although the reasons they choose to do it can be many, such as moral obligation, government laws, economic and noneconomic pressures from consumers, competitive pressure, cost of waste disposal, own concern about social responsibilities and environmental responsibilities, change in consumers' attitude or even an academic allegation that green products are profitable (Polonsky, 1994; Ghoshal, 2011).

It is possible to see the actions companies are taking nowadays towards a greener strategy in simple things such as: reducing plastic bag consumption actions by governmental imposition (Lei n.º 82-D/2014, in force since February 15th 2015), where in supermarkets and other commercial establishments, we have to pay for the plastic bags or we can choose to buy the reusable bags they now have available in their facilities; stimulating circular fashion, stores such as Zara and H&M have campaigns where an individual can bring their old clothes to these stores, and the stores will donate, recycle or transform the clothes into new fabrics; and enthusiast about recycling, the supermarket chain Pingo Doce's campaign "Reciclar Vale Mais" (meaning recycle is worth more), it consisted in collecting empty packages from consumers, for each 30 Litter and 50 Litter bag full of empty packages, a customer received 0,10€ and 0,15€ respectively (<http://www.egf.pt/pt/media/not%C3%ADcias/reciclar-vale-mais/>).

It is known that green marketing is increasing its importance in the consumers life and that companies are trying to integrate this concept in their values, but one thing cannot be forgotten, the communication of these green initiatives and products/services. Green marketing communication needs to be well thought and targeted. A green marketing and branding is somewhat complex, as Ottman (2011) highlighted. The promotion of a green product needs to be effective, for that, it must include information about the benefits the product gives to the consumer himself and the environment, the pro-environmental

position of the brand itself needs to be clear, since customers might have problems identifying green products (Pickett-Baker, and Ozaki, 2008; Ottman, 2011) and, most importantly green marketing communication needs to understand clearly who are the green customers it is approaching (Ottman, 2011).

The above reinforces the object of study of this dissertation, it emphasizes the need to understand the green customers and what they want from companies, such as understanding in what companies should focus when doing green marketing communication, regarding the green products characteristics firms should prioritize promoting. Furthermore, it is highlighted the importance of knowing how consumers feel about ecological certifications used in the communication of green products to find the best way to promote these products. And finally, the urge to know what keeps green consumers from make green purchases is also emphasized above, what is being an obstacle for buying green products so companies can try and diminish or, if possible, eliminate them completely.

MAIN RESEARCH QUESTIONS

Research questions are “explicit statements of what it is the researcher wants to know about” (Bell *et al.*, 2018, p.9). These statements further help to conduct the literature research (Bryman and Bell, 2015; Bell *et al.*, 2018) and the development of hypothesis.

Thus, this study seeks to answer the following research questions:

- i. Who are the green consumers in Portugal?
 - a. What is the demographic profile of green consumers in Portugal?
 - b. Do green consumers in Portugal show Environmental Concern?
- ii. Which green characteristics (Moisander, 2007) are more important to green consumers in Portugal?
- iii. Do green consumers in Portugal feel that ecolabels are relevant in their purchases, do they find them credible?
- iv. Which are the main barriers for green consumption in Portugal?

OBJECTIVES DEFINITION

The main objective of this paper is to better understand the green consumers in Portugal, comprehending their demographic characteristics. Furthermore, there is also an intention to acknowledge if these consumers show environmental concern, if they are

engaged and willing to help solve the environmental issues that more and more showing their consequences in the day-to-day life of consumers. It is investigated if the Portuguese society shows evidence of acting environmentally friendly, as well as this is related to the environmental concern of consumers.

Additionally, this dissertation has the goal to find which product information green consumers in Portugal value the most when looking at green products, this would help companies to better target their promotions and be more effective with their communication, giving to the right consumers the information about the green products' characteristics they look for the most.

Finally, this study reflects on the main barriers to green purchase in Portugal. This aims to help companies to comprehend the obstacles that make people not buy green products and overcome them in order to facilitate and stimulate this type of conscientious purchase practice.

STRUCTURE OF THE DISSERTATION

This dissertation is distributed along different sections, for better organization and understanding, first segment is an introduction and contextualization about the theme; secondly, a literature review around concepts related to the theme; followed by the methodology applied; a data analysis section; and finally exposing the results discussion and after, conclusions taken from the study are presented, as well as its limitations.

The firsts section refers to an introduction to the theme approached in this dissertation, it first gathers the research problematics, the contextualization, the main research questions of this study and the definition of objectives.

The following section focuses on the literature review of the main concepts related to the theme of the dissertation and the formulation of the hypothesis to test.

The third section approaches the methodology used for this study, looking at the best method to tackle this theme and the decisions taken for gathering information. It is specified the structure of the online survey used to gather data and the scales used to measure the concepts under analysis.

The next section concerns the data analysis of the results gathered from the questionnaire, taking in count the hypothesis developed beforehand. Here it will be made a descriptive analysis of the data, the evaluation of the reliability of the scales

used to measure the variables in question and, finally, the test of the elaborated hypothesis.

The final segment of the dissertation looks at the discussion of the results obtained, and the conclusions taken from the study, the theoretical and practical implications are assessed, here the limitations of the study are highlighted and finally there are suggestions for future research to be developed in this area.

II. LITERATURE REVIEW

This section regards to the literature review elaborated taking in count the dissertation topic - Green Marketing and the conscious green consumers in Portugal. This is important so that one can understand the topic and what previous researchers have found (Ridley, 2012; Hart, 2018). Here is gathered historical information about the subject of the study (Ridley, 2012), as well as relevant information and knowledge from trustworthy and scientific sources (Hart, 2018) presenting the context of the topic in a logical way (Machi and McEvoy, 2009).

In order to be able to follow a clear path of reasoning, the literature review was divided in five sections: I. Green Marketing; II. Green Product; III. Green companies; IV. Green Communication; V. Green Consumers, Green Behaviour and Barriers to Green Purchase.

1. GREEN MARKETING

The concept of green marketing resulted from the increasing environmental problems derived from the extreme and endless expansion of industries and consumerism (Peattie, 2001). Over population, high pollution rates, the intensity of the consumption of non-renewable resources, the hole of the ozone layer, greenhouse effect, climate changes, fair trade conditions and high production of waste are some of the issues that triggered the birth of green marketing (Peattie, 2001; Ottman, 2011; Yan and Yazdanifard, 2014; Anwar and Jan, 2016).

This concept can be defined as “the holistic management process responsible for identifying, anticipating and satisfying the needs of customers and society, in a profitable and sustainable way” (Peattie, 1995, p.563). Green marketing can be backtracked to the mid 70’s, being first formally addressed in a seminar arranged by the American Marketing Association (AMA), in 1975. It was then referred to as ecological marketing (Henion and Kinnear, 1976 in Peattie and Charter, 2003; Boztepe, 2012).

The evolution of green marketing can be divided in three eras (Peattie, 2001), the first era being “ecological” green marketing, the second one being “environmental” green marketing, and finally the third one “sustainable” green marketing. The first era revolved around reducing society’s dependency on environmentally detrimental products. It focused on specific environmental matters, such as air pollution, depletion of oil reserves and increasing oil spills. And it mainly targeted industries such as automobile, oil and agro-chemicals (Peattie, 2001). This stage of green marketing was characterized by the

development of environmental regulations within the legal environment. In the second era, practitioners focused on the development of cleaner technologies - ones that are able to use less materials and energy, causing less waste and harm to the environment comparing to the alternatives -, looking at the product design. The “environmental” green marketing era was also marked by the understanding that this practice could enable companies to reach a competitive advantage. Finally, the third era looks at the environmental costs and issues in a more extensive way. Here companies look at all the environmental consequences their activities have on our planet, with the objective of creating a sustainable economy. This was accompanied with an increasing on customers demand for eco-friendly products and services (Peattie, 2001).

We can understand that green marketing has evolved a long way since its birth. The original goal was to reduce the attachment to products that damage our environment, and nowadays, it opened its focal matters in order to reach a sustainable economy, where natural resources are effectively used and ensured for future generations (Anwar and Jan, 2016).

Green marketing tries to harmonize the relationship between a company’s activity and the environment (Stanton, 1987 in Groening *et al.*, 2018). This concept “incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising” (Polonsky, 1994, p. 1) in order to deliver to customers products and services that, in all stages of its life, induce the minimum possible amount of social and environment harm to the environment (Peattie, 2001; Chamorro, *et al.*, 2009; Baran and Popescu, 2016).

Groening, *et al.* (2018), find green marketing to consist in “actions directed to all consumers and incorporates a broad range of marketing activities (e.g. price, planning, process, production, promotion and people) designed to demonstrate the firm’s goal of minimizing the environmental impact of its products and services.”.

It is clear that sustainability - caring for nature, the planet and the people who live here now and, in the future, - is an important aspect when talking about green marketing (Peattie and Charter, 2003; Ottman, 2011). Peattie and Charter (2003), tried to simplify the meaning of this sustainable way to look at consumption and industrial manufacturing. The authors also identified that this change to a sustainable way of living implied that the usage of natural resources must be at a rate at which they can be restored, either by our planet or human activity. Additionally, companies must lower the pollution and waste of

their productions to the minimum or, at least, to a rate that the environment can cope with without endangering it.

The goal of green marketing is to minimize the environmental problems caused by dangerous, unethical or not-conscious ways of industrial activities and consumerism (Yan and Yazdanifard, 2014). When looking from the perspective of a business, the purpose is to reduce the harm of the organization and its products on the environment (Lewandowska *et al.*, 2017). To achieve these goals, companies put in practice green marketing programs, which allow companies to reach their strategic and financial goals while being environmentally-friendly (Leonidou, *et al.*, 2013).

Ottman (2011), approaches two strategies necessary to develop a successful green marketing. One being the development of products that comply with the consumers' standards of quality, performance, affordability and convenience with low impact on the natural and social environments. The other one being the creation of corresponding demand for those products by means of a trustworthy, values-laden communication, which should offer practical benefits to consumers and engage with them in ways that are relevant to the environment.

To help marketers understand the environmental impact of their products, several tools are emerging, such as Life Cycle analysis (Peattie and Charter, 2003). This tool, also known as LCA, supports the belief that marketers shouldn't only look at the final product, but look at its production, usage and disposal (Ottman, 2011) - this will be looked in more depth further ahead in this literature review.

It is of great importance to understand that green or environmental actions do not only consist in purchasing green products (Corraliza and Berenguer, 2000) - these actions might be opting for reusable bags whilst shopping, saving water and saving energy – nor it necessarily means to reduce consumption, instead it persuades consumers to buy green products and services (Hartmann and Apaolaza Ibánêz, 2006; Leonidou *et al.*, 2013).

Finally, to have a successful Green Marketing, the companies' marketing mix needs to meet the so called four "S" criteria (Peattie, 1995), these are: Satisfaction of customer needs; Safety of the products and production for the stakeholders, including the environment; Social acceptability of the products (considering production, usage and disposal) and other company' activities; and Sustainability of the whole production, usage and disposal of products.

2. GREEN PRODUCT

Green product was a term used by the American Marketing Association to describe, products that are environmentally friendly and safe to use (Ottman, 1992 in Zahid *et al.*, 2017). Carrigan *et al.* (2005), stated that these products were manufactured with non-toxic ingredients and through environmentally-friendly procedures (Singh and Pandey, 2012). Ottman (2011) added, that green products have a social dimension attached to them (e.g. fair trade) and work as well or even in a superior way comparing to non-green products.

Keeping in line with the definitions given above, Shamdasani *et al.* (1993), referred to green products as products that can be recycled, do not pollute the Earth and consume natural resources in a sustainable way. A study made by Sachdev (2011) has found that the characteristics and benefits one should expect from green products are not clear to consumers. Moisander (2007) gathered some key criteria to help understand what needs to be known when talking about these products. According to the author, green products:

- are safe for the health of humans and animals;
- don't harm the environment with its manufacturing;
- don't use an excessive amount of energy and other resources during its life cycle (manufacturing, use and disposal);
- don't produce unnecessary waste through its packaging or short life span;
- don't conduct cruelty to animals;
- don't use materials from endangered environments or species.

The environmental impact of green products can be minimized by looking at the product design, trying to reduce the use of non-renewable resources and avoid the use of harmful materials, all considering the whole life-cycle of the product. (Chen, 2001 in Yan and Yazdanifard, 2014). Although companies are making efforts to go green and do no harm to our environment, we must understand that there are no entirely green products or services (Ottman, 2011), it is a matter of minimizing the damage we do to our planet, and not eliminating it as whole, since it is not possible to do it.

Frequently when consumers think of green products they think of high prices (Joshi and Rahman, 2015) and worse performance than non-green products (Ottman, 1998). Sachdev (2011) relates this unfavorable green products' reputation to the early release of environmentally friendly products that did not met consumers' expectations in the past (e.g. electric cars and recycled paper). Hence, it is essential for green products to

work as good as non-green products or even better (Pickett-Baker and Ozaki, 2008; Ottman, 2011; Ku *et al.*, 2012) and companies should take special attention to its price, since most consumers are not ready to pay premium-prices for green products, although if greater benefits from the products are shown this price can be accepted (Laroche *et al.*, 2001; Moser, 2015).

3. GREEN COMPANIES

Nowadays companies are pressured to become “greener” by the rising concern about our planet and environmental sustainability (Sachdev, 2011; Leonidou *et al.*, 2013). These companies that seek to reduce the harmful environmental impact of their activities, that make an effort to use renewable resources and manage their operations according to environmental sustainability principles, are known as green companies (Čėkanavičius *et al.*, 2014). It is important to understand that it is not enough for a certain department in a company to embrace environmental concerns and try to satisfy the green consumers. It is mandatory that the company as a whole embraces the green concerns in order to satisfy these new consumers and be recognized as a green company (Paiva and Proenęa (2011).

Green companies are required to be involved in at least one of the 4 R's of environmental protection, that is Reduce, Reuse, Recycle and Recover (Kassaye, 2001). Thus, these concepts should be implemented in the companies' activities involved in the greening process, this could be by reducing the amount of material used in the packaging of products (Yan and Yazdanifard, 2014) or by using recycled materials to make products. Other ways that were found to be very common among companies that are trying to become greener were minimizing waste, saving energy and saving materials (Eurobarometer, 2015 in Lazăr, 2017).

Several studies found that implementing a green strategy can bring companies financial benefits (Leonidou *et al.*, 2013; Wymer and Polonsky, 2015). Firms that put in practice green marketing were able to get their investments back, raise their profits and market share (Leonidou *et al.*, 2013; Moser, 2015). Another advantage that comes with the implementation of this pro-environmental concept is that in some countries companies can receive support from the government to install and implement new clean technology in their activity (Ottman, 2011).

However, the benefits from embracing a green marketing strategy will only be translated if the company has a good approach to this way of doing business and avoids malpractices (Peattie and Crane, 2005). The authors highlight the practices to avoid, in order to escape the failure of green marketing. These are: Green spinning – reactive

behaviour using public relations to deny the environmental critics made against the company; Green selling – the introduction of partially green characteristics or fake ones to already existing products; Green harvesting – the adoption of a positive green attitude towards environmental issues, when these help to reduce production costs; Entrepreneur marketing – the launch of green products without assessing directly to the consumers' needs; and finally, Compliance marketing – taking on the legislation concerning environmental issues at a minimum level and hype about the environmental credentials, not adopting any other environmental practice besides the ones that are required by law.

Lazăr (2017) reinforces the importance of companies avoiding the “green myopia” phenomenon (also related to Peattie and Crane’s (2005) practices to avoid). That is, firms cannot forget to meet the consumers’ needs and wants with green products, it is pointless to manufacture these eco-friendly products if they will not satisfy consumers. Hence, companies must understand and identify the customers’ green needs and expectations, and so they can produce green products that will meet these needs or even exceed them (Yan and Yazdanifard, 2014).

Companies that only focus on the product itself and ignore the potential harmfulness that its production and distribution might have in the environment have encountered some not so positive consequences, such as loss of consumer confidence in their green messages and charges of green hype and hypocrisy (Peattie and Charter, 2003). It is necessary, when implementing a green strategy to have a holistic approach to green marketing, rather than a product-oriented approach (Peattie and Charter, 2003).

The Life Cycle Assessment (LCA) is a tool that helps companies to better understand all the environmental issues included in the designing of a green product (Ottman, 2011). This tool helps to compare the costs that are associated with energy and resource usage, as well as the emissions connected to the existing product design manufacturing and packaging processes, to the alternative greener products; and, it allows to determine where a firm can minimize the usage of energy, water and production of waste (Ottman, 2011). The author reinforces that the environmental issues resulting from product design go from raw material acquisition to the disposal of the product.

4. GREEN COMMUNICATION

Companies should communicate their environmental and social accomplishments to help increase its positive image and sales (Lewandowska *et al.*, 2017). The ultimate goal of green communication is to impact the consumers’ purchase behaviour through emphasizing the positive outcomes it has on the environment and on themselves if they

choose to buy products that are not harmful to the environment (Kalafatis *et al.*, 1999; Rahbar and Abdul, 2011 in Mahmoud, 2018).

The focus of this communication has evolved over time. In the past, companies thought that consumers' main worries were the harming of our planet, making their green communication focused on that (Ottman, 2011). However, the same author found that nowadays marketers are becoming aware that this is not the case, and that consumers are mainly worried about our planet's resources not being able to sustain human life, they are afraid for their children's health and their own. Therefore, it is important to be on track and understand consumers' change in behaviours and values, so companies can correctly target their green communications (Pickett-Baker and Ozaki, 2008; Wang, 2014). Keeping in line with that, Cherrier *et al.* (2011) referred that marketers need to focus on consumer preferences and their decision-making process when promoting green products to have successful results. Furthermore, green communication needs to give meaningful environmental information to consumers which can relate to the companies' activities (Yan and Yazdanifard, 2014).

Unfortunately, not all environmental information is trustworthy and consistent, having a negative impact in companies' reliability, as well as it confuses consumers in what concerns to environmental claims (Ottman, 2011). These environmental claims are the statements that companies make concerning the effect their brand(s) have on the natural environment (Scammon and Mayer, 1995 in Paço and Reis, 2012). These should use relevant terms and pictures as well as explain in a clear way the environmental benefits related to the claim being made and how they are achieved (Singh and Pandey, 2012). Moreover, Ottman (2011) pointed out some strategies that companies should embrace when aiming for their environmental claims to be credible, being them: Walk your talk; Be transparent; Don't mislead; Enlist the support of 3rd parties; and, Promote responsible consumption.

Green communication can have some negative outcomes when not taken seriously, such as green fatigue and greenwashing (Paiva and Proença, 2011; Zhang *et al.*, 2018). Green fatigue happens when consumers are flooded with green marketing related buzzwords (e.g. non-toxic, recyclable, natural, free of synthetic chemicals, etc) and they feel overwhelmed by the amount of green information (Ottman, 2011). The phenomenon of greenwashing happens when firms make more environmental claims than they actually practice, they promise more than what they actually do (Dahl, 2010; Delmas and Burbano, 2011). These situations might lead to consumers not buying the firm's

products (Chen *et al.*, 2013), as well as decreasing the trust consumers have in the company.

Over the time, it is possible to find in the literature several efficient approaches regarding green communication, some authors defend that this communication must indicate the individual consequences, besides the environmental ones (Follows and Jobber, 2000). Additionally, when communicating green products, it should be highlighted their positive consequences, and the negative outcomes of the use of non-green products (Follows and Jobber, 2000). Another successful approach is to get across the benefits green products and services can also bring to other people, besides the environment (Kalafatis *et al.*, 1999); and finally, this communication should transmit to consumers that they have the power to ease environmental issues, in order for them to feel like their actions matter (Roberts, 1996).

Some studies concluded that to have a great impact on consumers' purchase behaviour, green communication should combine the efforts of the government and marketers (Zahid *et al.*, 2017; Sreen *et al.*, 2018), in order to make environmental claims more credible and educate consumers about environmental issues. The authors agree that, it is important for marketers to instruct consumers, so they can clearly identify green products and the benefits they get from purchasing them, as well to help customers understand the information given about these products and where they can find them.

4.1 ECOLABELS

Labels are a way of sharing information with consumers about products, they help consumers to make a purchase decision, these are based on signs, symbols and small messages (D'Souza, 2004). Ecolabels are a form of promotion of green products, that intend to help green consumers to express their environmental concerns in their purchase behaviour by sharing information of the environmental implications of the product (Tang *et al.*, 2004; D'Souza *et al.*, 2006). A variety of ecolabels are displayed to consumers every day, these play a big role when it comes to stimulate green consumption (Sachdev, 2011). Furthermore, this type of labels was found to be a key way to communicate environmental claims to green consumers and a meaningful tool to recognize green products (D'Souza *et al.*, 2006).

Studies have concluded that there is a relevant demand on the behalf of consumers for label information, however it is recognized some confusion from consumers and manufacturers regarding the understanding of ecolabels (Caswell and Mojdzuska, 1996

in D'Souza, 2004; D'Souza *et al.*, 2006; D'Souza *et al.*, 2007). As stated above, ecolabels can have several elements, being the mandatory one a visual logo, Tang *et al.* (2004) identified that the most efficient eco-labels had both a visual symbol and a small written message explaining what it represents.

Although a great amount of consumers was found to read these labels and believe in them (D'Souza *et al.*, 2006; D'Souza *et al.*, 2007), there are some consumers who are skeptical towards environmental claims made by companies and distrust the environmental certification (D'Souza *et al.*, 2007), which can affect the efficacy of ecolabel programs (Tang *et al.*, 2004). Atkinson and Rosenthal (2014) found that labels that give specific information about the claims can encourage consumers' trust in ecolabels. Furthermore, it was concluded that if consumers perceived ecolabels as widely recognized and trustworthy, they were more likely to make green purchases (Brécard *et al.*, 2009 in Yang, 2017). Additionally, Sønderskov and Daugbjerg (2011) concluded that the trustworthiness of ecolabels, greatly impacts the influence they have on green consumption behaviour. Furthermore, reinforcing the previous study, Moussa and Touzani (2008) identified that the way consumers perceive the credibility of the labels is positively related to the intention to purchase.

Ecolabel programs are suggested to be accompanied with educational campaigns with the goal to increase awareness in consumers regarding the meaning of such labels, helping them to identify the labels and increase the credibility of the accreditation methods for these labels (Tang *et al.*, 2004). This is important since one of the greatest obstacles of ecolabels found was the difficulty consumers found when trying to interpret them (D'Souza *et al.*, 2006).

One thing to keep in mind is that companies can voluntarily opt to add an ecolabel to its products, or they might be obligated to do it (OECD, 1997; Gallastegui, 2002). Ecolabels can be issued by various sources, and these sources can affect their credibility (Gallastegui, 2002). These types of labels can come from manufacturers, distributors or reporters, from the government or from independent companies that specialize in a certain classification (OECD, 1997; Gallastegui, 2002). Furthermore, in Gallastegui (2002), labels supported by the government were found to be more credible through consumers' eyes.

Withal, businesses should not underestimate the importance of ecolabels and the relevance of their sources (Gallastegui, 2002; D'Souza *et al.*, 2006; Atkinson and Rosenthal, 2014). But, in order to take total advantage of ecolabels, companies should

educate and inform consumers regarding the meaning of these type of labels that verify the green claims made by firms (D'Souza, 2004), here government help is extremely important in the way that makes the message more credible (Sønderskov and Daugbjerg, 2011; Cai *et al.*, 2017). Not forgetting about giving detailed information about the green affirmations, so consumers further understand the labels (Atkinson and Rosenthal, 2014).

Reasoning all the above, the following hypothesis was developed:

H1. Perceived credibility of ecolabels has a positive influence on environmental conscious consumer behaviour.

5. GREEN CONSUMERS, GREEN BEHAVIOUR AND BARRIERS TO GREEN PURCHASE

Green consumerism can be defined as “the process of purchasing and non-purchasing decisions made by consumers, based on environmental and sustainable criteria“ (Moisander, 2007 in Sharma and Daval, 2017, p.27). Thus, a green consumer is one that shows in his/her actions and behaviours a conscious concern about the environmental outcomes that can derive from his/her purchase, ownership, use, or disposal of certain products and services (Moisander, 2007). Furthermore, this type of consumer “takes into account the public consequences of his or her private consumption and attempts to use his or her purchasing power to bring about social change” (Webster, 1975, p. 188 in Moisander, 2007).

Green consumer behaviour, in the same way as green marketing, suffered transformations over time. During the 90’s, the green consumption concept widened to be a more ethical consumption, not only looking at the environmental problems, but also social problems, such as child labor, human rights violations, safety of the workplace, low wages, and animal testing (Paiva and Proença, 2011).

Furthermore, it is important to describe what consumer environmental concern (EC) regards; it was defined by Dunlap and Jones (2002) as “*the degree to which people are aware of problems regarding the environment and support efforts to solve them and or indicate willingness to contribute personally to their solution*” (Dunlap and Jones, 2002, p. 485). Several studies found that this awareness of environmental issues has an impact on consumers’ attitudes towards products, services and even businesses, and might have an effect on their purchase behaviour (Imkamp, 2000; Gatersleben *et al.*,

2012). Hence, individuals that have a favorable attitude towards the environment might demonstrate a green purchase behaviour.

It is worth noticing that one can have a positive green attitude, and be considered green without purchasing green products, by showing green behaviours in his/her life such as saving water and energy, reducing waste production, recycling and using public transports (Corraliza and Berenguer, 2000; Tilikidou and Delistavrou, 2006). These individuals are going to be included in this paper as green consumers. In line with that, Ling-Yee (1997) states that environmental commitment can be expressed in two ways, one being actual consumption of green products, and the second one being the participation in public environmental protection campaigns.

According to the approach that green consumers have to green consumerism, we can classify them as radical green consumers, the ones who only buy what is absolutely necessary, and liberal green consumers, who choose carefully the products and services they buy, making sure they are the least destructive to the environment (Elkington, 1990 in Moisander, 2007). On the other hand, Ottman (2011) referred to green consumers as “shades of green consumers”, a qualification given by the Natural Marketing Institute that supports that every consumer is some shade of green. This divides consumers into 5 “Shades of Green” (Ottman, 2011):

1. LOHAS (Lifestyle of Health and Sustainability) – they are the greener of all shades of consumers, extremely conscious about the well-being of the environment and support green products and services that will not harm it nor their own well-being; they understand their actions have consequences in the environment; less sensitive to price compared to other consumers; and are early adopters of green technologies;

2. Naturalites – they aspire to achieve a healthy lifestyle and believe in philosophies of mind-body-spirit; green buzzwords motivate their purchases; these consumers are concerned about the negative effects of chemicals in specific products such as cosmetics and food and they consider important for stores to have organic foods;

3. Drifters – These consumers trust the environmental claims in the media and are mainly motivated by trends as opposed to deeply held beliefs;

4. Conventionals – this shade of green consumer is one that engages in eco-friendly consumption for practical matters (e.g. saving energy to save money); these consumers are adepts of recycling actions;

5. Unconcerneds – the least green consumer of all the shades, they demonstrate little concern about the environment in their behaviours.

Green behaviour can be divided, according to Paiva and Proença (2011), into five groups: 1. Recycling – this concerns separation of waste and disposing it in the corresponding bins; 2. Reuse of packaging/product – this involves using the packaging/products for other purpose than the initial one the product was made for; 3. Saving Resources – saving water, energy and other natural resources in order to preserve them; 4. Non-Polluting behaviour – this regards the consumption of products that are the least toxic for the environment; and finally; 5. Consumption of organic foods – consuming food that was produced without chemicals, additives or genetic manipulation. According to the authors, the consumers who engage in all five of these categories of behaviours represent a shade of dark green, on the other hand, light green consumers are individuals who are only involved in one of these green behaviour categories.

Additionally, non-consumption is too a manifestation of green behaviour (Cherrier *et al.*, 2011). This was found by the authors to be a form of objection against other careless consumers, as well as a way to express self-interested concerns. Cherrier *et al.* (2011) divide this phenomenon into three forms of manifestation: intentional non-consumption, when the consumer decides actively that he/she does not want to use a certain product/service – for example, one do not consume a specific product due to its harmful effects on the environment; incidental non-consumption, refers to when someone opts for a preferred alternative –a person chooses an electric car instead of one that uses gas because it is better for the environment for example; and finally, ineligible non-consumption occurs when an individual cannot act as a consumer regarding a certain product/service – someone knows about a green product but it is not available to him/her.

Green consumers prioritize their environmental concerns (Ottman, 2011), this goes in line with the above. That is, some individuals might be more concerned about the amount of waste produced, being classified as resource conservers; others might be concerned about the consequences the environmental issues have on their health, being considered as health fanatics; moreover, consumers might be passionate about animals, thus, looking for products that are cruelty free, these are the so called animal lovers; and finally, individuals might prioritize things such as ocean pollution, deforestation, since they enjoy spending time outside, these consumers are identified as outdoors enthusiasts (Ottman, 2011).

Taking in count the information above, the following hypothesis was developed:

H2. Environmental concern (high NEP score) has a positive influence on environmentally conscious consumer behaviour.

5.1 PROFILE OF THE GREEN CONSUMER

Several authors tried to understand the psychological, social and personal characteristics of green consumers. Shrum *et al.* (1995), characterized these consumers as being opinion leaders and careful shoppers, not prone to impulse buying. These consumers tend to search for information about the products, however they can be skeptical about advertising (Paço and Reis, 2012; Joshi and Rahman, 2015). Green consumers often look for new products and tend to share information about them (Shrum *et al.*, 1995).

Nonetheless, it is of great importance to understand that the profile of green consumers can differ for the various green behaviours manifestations (e.g. recycling, resource saving, reducing waste, green purchase and consumption) (Fraj and Martinez, 2006). Fraj and Martinez (2006) focused their work on psychographic variables that affect green purchase, the authors found that individuals who are extroverted, agreeable and conscientious are the ones that, although in different ways, engage more in green behaviour and should be the focus of the companies' green marketing. The same study found that people with a conscientious character are the ones who will purchase green products and reject products that are harmful for the environment, in contrast, extroverted individuals tend to join in pro-environmental groups. Additionally, a study made by Follows and Jobber (2000) found that people who are concerned about the wellbeing of others are more likely to show purchase intention regarding green products. On the other hand, individuals not showing this benevolent trait, do not necessarily exhibit low purchase intention when it comes to green products (Follows and Jobber, 2000).

Gifford and Nilsson, (2014), suggest that people with a particular social and personal profile are more likely to be concerned about environmental issues. They state that people who have spent time in nature during their childhood; that have accurate knowledge about environmental problems and potential solutions; who have an open personality; consider the effects their actions might have in the future; and feel in control of their behaviour are more prone to show green behaviours. Leonidou *et al.* (2010) added that people with collectivist values and long-term orientation also tend to have

positive green attitudes, which is in agreement with the findings from Laroche *et al.* (2001) and Junaedi (2012). However, some people can show environmental attitudes without the presence of these factors, these consumers are known as “honeybees” (Gifford and Nilsson, 2014).

Despite the important findings of previous studies, it is clear that green consumers are challenging to define demographically, due to the different ways environmental concerns are felt by different profiles (Paiva and Proença, 2011). In Ottman’s (1998) study, green consumers were found to be mainly female, between the age of 30 and 44 years old, earning 50000 US \$/year, with a high education level and with an executive job (Ottman, 1997 in Paiva and Proença, 2011). These conclusions go in line with other studies, which reinforce the tendency for women to be more prone to engage in green behaviour (Roberts, 1996; Martinsons *et al.*, 1997; Laroche *et al.*, 2001; Dietz *et al.*, 2002; Lee, 2008). Individuals with high education levels, were as well identified by Straughan and Roberts (1999) to be more likely to act green. In addition, Roberts (1996) found age and education to be correlated to environmentally conscious consumer behaviour, which was further supported by the results of various studies, that young individuals were more likely to engage in green consumption behaviour (Martinsons *et al.*, 1997; Lee, 2008), along with people with high education level (Straughan and Roberts, 1999); reinforcing the demographic profile described by Ottman (1998). In contrast, the research of Ling-Yee (1997) observed that males were more likely to purchase green products more frequently. Furthermore, from a study made by Paço (2005), it was revealed the following profile of green consumer, no gender differences, high education level, individuals between 18 and 34 years old, works in an executive or professional environment and lives in urban areas close to the center. This goes in line with studies such as Diamantopoulos *et al.*, 2003 and Laroche *et al.*, 2001.

Furthermore, a study that focused on the green consumer in Portugal, found that the majority of the individuals with the highest environmental awareness, were females without a high education level (Barros, 2011), which contrasts with the results from Paço (2005). The findings from Barros (2011) are in line with a previous study made by Afonso (2010), however, it diverges in the education level. In Afonso (2010), Portuguese consumers with a higher education were found to be the ones showing higher environmental awareness. Plus, Afonso (2010) identified that the gap between purchase intention and actual purchase in the green Portuguese consumers was not as intense as expected. It was also established a positive influence of environmental awareness and the

intention to buy green products (Afonso, 2010; Barros, 2011). Furthermore, Barros (2011) looked at which green products consumers buy more, showing recyclable bags as the most consumed green product, followed by organic food and lightbulbs.

A study made by Paço and Raposo (2010) identified that is possible to differentiate a green consumer segment in the Portuguese market, which can be divided in other segments according to demographic characteristics, this goes in line with previous studies conclusions that green consumers differ between themselves (Elkington, 1990 in Moisander, 2007; Ottman, 2011). The authors support that there are no gender differences, however variables such as age, education level and income are significant when differentiating green consumer segments in the Portuguese market. Additionally, Paço and Raposo (2010), recognized that the main green behaviours Portuguese people take on is linked to economic factors such as, saving electricity and water.

Taking the information above, the following hypothesis were elaborated to be tested in study:

H3. Females are more prone to have higher environmentally conscious consumer behaviour (ECCB).

H4. Younger consumers are more prone to having higher environmentally conscious consumer behaviour (ECCB).

H5. Consumers with a higher education level are more prone to having higher environmentally conscious consumer behaviour (ECCB).

H6. Consumers with a higher income levels are more prone to having a higher environmentally conscious consumer behaviour (ECCB).

Moreover, about the green consumers in Portugal, Lemke and Luzio (2014) found that these consumers struggle with understanding which guidelines make a product suitable to be considered green. The authors concluded from their study that the same consumers are willing to sacrifice the products' form but not its function, when talking about green products. The main things consumers analyze when looking for these products were identified to be its durability, the materials used - preferring the ones with least harmful materials for the environment - and reduced packaging (Lemke and Luzio,

2014). However, in the previous study, green consumers in Portugal were found to be somewhat skeptical of green products and information regarding its green claims, resulting from greenwashing practices. This is reflected in their green purchase behaviour process through a harder effort concerning information search about green products, going in line with conclusions taken by Follows and Jobber (2000). Withal, these consumers showed to trust claims endorsed by ecolabels coming from the EU and NGO's (Lemke and Luzio, 2014).

Anwar and Jan (2016) identified that, although consumers are affected by the whole marketing mix of green products (Price, Product, Promotion and Place), price and promotion were found to have greater positive impact on consumers' attitude towards green products. Thus, promotion of green products can influence consumers' attitude towards them and the ones who are satisfied with its price are prone to be willing to invest in these products (Anwar and Jan, 2016). On the other hand, Paço and Raposo (2008) found in their study that the demographic and psychographic characteristics of consumers, along with their motivations, values and attitudes, affect the willingness to pay for green products, going in line with the findings from Laroche *et al.* (2001). Furthermore, Laroche *et al.* (2001) observed that females were more likely to pay more than man for green products, as well as people who are married and have children living at home. In contrast, Borin *et al.* (2013) found that consumers are not willing to pay a higher price for green products, strengthening the importance of introducing green products at a competitive price. This reinforces price as a barrier for consumers to have a green purchase behaviour, going in line with Moser (2015).

6. BARRIERS TO GREEN PURCHASE

Paço and Raposo (2010), observed that although some individuals support green policies to improve the environment, this might not be translated into their actions. In fact, many studies have confirmed the gap between green attitude and green purchase behaviour, that is, consumers might be environmental concerned and support green purchase behaviour, however they don't show it (Kalafatis *et al.*, 1999; Kollmuss and Agyeman, 2002; Pickett-Baker and Ozaki, 2008; Vermeir and Verbeke, 2008; Chang, 2011; Paço and Raposo, 2010; Moser, 2015; Arli *et al.*, 2018). This gap might be explained by several green purchase behaviours barriers, such as:

- ◇ perceived product performance, some consumers connect green products to low performance (McCarty and Shrum, 1994; Ottman, 1998 in Pickett-Baker and Ozaki, 2008);
- ◇ the feminine stereotype associated to green consumption might constraint men to act upon their green attitudes (Brough *et al.*, 2016);
- ◇ difficult to identify green product (Pickett-Baker and Ozaki, 2008; Lemke, and Luzio, 2014; Paiva and Proença, 2011);
- ◇ the sacrifices in terms of convenience, cost or performance, that green behaviour requires (McCarty and Shrum, 1994; Follows and Jobber, 2000; Peattie, 2010);
- ◇ premium prices of green products (Borin *et al.*, 2013; Moser, 2015);
- ◇ the lack of knowledge of consumers (Tanner and Kast, 2003 in Joshi and Rahman, 2015; Paiva and Proença, 2011);
- ◇ limited availability of green products and difficult access (McCarty and Shrum, 1994; Joshi and Rahman, 2015);
- ◇ the lack of consumer trust in the green claims and characteristics related to products (BCG, 2008 in Paiva and Proença, 2011; Tsakiridou *et al.*, 2008 in Joshi and Rahman, 2015; Lemke, and Luzio, 2014);
- ◇ hard to break consumer habits (McCarty and Shrum, 1994; Kalafatis *et al.*, 1999; Joshi and Rahman, 2015);
- ◇ the consumers' readiness to buy green products, some consumers might have positive attitude towards these products but might not be ready to buy them (Arli *et al.*, 2018).

H7. The green barriers have a negative impact on the environmentally conscious consumer behaviour (ECCB).

RESEARCH HYPOTHESIS

Hypothesis are assumptions made before verifying facts, these are meant to be tested in order to check their validation (Marconi and Lakatos, 2002; Burns *et al.*, 2017). They are elaborated taking in count the research questions, referred in the first section of this study, and the literature review (Creswell, 2003; Burns *et al.*, 2017), analyzed in the previous section.

Below are summarized the hypothesis elaborated taking in count the literature review made for this study, in order to continue the investigation.

Hypothesis:

- H1. Perceived credibility of ecolabels has a positive influence on environmental conscious consumer behaviour.
- H2. Environmental concern (high NEP score) has a positive influence on the environmentally conscious consumer behaviour (ECCB).
- H3. Females are more prone to have higher environmentally conscious consumer behaviour (ECCB).
- H4. Younger consumers are more prone to have higher environmentally conscious consumer behaviour (ECCB).
- H5. Consumers with a higher education level are more prone to have higher environmentally conscious consumer behaviour (ECCB).
- H6. Consumers with a higher income levels are more prone to have a higher environmentally conscious consumer behaviour (ECCB).
- H7. The green barriers have a negative impact on the environmentally conscious consumer behaviour (ECCB).

III. METHODOLOGY

In this section it is presented the methodology followed to pursue the answers of the research questions identified in the beginning of the dissertation, as well as, to verify the hypothesis developed in the previous section.

The research purpose is to assist in the marketing decision making (Burns *et al.*, 2017; Malhotra, 2017). This study in particular focuses on Green Marketing, its objective is to help understand better the conscious consumers in Portugal. To achieve that goal, research questions and hypothesis were developed, making it possible to pursue a descriptive research (Malhotra, 2017).

This dissertation is based on quantitative research technique in order to be able to quantify the data collected and make statistical analysis (Malhotra, 2017). The chosen quantitative research technique was the survey method of obtaining information, using structured questionnaires that were distributed to a sample of the target population (Malhotra, 2017). The survey method used was online survey which allowed respondents to answer the questionnaire wherever they were and through several types of electronic devices (Malhotra, 2017). The online survey was available in a period of time of 28 days.

DATA COLLECTION

Primary data was generated in order to better address the research questions already established (Malhotra, 2017). The data collection was made through a questionnaire that was published online, for the purpose of achieving a greater number of responses (Malhotra, 2017).

The questionnaire was only released after the elaboration of a pilot-test and the rectification of the aspects taken from it. The collection of data happened between the 29th of May 2019 and the 25th of June 2019. The questionnaire was released throughout the internet by the means of the Google Forms platform. Due to the verified increase of the number of foreign people legally living in Portugal (Portada.pt, 2017), the data collection was made in Portuguese and in English. After collection, the data was transferred to the statistical software SPSS in order to be analysed.

TARGET POPULATION

Malhotra (2017) defines target population as the gathering of elements that possess the data that the researcher aims to get. Considering this, the target population of this study is individuals who are currently living in Portugal, that are 18 years old or over.

This definition helped including not only Portuguese people but also foreign people who are settled in Portugal.

QUESTIONNAIRE

The questionnaire designed to be used in the development of the study and to help reach the answers for the research questions, as well as to verify the hypothesis elaborated in the previous part of this dissertation; is composed by closed questions distributed in 7 sections. This facilitates the data collection and the coding and subsequently the analysis of the data collected. Respondents' anonymity was enhanced in the beginning of the questionnaire. Questions regarding the consumers' demographics, environmental concern, green behaviour and habits as well as the credibility of ecolabels, were integrated in the questionnaire to be able to get to some conclusions regarding what was proposed in the beginning of the investigation. All questions were based on the literature review previously made, as well as other researches. Throughout the questionnaire, definitions that felt necessary, in order to keep things clear to the individuals answering it, were described on the top of each section. Making it understandable for the respondents, implying that the data collected is more reliable. The questionnaire published online is presented in appendix 1.

Every question in the online survey were structured questions, in which respondents had to answer within the set of alternatives available (Malhotra, 2017). The questions' format varied from multiple choice, scale and, for the filter question, dichotomous format (Malhotra, 2017). The questions were grouped in a manner that made more sense and that was helpful to analyse specific dimensions.

The first section of the questionnaire regards the filter questions; as mentioned above, the target population of the study is people with 18 years old or over, who are currently living in Portugal. Being the first filter question: "*Are you currently living in Portugal?*". If the respondents answered "Yes", they continued to the next filter question of the survey: "*Are you 18 years old or over?*"; however, if they answered "No" they were sent to submit the form and thanked for their participation. Regarding the second filter question, that approached the age of the respondent, if one responded "Yes", it would let him/her continue and answer the rest of the survey. In case an individual answered "No" to being 18 years old or over, he/she would be sent to the same message, as the ones who answered they were not currently residents in Portugal, thanking the participation. The respondents who answered they were nor currently living in Portugal

and/or not at least 18 years old , the results were not relevant for the study, in the sense that those respondents were not the target, so those questionnaires were not taken in count. These filter questions were needed so we can focus on the research questions and keep in line with the subject of the study which is to understand the Green Marketing in Portugal and the green Portuguese consumers. However, it is important to highlight that the target is not necessarily all Portuguese, meaning that the green consumers taken in count in this study are considered as the people that currently live in Portugal, whichever their nationality.

The following section of the questionnaire is associated to environmental concern (EC), which is the extent to which one is sensible to the environment wellbeing or not (Dunlap and Jones, 2002). To get this information, the New Environmental Paradigm (NEP) scale (Dunlap *et al.*, 2000) was used.

The third section of the questionnaire refers to green behaviour, which can be translated in several ways as already mentioned in the literature review. Here is approached the behaviour orientation of the respondents. This is measured by using the Environmental Conscious Consumer Behaviour (ECCB) scale (Straughan and Roberts, 1999).

The next section is related to green products. It focuses on the top 3 green products' characteristics preferred by respondents. Here, it was asked for people to indicate the three characteristics they look for the most in these type of products.

The relevance of ecolabels and its credibility is contemplated in the fifth section, people were requested to answer questions regarding ecolabels' credibility. To reach this information it was used the Perceived Credibility of a Quality Label (PCQL) scale (Moussa and Touzani, 2008).

The sixth section approaches the barriers to green purchase, here was presented several green purchase barriers identified on the literature review chapter. This intended to understand the agreeableness of respondents regarding the topics really being a barrier for their green purchase or not.

The final section of the questionnaire focuses on the demographic variables of the respondents, such as gender, age, civil status, area of residence, education, occupation, monthly income level and nationality. All the questions were closed in the format of

multiple choice, apart from nationality, where respondents had to write it themselves as a short answer.

i. PILOT-TESTING

A pilot test was carried out on a small sample of participants, who belonged to the target population, with the goal of refining the questionnaire, identifying and eliminating possible problems respondents might find (Malhotra, 2017). The corrections and alterations suggested by the 11 participants of the pilot test were implemented in the new and final version of the questionnaire (appendix 1), in order to prevent confusion or misunderstanding of what is being asked.

ii. SCALES USED

o NEW ENVIRONMENTAL PARADIGM (NEP) - ENVIRONMENTAL CONCERN SCALE

The Dunlap and Liere's (1978) study intended to show a change in the population's view of the world, from a dominant social paradigm (DSP) perspective (Pirages and Ehrlich, 1974) – where individuals felt that human race is entitled to dominate the natural environment and use it however its needs – to a new environmental paradigm (NEP) perspective (Dunlap and Liere, 1978) – where people respect the natural environment and look to take care of it, not only take from it – (Dunlap, 2008).

The original NEP scale from Dunlap and Liere (1978), suffered alterations through time in order to be kept updated when it came to terms and the environmental related aspects. The revised NEP scale from Dunlap *et al* (2000) is the one taken in count in this study. This scale was implemented in the questionnaire to measure the population's Environmental Concern (EC), which has already been described in the literature review as be defined as the extent to which one is sensible to the environment wellbeing or not (Dunlap and Jones, 2002). Several studies such Schultz and Zelezny (1999), de Groot and Steg (2007) and Gatersleben *et al.* (2012) implemented this scale in their investigation. Gatersleben *et al.* (2012) found a positive relationship between the NEP scale and green behaviour.

The revised NEP Scale is composed of 15 items, these endorse both Dominant Social Paradigm (DSP) and New Environmental Paradigm (NEP). The seven even numbered items advocate, when agreed by respondents, to the DSP. On other hand, the eight odd numbered affirmations, when agreed, support the NEP.

Respondents were expected to answer all fifteen statements within a Likert Scale of 5 levels of agreement: 1- Strongly disagree; 2- Disagree; 3- Unsure; 4- Agree; and 5- Strongly agree.

NEW ENVIRONMENTAL PARADIGM SCALE – ENVIRONMENTAL CONCERN (EC)

1. We are approaching the limit of the number of people the Earth can support.
2. Humans have the right to modify the natural environment to suit their needs.
3. When humans interfere with nature it often produces disastrous consequences.
4. Human ingenuity will ensure that we do not make the Earth unlivable.
5. Humans are seriously abusing the environment.
6. The Earth has plenty of natural resources if we just learn how to develop them.
7. Plants and animals have as much right as humans to exist
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.
9. Despite our special abilities, humans are still subject to the laws of Nature.
10. The so-called “ecological crisis” facing humankind has been greatly exaggerated.
11. The Earth is like a spaceship with very limited room and resources.
12. Humans were meant to rule over the rest of nature.
13. The balance of nature is very delicate and easily upset.
14. Humans will eventually learn enough about how nature works to be able to control it.
15. If things continue on their present course, we will soon experience a major ecological catastrophe.

Table 1 Revised New environmental paradigm scale Source: Dunlap et al., (2000).

○ **ECOLOGICAL CONSCIOUS CONSUMER BEHAVIOUR SCALE – ECCB**

The original study of Roberts (1996) proposed a scale that tried to measure the environmental conscious consumer behaviour, the ECCB scale; which was later adapted by Straughan and Roberts (1999). This scale measures the orientation of the consumers’ behaviour regarding the environment, meaning that it determines whether a someone acts or not in a green way, taking care of the environment. Afonso (2010), Barros (2011),

Awad (2011), González *et al.* (2015) and Brochado *et al.* (2016) are just a few studies that used the ECCB scale to measure green behaviour.

This scale is a combination of 30 items, from which the individuals responding to the questionnaire are asked to show their agreement regarding each item on a Likert Scale of 5 points, as follow: 1- Strongly disagree; 2- Disagree; 3- Unsure; 4- Agree; and 5- Strongly agree.

ECOLOGICAL CONSCIOUS CONSUMER BEHAVIOUR SCALE (ECCB)

1. I normally make a conscious effort to limit my use of products that are made of or use scarce resources.
2. I always try to use electric appliances (e.g., dishwasher, washer, and dryer) before 10 A.M. and after 10 P.M.
3. I will not buy products that have excessive packaging.
4. When there is a choice, I always choose the product that contributes to the least amount of pollution.
5. If I understand the potential damage to the environment that some products can cause, I do not purchase these products.
6. I have switched products for ecological reasons.
7. I use a recycling center or in some way recycle some of my household trash.
8. I make every effort to buy paper products made from recycled paper.
9. I use eco-friendly detergent for my laundry.
10. I have convinced members of my family or friends not to buy some products that are harmful to the environment.
11. I have purchased products because they cause less pollution.
12. I do not buy products in aerosol containers.
13. Whenever possible, I buy products packaged in reusable containers.

14. When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.
15. When I have a choice between two equal products, I always purchase the one less harmful to other people and the environment.
16. I will not buy a product if the company that sells it is ecologically irresponsible.
17. I buy toilet paper made from recycled paper.
18. I buy kleenex made from recycled paper.
19. I buy recycled paper sheets.
20. I try only to buy products that can be recycled.
21. To reduce our reliance on fuels, I drive my car as little as possible.
22. I do not buy household products that harm the environment.
23. To save energy, I drive my car as little as possible.
24. I try to buy energy efficient household appliances.
25. I have tried very hard to reduce the amount of electricity I use.
26. I have purchased a household appliance because it uses less electricity than other brands.
27. I have replaced light bulbs in my home with those of smaller wattage so that I will conserve on the electricity I use.
28. I have purchased light bulbs that were more expensive but saved energy.
29. I usually purchase the lowest priced product, regardless of its impact on society. (R)
30. I buy high efficiency light bulbs to save energy.

Table 2 ECCB SCALE Source: Straughan, R. and Roberts, J. (1999).

○ PERCEIVED CREDIBILITY OF A QUALITY LABEL (PCQL) SCALE

Moussa and Touzani (2008), developed in their study a scale that measures people's perceived credibility of labels. In other words, this study helps to understand an individual's conception of the truth of a piece of information (Eisend, 2002), in this case, being ecolabels the piece of information. Issock *et al.*, 2018 adapted this scale in their study to help measure trust in ecolabels.

This scale is composed by 6 items, in which, respondents need to answer in a Likert scale of 7 points (with the anchors 1- Totally disagree; and 7- Totally agree) their agreement or not to each sentence.

PERCEIVED CREDIBILITY OF A QUALITY LABEL (PCQL) SCALE

1. I can trust what the ecolabels says.
2. Ecolabels come from an organization or recognized experts.
3. Ecolabels are honest.
4. The organizations in charge of ecolabels have good intentions.
5. The organization has passed some serious tests before issuing this sign.
6. Ecolabels inspire me confidence.

Table 3 PCQL scale source: Moussa, S. and Touzani, M. (2008).

iii. Other Variables

○ GREEN PRODUCTS' CHARACTERISTICS

Further in the questionnaire, respondents were asked to choose their top three characteristics they look for in green products, the information that makes them want to purchase green products. A list of green products characteristics developed by Moisander (2007) was integrated in the questionnaire. This will help to understand the main information green communication should focus on when promoting environmentally friendly products.

GREEN PRODUCTS' CHARACTERISTICS

1. Are safe for the health of humans and animals.
2. Don't harm the environment with its manufacturing.

3. Don't use an excessive amount of energy and other resources during their life cycle (manufacturing, use and disposal).
4. Don't produce unnecessary waste through their packaging or short life span.
5. Don't conduct cruelty to animals.
6. Don't use materials from endangered environments or species.
7. Are produced in a sustainable way;
8. The use of recycled materials in their production;
9. Have recyclable packaging.

Table 4 Green products characteristics - Source: Moisander, J. (2007).

○ BARRIERS TO GREEN PURCHASE

In order to understand the main barriers to green purchase in Portugal, it was presented in the form a compilation of green purchase barriers based on the literature review presented before.

Respondents had to specify if they agreed or not that the listed situations were for them barriers to purchase green products. This was made in a 5-point Likert scale of agreement: 1. Totally disagree; 2. Disagree; 3. Unsure; 4. Agree; 5. Totally disagree.

LIST OF BARRIERS TO GREEN PURCHASE

1. Green products have lower performance comparing to non-green ones. (McCarty and Shrum, 1994; Ottman, 1998 in Pickett-Baker and Ozaki, 2008)
2. The feminine stereotype associated with green behaviours. (Brough *et al.*, 2016);
3. Difficulty in identifying which products are green or not. (Pickett-Baker and Ozaki, 2008; Lemke, and Luzio, 2014; Paiva and Proença, 2011)

4. Sacrifices in terms of performance and cost when buying green products. (McCarty and Shrum, 1994; Follows and Jobber, 2000; Peattie, 2010)
5. High price of green products. (Borin et al., 2013; Moser, 2015)
6. Lack of knowledge about green products. (Tanner and Kast, 2003 in Joshi and Rahman, 2015; Paiva and Proença, 2011)
7. The limited availability of green products. (McCarty and Shrum, 1994; Joshi and Rahman, 2015)
8. Difficult access to green products. (McCarty and Shrum, 1994; Joshi and Rahman, 2015)
9. Distrust in environmental claims made by companies about their products. (BCG, 2008 in Paiva and Proença, 2011; Tsakiridou et al., 2008 in Joshi and Rahman, 2015; Lemke, and Luzio, 2014)
10. Requires changing habits. (McCarty and Shrum, 1994; Kalafatis <i>et al.</i> , 1999; Joshi and Rahman, 2015);

Table 5 List of barriers to green purchase

All the scales selected to be a part of the questionnaire were found to be the ones that better suit the goals of this study and originated from reliable authors. Since the questionnaire was published in both English and Portuguese, the scales were translated from the original language (English) to Portuguese in way that conserved the true meaning of the affirmations that compile each scale. Moreover, all questions were mandatory, so that respondents wouldn't go further in the questionnaire without giving all the information needed for this investigation.

IV. DATA ANALYSIS

The questionnaire was released on May 29th and closed on June 25th, 2019. All together was obtained 339, with 337 valid responses.

The data obtained through the online survey was gathered and analysed in the statistical software SPSS version 24. First, the focus were the two filter questions that guaranteed that the respondents corresponded to the target of this study. In this first moment, it was analysed if the respondents answered that they were currently living in Portugal and had at least 18 years old. After eliminating the respondents that did not match the previous requirements, the next step was to do a descriptive analysis of the data, looking at the distribution of the sample according to the demographic data included in the questionnaire.

Furthermore, the descriptive analysis of the concepts under analysis are looked at. It is evaluated the reliability of the scales used to measure: environmental concern, ecological conscious consumer behaviour, perceived credibility of ecolabels and barriers to green purchase.

The final part of this section regards the testing of the seven hypothesis presented for this study. Statistical analysis such as independent t-test, Oneway ANOVA, Kruskal-Wallis and linear regression were developed.

FILTER QUESTIONS

From the 337, 22 respondents did not pass the filter questions, meaning that they did not currently live in Portugal and/or were not 18 or over. The 22 respondents that do not correspond to the target population, residents in Portugal with 18 or over, constitute 6,528 % of the responses. The first filter question presented to the respondents concerned if they were currently living in Portugal, where 16 respondents answered they were not currently residents in Portugal (72,7%), secondly to the respondents who currently live in Portugal, it was asked if they were 18 years old or over, where 6 (27,3%) people answered they were not.

DESCRIPTIVE ANALYSIS

Taking out the 22 responses from people who do not correspond to the target of the study, whom correspond to the ones not currently residents in Portugal and younger than 18 years old, there were left 315 responses to analyse.

a. DEMOGRAPHIC VARIABLES

This section approaches the descriptive analysis of the demographic variables from the questionnaire, such as gender, age group, education, occupation, civil status and monthly income.

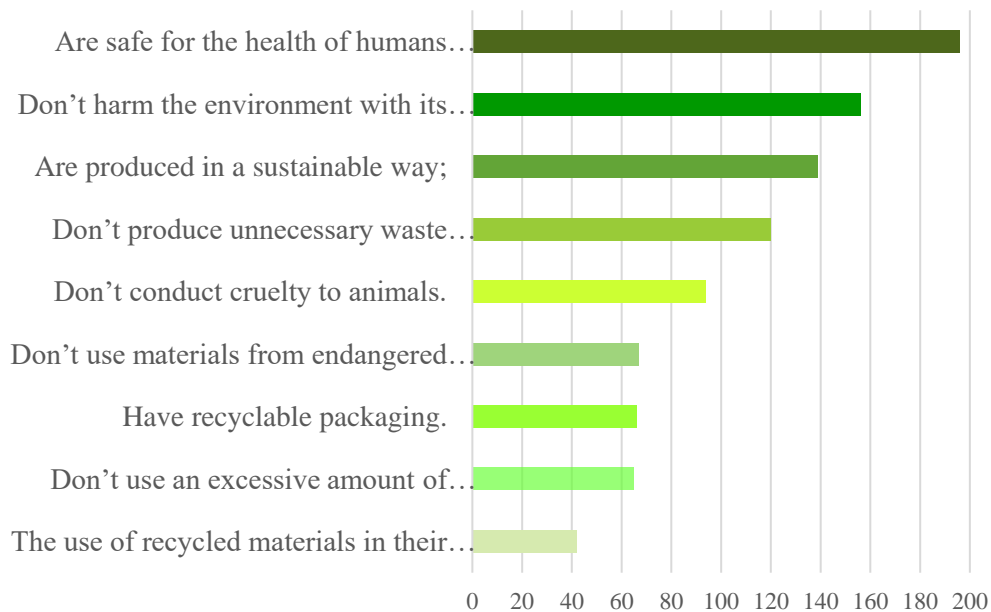
After some analysis, the following demographic profile of the respondents relative to the demographic variables was concluded:

- the majority of the respondents are women, representing 67,94%, and consequently man represent only 32,06% of the respondents;
- regarding age group, the majority of the respondents, 50,16%, are aged between 18 and 31 years old, with 30,16% belonging to the 18-24 age group, and 20,00% belonging to the age group with 25-31 years old; additionally, 14,60% of respondents are aged between 53 and 60 years old;
- the majority of respondents, 55,56%, are single and 33,33% are married; additionally, 8,89% of the respondents are divorced and the remaining 2,22% are widow(er)s;
- in the case of nationality, this question was the only open question in the questionnaire, which made it prone to non-valid responses, thus, there were 3 non-valid responses, making it a total of 312 valid responses to analyse; 97,12% of the respondents are Portuguese, leaving 2,88% of the respondents foreign with nationalities as Argentinian, Brazilian, Danish, German, Moroccan, Spanish and American;
- the majority of the respondents live in the city area, 62,5%, followed by 30,5% living in the suburbs and only 7% living in the countryside;
- furthermore, the majority of the respondents (80%) have a university degree, being that 41,59% have a masters degree and 38,41% have a bachelors degree;
- the majority of the respondents, 66,03%, are employed, given that 53,33% are employees and 12,70% are self-employed, additionally 24,40% are students;
- Finally, 24,44% of the respondents earn a net monthly income higher than 2000€; and 20,63% have no monthly income.

b. ADDITIONAL DESCRIPTIVES

GREEN PRODUCT CHARACTERISTICS

Below is presented the individual frequencies of the Green Products' Characteristics – GPC - (Graph 1). The characteristic that was most selected as being part of the top 3 Green Products' Characteristics was “Are safe for the health of humans and animals.” with 196 respondents choosing it for the top 3. The second most voted characteristic was “Don't harm the environment with its manufacturing.” (156), followed by “Are produced in a sustainable way.” (139). In contrast, the characteristic with the lowest frequency is “The use of recycled materials in their production.” with only 42 respondents selecting it for the top 3 GPC. Furthermore, the individual frequency tables of green barriers as well as the frequencies of responses by item are represented in appendix 11.



Graph 1 Green Products' Characteristics Frequency of Responses

It was verified a great amount of green product characteristics combinations made by the respondents of the survey. The grouped characteristics selected to be the top 3 Green Products' Characteristics that was most voted, by 8,89% of the respondents, was the following:

- “Are safe for the health of humans and animals.”;
- “Don’t harm the environment with their manufacturing.”;
- “Are produced in a sustainable way.”.

Additionally, the second combination of GPC most answered by respondents, representing 6,03%, was:

- “Don’t harm the environment with their manufacturing.”;
- “Don’t produce unnecessary waste through their packaging or short life span.”;
- “Are produced in a sustainable way.”.

Followed by the 5,71% of respondents who answered:

- “Are safe for the health of humans and animals.”;
- “Don’t harm the environment with their manufacturing.”;
- “Don’t conduct cruelty to animals.”.

ENVIRONMENTAL CONCERN (NEP SCALE)

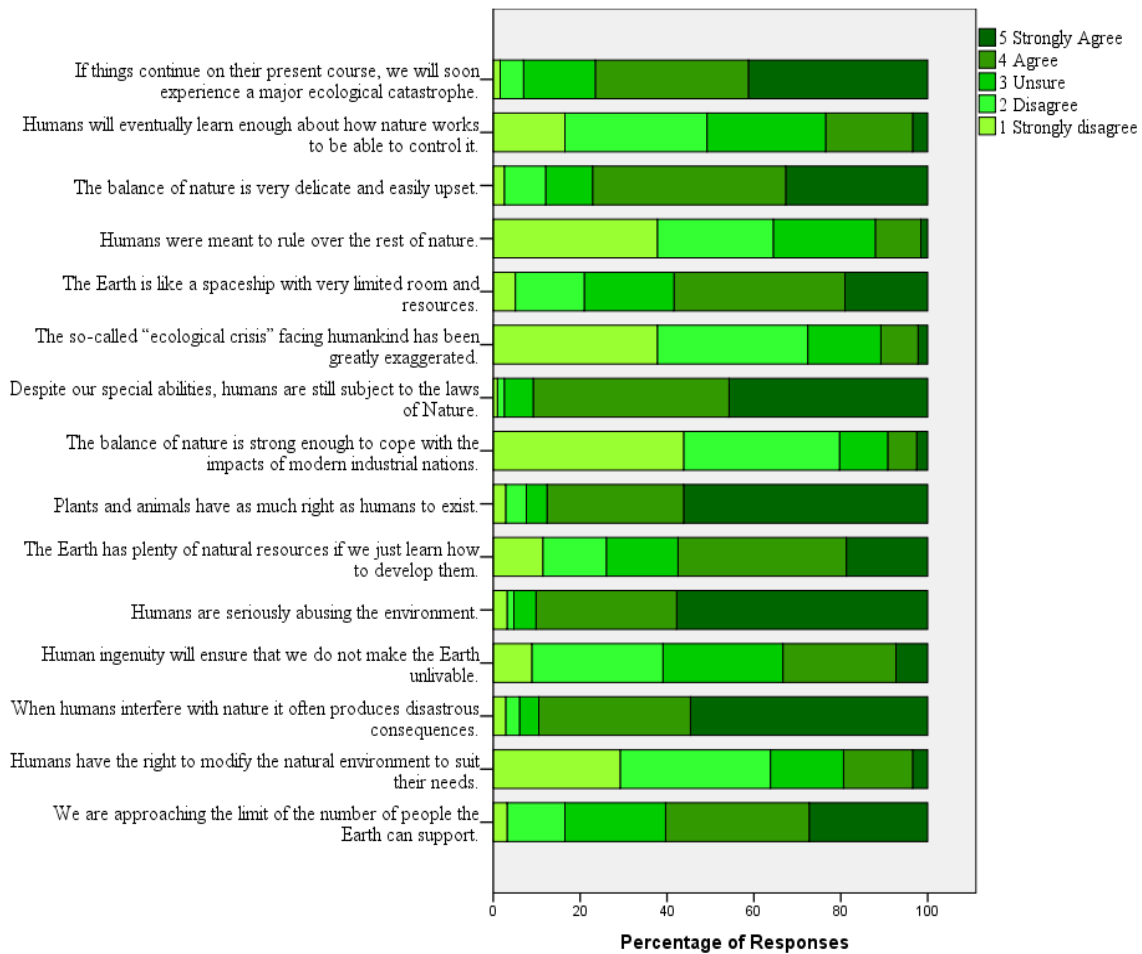
The following table (Table 6) presents the means and the standard deviations of the all items that constitute the revised NEP scale, which measures environmental concern (EC). The respondents could answer the items in a 5-point Likert-type scale of agreement: 1 – Strongly disagree; 2 – Disagree; 3 – Unsure; 4 – Agree; and 5 - Strongly Agree. Furthermore, the percentage of the responses from the 15 items of the scale are presented in graph 2 and in appendix 2.

Environmental Concern - Descriptive Statistics		N=315
	Mean	Std. Deviation
EC1 - We are approaching the limit of the number of people the Earth can support.	3,68	1,107
EC2 - Humans have the right to modify the natural environment to suit their needs.	2,30	1,151
EC3 - When humans interfere with nature it often produces disastrous consequences.	4,35	,924
EC4 - Human ingenuity will ensure that we do not make the Earth unlivable.	2,93	1,099

EC5 - Humans are seriously abusing the environment.	4,40	,906
EC6 - The Earth has plenty of natural resources if we just learn how to develop them.	3,39	1,263
EC7 - Plants and animals have as much right as humans to exist.	4,33	,974
EC8 - The balance of nature is strong enough to cope with the impacts of modern industrial nations.	1,88	1,017
EC9 - Despite our special abilities, humans are still subject to the laws of Nature.	4,33	,752
EC10 - The so-called “ecological crisis” facing humankind has been greatly exaggerated.	2,03	1,045
EC11 - The Earth is like a spaceship with very limited room and resources.	3,51	1,121
EC12 - Humans were meant to rule over the rest of nature.	2,11	1,079
EC13 - The balance of nature is very delicate and easily upset.	3,95	1,022
EC14 - Humans will eventually learn enough about how nature works to be able to control it.	2,61	1,087
EC15 - If things continue on their present course, we will soon experience a major ecological catastrophe.	4,09	,965

Table 6 Descriptive statistics of Environmental Concern (NEP scale).

Regarding environmental concern, four statements present the highest mean scores, these were related to the New Environmental Paradigm (NEP). The statement with the highest mean score regarding environmental concern (EC) was “Humans are seriously abusing the environment” (4,40), followed by “When humans interfere with nature it often produces disastrous consequences” (4,35), this can be found in table 6. Both statements recognise the negative effects of human actions in the environment. Additionally, with a mean score of 4,33 were the statements “Plants and animals have as much right as humans to exist” and “Despite our special abilities, humans are still subject to the laws of Nature”. Contrasting, the lowest score means corresponded to the items related to the Dominant Social Paradigm (DSP), being “The balance of nature is strong enough to cope with the impacts of modern industrial nations” (1,88) and “The so-called “ecological crisis” facing humankind has been greatly exaggerated” (2,03) the two lowest mean score identified.



Graph 2 Environmental Concern Percentage of responses.

To test the reliability of this scale it was conducted a Cronbach’s Alpha, which verified the reliability of the NEP Scale translating Environmental Concern. The value obtained from this analysis was 0,782 (Appendix 3) which fits in in the acceptable values – 0,7 to 0,95 - (Tavakol and Dennick, 2011).

Moreover, it was conducted the score of the variable Environmental Concern – EC- through the mean of the values obtained in each item that constitute the EC. Table 7 presents the descriptive statistics of this analysis. Keeping in consideration the grouped levels of environmental concern taken into account, considering the Likert-type scale used: 1-2,49: Low environmental concern; 2,50-3,49: moderate environmental concern; and 3,50-5,00: high environmental concern; there is statistical evidence that the majority of the respondents show high environmental concern, from looking at table 7, the mean of EC is 3,8269.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
EC	315	2,27	5,00	3,8269	,51853
Valid N (listwise)	315				

Table 7 Environmental Concern Score Descriptive Statistics.

On Appendix 4, the frequency table of the environmental concern levels is attached, from it is identified that 1% of the respondents show a low environmental concern, and only 25,4% of respondents have a moderate environmental concern, leaving 73,7% representing a high environmental concern.

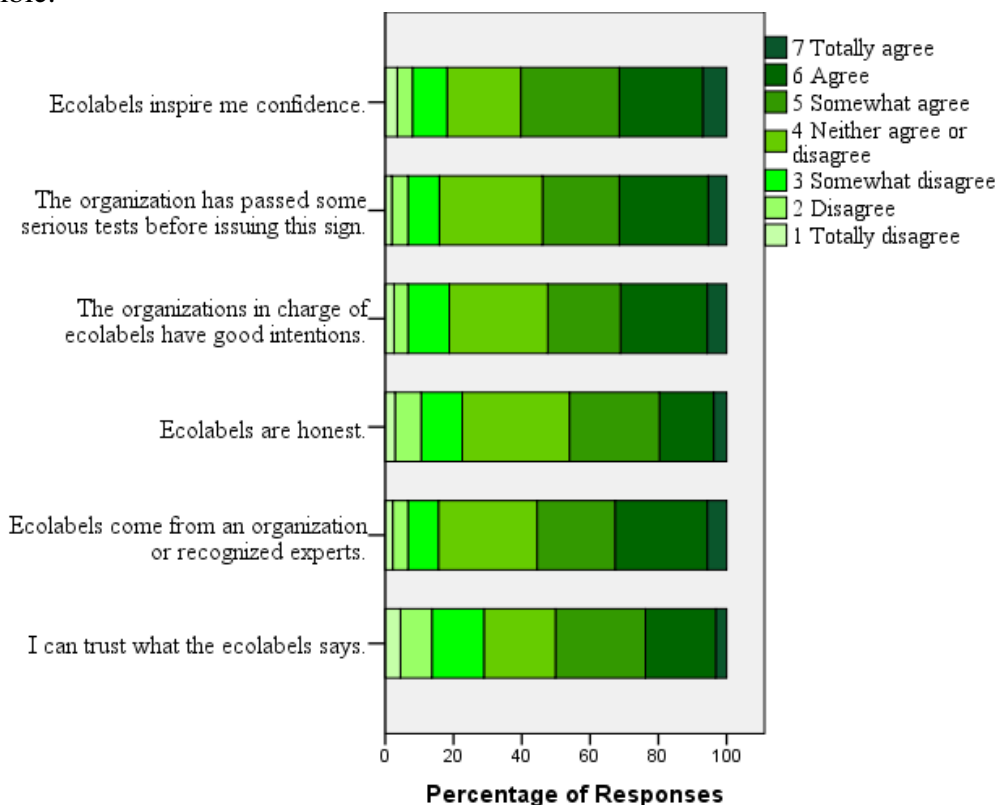
PERCEIVED CREDIBILITY OF ECOLABELS (PCQL Scale)

The means and the standard deviations of all the items that constitute the Perceived Credibility of Quality Labels (PCQL) scale, which measures the perceived credibility of ecolabels, are presented in table 8. The respondents could answer in a 7-point Likert-type scale of agreement: 1 – Totally disagree; 2 – Disagree; 3 – Somewhat disagree; 4 – Neither agree or disagree; 5 – Somewhat Agree; 6 – Agree; and 7 – Totally agree. Additionally, bellow is attached the graph (graph 3) with the percentage of the responses from the 6 items of the scale, plus the table concerning all responses' frequency of the 6 items of the scale is presented in the appendix 5.

CREDIBILITY OF ECOLABELS - DESCRIPTIVE STATISTICS		
	Mean	Std. Deviation
PQGL1- I can trust what the ecolabels says.	4,30	1,487
PQGL2- Ecolabels come from an organization or recognized experts.	4,70	1,346
PQGL3- Ecolabels are honest.	4,34	1,348
PQGL4- The organizations in charge of ecolabels have good intentions.	4,61	1,374
PQGL5- The organization has passed some serious tests before issuing this sign.	4,66	1,331
PQGL6- Ecolabels inspire me confidence.	4,69	1,420

Table 8 Descriptive Statistics of Perceived credibility of ecolabels (PCQL scales)

By interpreting the table 8, concerning the descriptive statistics of the responses from the statements referring to the Perceived credibility of ecolabels (PCQL scales), “Ecolabels come from an organization or recognized experts” (4,70), “Ecolabels inspire me confidence” (4,69) and “The organization has passed some serious tests before issuing this sign” (4,66) present the highest mean scores. However, all statements related to this scale show high mean scores, going from 4,30 to 4,70, this suggests that the sample’s PCQL score is going to be high, in other words, that consumers perceive ecolabels to be credible.



Graph 3 Perceived Credibility of Ecolabels percentage of responses

From the Cronbach’s Alpha, of this scale it was concluded that it is possible to accept the scale’s validity (Appendix 6), sense the value obtained fits in the parameters of acceptance of reliability (Tavakol and Dennick, 2011)., being 0,935. Additionally, it was conducted a PCA analysis of the PCQL scale and the results presented only one dimension, representing 75,63%. Withal, the score for the scale was conducted by the mean of the values obtained in each item that constitute the perceived credibility of ecolabels.

Regarding the levels of the perceived credibility of ecolabels, the following classification was considered, taking into account the Likert-type scale used: 1,00-2,59: low PCQL; 2,60-5,40: moderate PCQL; and 5,41-7,00: high PCQL. The descriptive

statistics of the PCQL score (table 10), give evidence that the majority of people present a moderate perceived credibility to ecolabels, mean of 4,5503. When analysing Appendix 7, which regards the frequency of the PCQL levels, it is possible to see that respondents with moderate PCQL represent 66,0% and high PCQL 27,3%. Additionally, the percentage of people who have a low perceived credibility of green labels is small, corresponding to the 6,7% left.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
PCQL	315	1,00	7,00	4,5503	1,20282
Valid N (listwise)	315				

Table 9 Perceived Credibility of Ecolabels Score Descriptive Statistics.

ECOLOGICAL CONSCIOUS CONSUMER BEHAVIOUR (ECCB Scale)

In table 10 is shown the descriptive statistics of the Ecological Conscious Behaviour (ECCB) scale, displaying the mean scores as well as the standard deviation of each of the 30 items that constitute the scale. It is important to recognize that respondents could answer in a 5-point Likert-type scale of agreement: 1 – Strongly disagree; 2 – Disagree; 3 – Unsure; 4 – Agree; and 5 - Strongly Agree. Moreover, the percentage of the responses from the all items of the scale are presented ahead in graph 4, as in the table in the appendix 8.

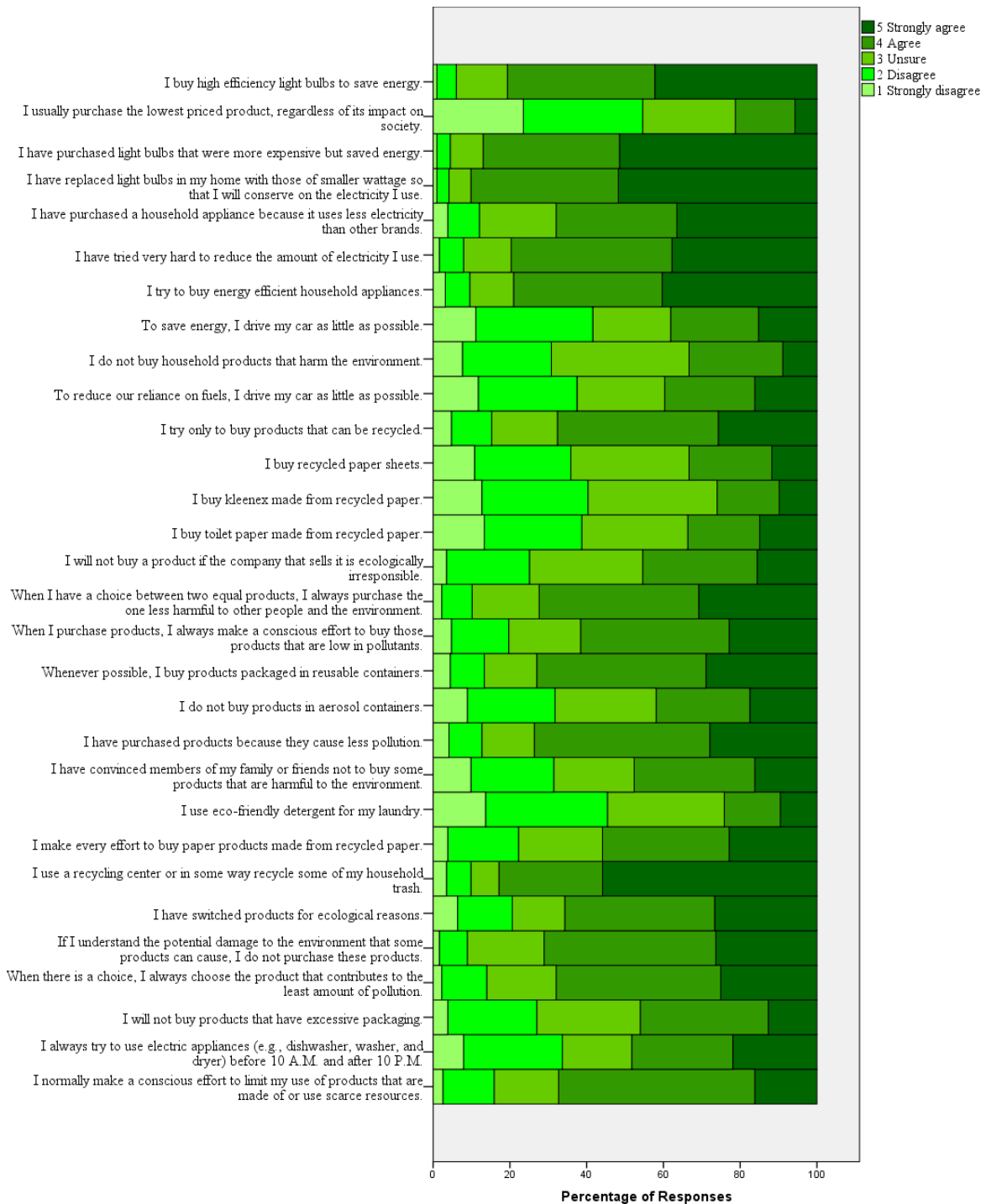
ECOLOGICAL CONSCIOUS CONSUMER BEHAVIOUR - DESCRIPTIVE STATISTICS		
	Mean	Std. Deviation
ECCB1- I normally make a conscious effort to limit my use of products that are made of or use scarce resources.	3,65	,987
ECCB2- I always try to use electric appliances (e.g., dishwasher, washer, and dryer) before 10 A.M. and after 10 P.M.	3,29	1,280
ECCB3- I will not buy products that have excessive packaging.	3,28	1,073
ECCB4- When there is a choice, I always choose the product that contributes to the least amount of pollution.]	3,77	1,025
ECCB5- If I understand the potential damage to the environment that some products can cause, I do not purchase these products.	3,87	,940
ECCB6- I have switched products for ecological reasons.	3,65	1,196

ECCB7- I use a recycling center or in some way recycle some of my household trash.	4,25	1,067
ECCB8- I make every effort to buy paper products made from recycled paper.	3,53	1,143
ECCB9- I use eco-friendly detergent for my laundry.	2,75	1,153
ECCB10- I have convinced members of my family or friends not to buy some products that are harmful to the environment.	3,23	1,235
ECCB11- I have purchased products because they cause less pollution.]	3,85	1,054
ECCB12- I do not buy products in aerosol containers.	3,19	1,223
ECCB13- Whenever possible, I buy products packaged in reusable containers.	3,84	1,077
ECCB14- When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.	3,60	1,134
ECCB15- When I have a choice between two equal products, I always purchase the one less harmful to other people and the environment.	3,91	,997
ECCB16- I will not buy a product if the company that sells it is ecologically irresponsible.	3,32	1,084
ECCB17- I buy toilet paper made from recycled paper.	2,97	1,255
ECCB18- I buy kleenex made from recycled paper.]	2,83	1,147
ECCB19- I buy recycled paper sheets.	2,98	1,171
ECCB20- I try only to buy products that can be recycled.	3,73	1,100
ECCB21- To reduce our reliance on fuels, I drive my car as little as possible.	3,07	1,269
ECCB22- I do not buy household products that harm the environment.	3,04	1,067
ECCB23- To save energy, I drive my car as little as possible.]	3,01	1,262
ECCB24- I try to buy energy efficient household appliances.]	4,07	1,028
ECCB25- I have tried very hard to reduce the amount of electricity I use.	4,08	,946
ECCB26- I have purchased a household appliance because it uses less electricity than other brands.	3,89	1,109
ECCB27- I have replaced light bulbs in my home with those of smaller wattage so that I will conserve on the electricity I use.	4,37	,809
ECCB28- I have purchased light bulbs that were more expensive but saved energy.	4,33	,848
ECCB29- I usually purchase the lowest priced product, regardless of its impact on society.	2,49	1,174
ECCB30- I buy high efficiency light bulbs to save energy.	4,16	,907

Table 10 Descriptive statistics of Ecological Conscious Consumer Behaviour (ECCB scale).

By interpreting the table above, it is possible to see that the statement with highest mean score is “I have replaced light bulbs in my home with those of smaller wattage so that I will conserve on the electricity I use” (4,37); followed by a mean of 4,33 regarding the item “I have purchased light bulbs that were more expensive but saved energy”, succeeding a score mean of 4,25 concerning “I use a recycling center or in some way recycle some of my household trash” and “I buy high efficiency light bulbs to save energy” (4,16). Three out of four of the highest mean score items are related to saving electric energy by using high efficiency light bulbs, with the remaining one referring to recycling actions.

Regarding the lowest mean scored items of ECCB, “I usually purchase the lowest priced product, regardless of its impact on society” scores a mean of 2,49 next to “I use eco-friendly detergent for my laundry” (2,75). The item “I usually purchase the lowest priced product, regardless of its impact on society”, which scored the lowest mean, gives a positive information relatively to the ECCB, sense it’s an item that is going to have the score reversed.



Graph 4 Ecological Conscious Consumer Behaviour Percentage of Responses

The Cronbach’s Alpha test of the ECCB scale gave a result of 0,939, which is considered a good reliability of a scale (Tavakol and Dennick, 2011), this is represented in Appendix 9. This result informs that is acceptable to rely on this scale.

After the reliability test of the ECCB scale, it was calculated the score of the variable. This score is constituted by all the 30 items that make the ECCB and was

obtained through the mean of the values. Table 11, gives the descriptive statistics of the ECCB score; in which it is identified that the mean of ECCB is 3,5663, giving evidence that, according to the levels of ECCB taken into account, considering the Likert-type scale used: 1,00-2,49: Low ECCB; 2,50-3,49: moderate ECCB; and 3,50-5,00: high ECCB; the majority of respondents show a high environmentally conscious consumer behaviour.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ECCB	315	1,13	4,93	3,5663	,65971
Valid N (listwise)	315				

Table 11 Ecological Conscious Consumer Behaviour Score Descriptive Statistics

Additionally, on appendix 10 is the frequency table of the ECCB levels, where it is possible to conclude that only 5,4% of respondents show a low ecological conscious consumer behaviour. 36,5% show a moderate ECCB and finally, 58,1% of respondents exhibit a high ecologically conscious consumer behaviour.

BARRIERS TO GREEN PURCHASE

BARRIERS TO GREEN PURCHASE - DESCRIPTIVE STATISTICS		
	Mean	Std. Deviation
GB1 Green products have lower performance comparing to non-green ones.	2,50	1,045
GB2 The feminine stereotype associated with green behaviours.	2,19	1,064
GB3 Difficulty in identifying which products are green or not.	3,35	1,055
GB4 Sacrifices in terms of performance and cost when buying green products.	3,34	1,057
GB5 High price of green products.	3,91	1,017
GB6 Lack of knowledge about green products.	3,63	1,031
GB7 The limited availability of green products.	3,65	1,024
GB8 Difficult access to green products.	3,36	1,101
GB9 Distrust in environmental claims made by companies about their products.	3,33	1,038
GB10 Requires changing habits.	3,91	1,092

Table 12 Descriptive Statistics of Barriers to green purchase.

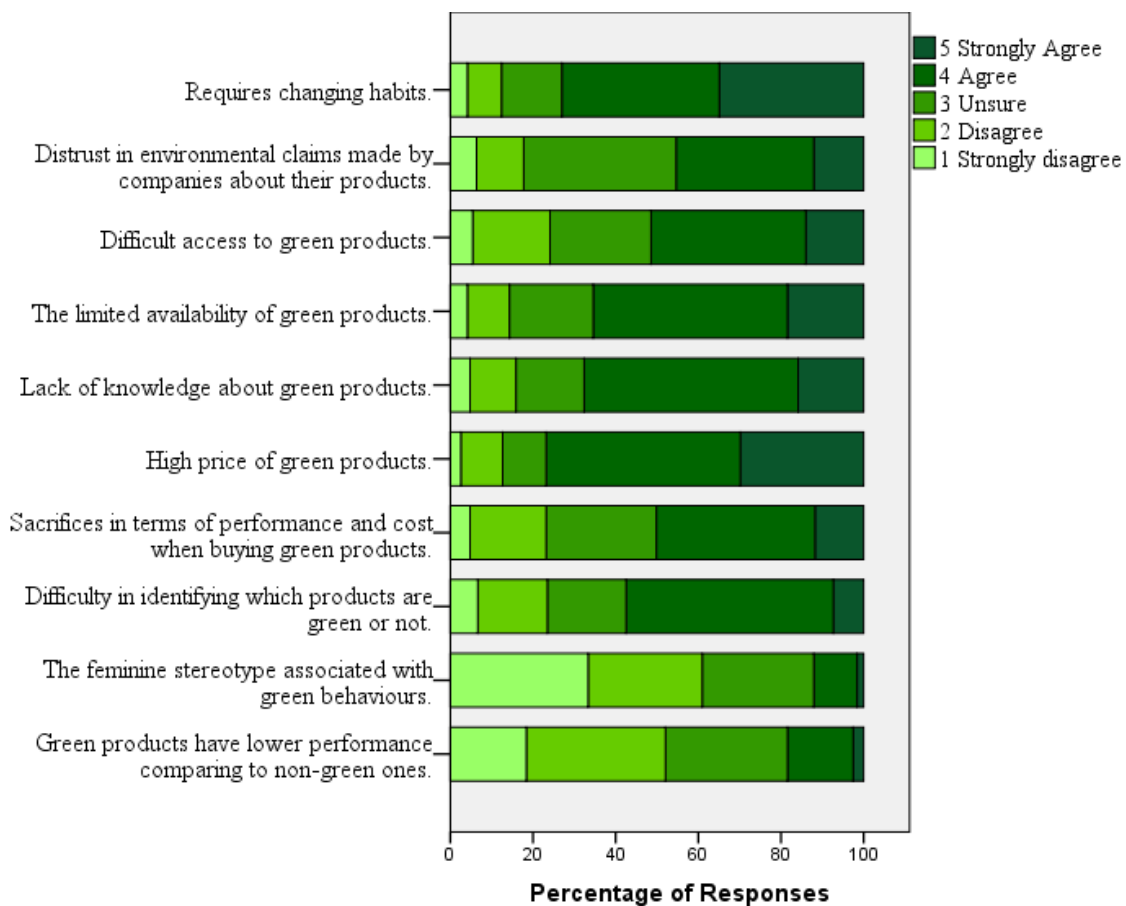
By analysing the descriptive statistics of the Barriers to Green Purchase, presented in Table 12, it's possible to identify two barriers with the highest mean score (3,91), being

them “High price of green products” and “Requires changing habits”. Following those barriers is “The limited availability of green products”, with a mean score of 3,65 and “Lack of knowledge about green products” with a 3,63 mean score. Furthermore, the barrier with the lowest mean score (2,19) regards “The feminine stereotype associated with green behaviours”, next to it is the barrier “Green products have lower performance comparing to non-green ones.” with a mean score of 2,50.

Moreover, the individual percentage of all green barrier items is presented in graph 5, from it, as well from the table presented in appendix 11, is possible to conclude that:

- The majority of the respondents (52,06%) do not find green products to have lower performance comparing to non-green ones, respectively 18,41% said they strongly disagreed with the following statement “Green products have lower performance comparing to non-green ones” being a barrier for them to make green purchases, and 33,65% responded they disagree.
- As for the “feminine stereotype associated with green behaviours” being a barrier, the majority of respondents (60,95%) did not agree with this; with 33,33% answering they strongly disagree and 27,62% disagree.
- Furthermore, regarding the item “Difficulty in identifying which products are green or not” being a barrier to green purchase, the majority of people agree with this (57,46%); with 7,30% responding they strongly agreed this item was a barrier for them to purchase green products and 50,16% answered agree.
- The majority of respondents (50,16%) find the “Sacrifices in term of performance and cost when buying green products” a barrier for purchasing green – 38,41% responded agree and 11,75% totally agree with this statement being a barrier to green purchase.
- “High price of green products” was found by 76,82% of respondents to be a green purchase barrier, with 46,98% responding agree and 29,84% strongly agree.
- Additionally, 67,62% of respondents find that the “Lack of knowledge about green products” is a barrier for them to purchase green products. Specifically, 51,75% answered they agreed with this item as a green purchase barrier and 15,87% strongly agree.
- 65,39% consider the “limited availability of green products” to be a barrier to purchase green; 46,98% agreed and 18,41% strongly agreed this is a barrier for their green purchases.

- “Difficult access to green products” was also found by the majority of respondents (51,43%) to be a purchase for them to buy green products; being that 37,46% of respondents answered they agreed with the item being a barrier for them to make green purchases and 13,97% strongly agreed.
- As for the item “distrust in environmental claims made by companies about their products”, only 45,39% of respondents – 33,33% Agree; 12,06% Strongly Agree - agreed it was a barrier for them to make green purchases. And 36,83% of respondents responded they were unsure if this statement forms a barrier to purchase green or not.
- Finally, the item “Requires changing habits” was found by the majority (73,02%) to be considered a barrier for green purchases, respectively with 38,10% answering they agree with it being a barrier and 34,92% strongly agree.



Graph 5 Green Barriers Percentage of Responses.

Thus, to understand the obstacles respondents have when looking at green purchases, it was considered the green barriers listed in the questionnaire to make a Green Barrier Scale, this reflects if people feel there are barriers to their green purchases, if the result is high, the respondent shows more obstacles to buy green products, if the result is

low, the barriers listed in the questionnaire do not stop the respondent from purchasing green.

The Cronbach’s Alpha was conducted to understand if the scale was reliable or not. From the value obtained (appendix 12), 0,781, it is possible to say that we can rely on this scale, sense the value fits on the acceptance interval of Cronbach’s Alpha (Tavakol and Dennick, 2011).

The majority of people show a moderate green barriers score, as it can be identified on table 13, that the majority of people scored a mean of 3,3187. This is according to the classification taken in account, considering the Likert-type scale used: 1,00-2,49: Low GB; 2,50-3,49: moderate GB; and 3,50-5,00: High GB. Furthermore, concerning the level frequencies of Green Barriers, it is concluded from the descriptive statistic table (Table 13), the majority of the respondents scored a moderate level of GB. Furthermore, appendix 13 gives the frequency and percentage information of the three levels of green barriers, being that 51,7% of respondents have a moderate level of GB, followed by 42,2% of the respondents who scored a high level of GB, and finally, 6,0% of the respondents had a low score of GB, these last ones do not find the items listed to be an obstacle for them to purchase green.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
GB	315	1,00	5,00	3,3187	,61104
Valid N (listwise)	315				

Table 13 Green Barriers Score Descriptive Statistics

HYPOTHESIS TESTING

This section of the investigation focuses on testing the hypothesis previously formulated considering the literature review made. The hypothesis test developed aim to accept or reject the hypothesis of the current study regarding the sample obtained (Burns *et al.*, 2017).

To check H1 - *Perceived credibility of ecolabels has a positive impact on environmental conscious consumer behaviour.* – a linear regression analysis was conducted. The results reflect that the perceived credibility of ecolabels by consumers significantly influences ECCB, it is an important explanatory variable of ECCB because Sig. of the t-test is lower than 0,05 (0,000). Perceived credibility of ecolabels has a positive influence on ECCB, as the unstandardized B coefficient is positive, 0,125, this means that a unit increase on PCQL reflects on an increase of 0,125 in ECCB, as it can be seen on table 14. In other words, people who perceive ecolabels to be credible have a higher ECCB level than ones who do not, this validates H1. Additionally, in appendix 14 is presented the correlation between the two variables, where it is possible to conclude that the variables are positively correlated (0,228). This is in line with the findings of Sønderskov and Daugbjerg (2011), which significantly related ecolabels' credibility to have a positive influence on green consumption behaviour, which was also verified by

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,998	,142		21,103	,000
	PCQL	,125	,030	,228	4,139	,000

a. Dependent Variable: ECCB_MEAN

Moussa and Touzani (2008).

Table 14 Linear Regression Coefficients for ECCB and PCQL

A linear regression was executed to be able to test H2 - *Environmental concern (high NEP score) has a positive influence on the environmentally conscious consumer behaviour (ECCB).* The outputs obtained by this test suggest that environmental concern is an important explanatory variable of ECCB, due to the Sig. of the t-test being 0,000, which is lower than 0,05. As for the impact of that relation, the unstandardized B coefficient gives statistical evidence environmental concern (EC) has a positive influence (0,340) on ECCB (table 15). This means that a unit increase on EC leads to an increase of 0,340 in ECCB, which reflects in a significantly higher score of ECCB for consumers

showing higher EC. Put differently, an individual who shows high environmental concern will be likely to present a higher environmentally conscious consumer behaviour. Considering all of the above, it is possible to state that H2 is valid, going in line with Lepisto (1974) who found environmental concern to be a predictor of environmentally conscious consumer behaviour. Other studies are in line with the results obtained such as Imkamp (2000), Makatouni (2002) and Gatersleben *et al.* (2012).

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,267	,268		8,471	,000
	EC	,340	,069	,267	4,899	,000

a. Dependent Variable: ECCB_MEAN

Table 15 Linear Regression Coefficients for ECCB and EC

In order to test the H3 - *Females are more prone to have higher environmentally conscious consumer behaviour (ECCB)*. -, it was conducted an independent samples t-test, which investigates if the mean of the variable ECCB is the same for the two genders. All of the assumptions of the t-test hold as it is possible to see in the group statistics table in Appendix 16. From the Levene’s test for equality of variances, there was statistical evidence that the equality of variances should not be rejected, Sig. > 0,05 (0,698). Hence, to test the equality of means it was necessary to choose the test statistics that assumed the equality of variances.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ECCB	Equal variances assumed	,151	,698	2,920	313	,004	,22980	,07870	,07494	,38466
	Equal variances not assumed			2,836	182,622	,005	,22980	,08102	,06994	,38966

Table 16 - Independent t-test for ECCB and Gender

By analysing the independent samples test table 16, it is possible to conclude that, because Sig. (2-tailed) < 0,05 (0,004), the null hypothesis of the two means being the same has to be rejected. In other words, the average ECCB is not the same for women and men. Both limits of the 95% Confidence Interval for the mean difference in ECCB are positive, suggesting that women show more ECCB than men, this is reinforced by the group statistics (appendix 16), that show women have a higher mean of ECCB than men, as well as show less variability. This validates H3, that women are more prone to have higher ECCB, which is in alignment with multiple studies as Roberts, (1996), Martinsons *et al.* (1997), Ottman (1997), Laroche *et al.* (2001), Dietz *et al.* (2002) and Lee (2008).

For the H4 - *Younger consumers are more prone to have higher environmentally conscious consumer behaviour (ECCB)*. -, it was first conducted a Oneway ANOVA. However, the three assumptions that need to be verified in order for this test to be reliable, did not hold. Specifically, the assumption regarding all the age groups coming from populations with a normal distribution concerning the variable ECCB, was not verified. Consequently, the Kruskal-Wallis test was executed to test H4, by analysing the equality of the distribution of ECCB for the six age groups.

When looking at the results obtained, Asymp. Sig = 0,037 (table 18), which is lower than 0,05, it is concluded that the null hypothesis of the Kruskal-Wallis, the distribution of ECCB is the same for the six populations defined by age group, is rejected. This means that the distribution of ECCB is different for at least one age group. Furthermore, in order to get to any conclusion regarding H4, it is necessary to check the Ranks table (table 18), this suggests that older consumers have a higher score of ECCB compared to younger consumers, rejecting the H4 that younger consumers are more prone to have higher ECCB. Additionally, people with 61 years old or over show higher ECCB score, followed by people aged between 46 and 52 years old, and the lowest ECCB concerns consumers aged between 18 and 24 years old. The rejection of this hypothesis diverges from previous studies where younger consumers were found to be more prone to have higher ECCB rather than older consumers (Martinsons *et al.*, 1997; Lee, 2008). Furthermore, the studies from Ottman (1998) and Paço (2005) also contradict the results obtained in this study by finding people aged between 30-44 years old and 18-34 years old, respectively, to be the ones showing higher green consumer behaviour.

Test Statistics ^{a,b}	
	ECCB
Chi-Square	13,392
df	6
Asymp. Sig.	,037

a. Kruskal Wallis Test

b. Grouping Variable: AGEGROUP

Ranks			
	AGEGROUP	N	Mean Rank
ECCB	18-24	95	139,23
	25-31	63	142,38
	32-38	19	167,53
	39-45	35	166,21
	46-52	31	179,50
	53- 60	46	173,36
	≥61	26	193,60
	Total	315	

Table 17 Kruskal-Wallis Ranks for ECCB and AGEGROUP

Table 18 Kruskal-Wallis Test Statistic for ECCB and AGEGROUP

A Oneway ANOVA was primarily conducted to test H5 - *Consumers with a higher education level are more prone to have higher environmentally conscious consumer behaviour (ECCB)*. -. However, two of the assumptions to rely on this analysis did not hold. From that it was conducted a Kruskal-Wallis test to continue the test of H5.

From the analysis of the results from the Kruskal-Wallis, where Asymp. Sig > 0,05 (0,307), the null hypothesis of the test, which says that the distribution of ECCB is the same for the five populations defined by education level, is not rejected (table 18). In other words, there is statistical evidences that the distribution of ECCB is the same for all the six groups of education level. This conclusion implies that H5 is rejected, meaning that there is no significant difference in the distribution of ECCB regarding education level. The results obtained contrast with previous studies that found consumers with high educational level to be more prone to act green (Roberts, 1996; Straughan and Roberts, 1999; Laroche *et al.*, 2001; Diamantopoulos *et al.*, 2003 and Paço, 2005; Afonso, 2010).

Test Statistics ^{a,b}	
	ECCB
Chi-Square	4,811
df	4
Asymp. Sig.	,307

a. Kruskal Wallis Test

b. Grouping Variable: Ed_n Education

Table 19 Kruskal-Wallis Test Statistic for ECCB and EDUCATION

To test H6 - *Consumers with a higher income levels are more prone to have a higher environmentally conscious consumer behaviour (ECCB)*. -, it was conducted a Oneway ANOVA test. This test compared the mean of the ECCB score in all of the 6 levels of income. All of the assumptions of the Oneway ANOVA hold, hence it is possible to rely on the test (appendix 18).

The ANOVA is going to check the null hypothesis that the mean of ECCB is the same for each income level, from looking at table 20, it is identified that Sig. > 0,05; this gives statistical evidence to not reject the null hypothesis of the equality of means in all groups. In other words, the average ECCB score does not significantly vary with income level. Hence, H6 is rejected, consumers with higher income level are not more prone to have higher ECCB. This goes against the findings of Straughan and Roberts (1999) where it was detected that a high income level was associated with a high green behaviour. Furthermore, it diverges from the findings of Elkington (1990) and Ottman (2011), that income level differentiated green behaviour.

ANOVA					
ECCB					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,680	5	,736	1,704	,133
Within Groups	131,743	305	,432		
Total	135,423	310			

Table 20 Oneway ANOVA for ECCB and INCOME

Finally, for H7 - *The green barriers have a negative impact in the environmentally conscious consumer behaviour (ECCB)*. – a linear regression was carried out to understand if there was a significant influence of the perception of consumers regarding barriers to green purchase in environmentally conscious consumer behaviour (ECCB).

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,361	,201		21,720	,000
	GB	-,239	,060	-,222	-4,025	,000

a. Dependent Variable: ECCB

Table 21 Linear Regression Coefficients for ECCB and GB

From analysing the coefficients (table 21) that resulted from the linear regression, there is statistical evidence that green barrier score (GB) is an important explanatory variable of ECCB, because Sig.<0,05 (0,000), further outputs from the test are presented in appendix 19. Moreover, it is concluded that GB has a negative impact on ECCB, due to the negative unstandardized coefficient (-0,239). In other words, a unit increase in GB score leads to a decrease of 0,239 in ECCB. This suggests that the ECCB score is significantly lower for consumers showing higher GB score, meaning that an individual who considers the items presented to them in the questionnaire as barriers for purchasing green, will show a lower ECCB score. The results validate H7 “*The green barriers have a negative impact in the environmentally conscious consumer behaviour (ECCB).*”.

Finally, to summarize the information developed in this section, regarding the testing of hypothesis, it is presented below table 22.

Hypothesis	H1	H2	H3	H4	H5	H6	H7
Results	Valid	Valid	Valid	Reject	Reject	Reject	Valid

Table 22 Summary Results from each hypothesis testing

V. CONCLUSIONS, CONTRIBUTIONS, LIMITATIONS RECOMENDATIONS

This section contemplates the discussion of the results, which focuses on answering the research questions proposed in the beginning of the investigation; the theoretical and managerial contributions of this study; plus, the conclusion, limitations and finally, future research recommendations.

RESULTS DISCUSSION

The first research question proposed in this study regards the green consumers demographic profile (i.a). The hypothesis tested to help answer this question were H3, H4, H5 and H6. From the analysis of the data gathered by the means of the online survey resulted the conclusion that conscious consumers tend to be women – H3 was not rejected –, going in line with previous studies such as Roberts, (1996), Martinsons *et al.* (1997), Ottman (1997), Laroche *et al.* (2001), Dietz *et al.* (2002) and Lee (2008).

However, the other demographic variables tested - age group, education level and monthly income, - did not showed to be significant differentiating variables of ECCB, meaning that H4, H5 and H6 were rejected. These findings diverge from other studies that detected age, education and income to be differentiating factors of ECCB. Studies such Martinsons *et al.* (1997) and Lee (2008) found younger consumers were more prone to have higher ECCB rather than older consumers in. Furthermore, the studies from Ottman (1998) and Paço (2005) also contradict the results obtained in this investigation by finding people aged between 30-44 years old and 18-34 years old, respectively, to be the ones showing higher green consumer behaviour. Regarding education level, the results obtained contrast with previous studies that found consumers with high educational level to be more prone to act green (Roberts, 1996; Straughan and Roberts, 1999; Laroche *et al.*, 2001; Diamantopoulos *et al.*, 2003 and Paço, 2005; Afonso, 2010). And finally, higher income level was found by Straughan and Roberts (1999), to be associated with a high green behaviour. Furthermore, Elkington (1990) and Ottman (2011), concluded that income level differentiated green behaviour, on contrary of the results obtained in this study.

To answer the research question i.b “*Do green consumers show environmental concern?*”, it was developed a score for environmental concern (EC), based on the NEP scale. From the score obtained and by looking at the appendix 4, which concerns the frequency table of the EC score, this suggest that green consumers show a high environmental concern, this means that there is evidence that green consumers are aware

of environmental problems and show willingness to contribute to their solution (Dunlap and Jones, 2002). Moreover, environmental concern was found, by the confirmation of H2, to have a positive impact on green behaviour. This supports results from other studies such as Imkamp (2000), Barros (2011) and Gatersleben *et al.* (2012).

After some analysis, it is possible to answer the research question ii. "*Which green characteristics (Moisander, 2007) are more important to green consumers in Portugal?*" - . The top 3 characteristics of green products were found to be:

- Are safe for the health of humans and animals;
- Don't harm the environment with its manufacturing;
- Are produced in a sustainable way.

These characteristic chosen as the most important green products' characteristics for green consumers, do not come as a surprise; Boztepe (2012) found that "*green consumers would stop consuming any harmful product which may affect their health, involves torture of animals and causes damage to the environment during production process, disposal or use.*" (Yan and Yazdanifard, 2014, p.34), this supports the findings of this study. Furthermore, Aertsens *et al.* (2011) found that a products' health benefit is a specific attribute that can drive the demand of green products, specifically for food products.

This finding helps marketers to understand what should be the focus of the promotion of green products; which according to the results of this study should be emphasising the safety of human and animal health, alongside with the safety of the environment and the guarantee that the production of the green product in question is sustainable. This information should be placed on the products' packaging or even confirmed by an ecolabel (Fraj and Martinez, 2006) concerning those matters.

For the research question iii., that regards ecolabels' credibility, it was found evidence that respondents perceive ecolabels as credible. This can be identified in the data analysis, where the mean score of PCQL was conducted (appendix 7). This suggests that green consumers in Portugal feel they can rely on ecolabels. Moreover, from the appendix 5, it is possible to see that the majority (60,3%) of the respondents find ecolabels to inspire them confidence and 49,8% state that they trust ecolabels. Ecolabels were perceived by green consumers to come from expert companies with good intentions, that

put products through hard tests in order to be able to get the eco certification. Furthermore, the ecolabels' credibility was found to have a positive impact on green consumer behaviour through the testing and validation of hypothesis 1, which goes in line with the study of Sønderskov and Daugbjerg (2011).

Concerning the research question iv. “*Which are the main barriers for green consumption in Portugal?*”. The data analysis section, give us the information answer to this question; the main barrier found by respondents to purchase green products was the high price associated with them, this goes in line with previous studies such as Borin *et al.* (2013) and Moser (2015). Green consumers still feel that environmentally-friendly products are more expensive than non-green ones, which can affect green consumption as shown by the results of this study. Moreover, the requirement to change habits when making green purchases was also found to be a barrier for green consumers, this is consistent with the studies of McCarty and Shrum (1994), Kalafatis *et al.* (1999), and Joshi and Rahman (2015), that found the hard to break consumer habits were a barrier for green consumption. This suggests that consumers are not very committed to make a change in their behaviour for the sake of the environment, hence, when changing to a green product requires an extra effort from them besides just choosing a different product, consumers might not act upon their environmental concern. Furthermore, green consumers feel that the lack of knowledge about green products, holds them back on making green purchases. Tanner and Kast (2003) and Paiva and Proença (2011), also sustain lack of knowledge of consumers regarding green products as a barrier for green purchases, this refers to recognising and knowing about green products. Additionally, by the confirmation of hypothesis 7, it was found that green barriers had a negative impact on green consumer behaviour.

The above information highlights the importance of educating consumers about green products, going from what characteristics are expected from green products per say, from their production and also identifying the green product as one when promoting it. This should be done by companies who commerce green products, non-profit-organizations related to the protection of the environment and the care for environmental issues, companies that certification (such as ecolabels), and most importantly it should be a government responsibility as well, sense, as several studies suggest, the government's importance in the credibility of environmental messages and claims (Gallastegui, 2002; D'Souza, 2004; Zahid *et al.*, 2017; Sreen *et al.*, 2018).

THEORETICAL AND MANAGERIAL CONTRIBUTIONS

This study contributed to the still small amount of investigations regarding green marketing and green consumers in Portugal. Providing more insight in the impact of demographic characteristics in the ecological conscious consumer behaviour (ECCB), as well as understanding the environmental concern (EC) of the green consumers in Portugal and the impact this has also in ECCB. Moreover, the present study looks into the perceived credibility of ecolabels, which is a new addition in the Green Marketing investigation in the Portuguese population, helping to understand where consumers stand on regarding ecolabels and its impact on the ecological conscious consumer behaviour. The understanding of which green product characteristics consumers found more important, was another new addition to the investigation in the subject of green marketing. Finally, this study extended the knowledge about green consumers in Portugal, when it comes to the obstacles to make green purchases.

Furthermore, this investigation focused on the influence of environmental concern, the perceived credibility of ecolabels as well as the influence of green barriers in green behaviour. Furthermore, it was looked into whether green behaviour diverged concerning gender, age, education and/or income level, as well as understanding which green product characteristics consumers found more important.

The finding that the majority of consumers has a high environmental conscious behaviour, tells companies that there is interest from consumers to act environmentally-friendly, this regards lifestyle actions and purchase actions. Meaning that there is evidence that consumers demand for products that do not harm the environment, this suggests companies should try and adapt their products to fit in the green products category, not forgetting this refers to the whole product life-cycle, or even coming up with new green products.

Another important contribution from this study, is the insight that consumers are environmentally concerned. As Pickett-Baker and Ozaki, (2008) and Wang (2014) state, it is highly important for companies to know the consumers interests and concerns, so they can better target and communicate their products plus keep consumers' needs satisfied. With this information companies can promote their products with environmental claims important to their target consumers, however it is mandatory these claims to be true in order to avoid greenwashing and its consequences. Additionally, as was also found in this investigation, ecolabels are perceived to be credible, this finding

can merge with the previous contribution by promoting environmental claims related to a company's green product with ecolabels. For example, consumers concerned about the use of resources, for example deforestation to produce paper, might be more prone to buy a green product with an ecolabel related to that environmental concern, in this example the FSC ecolabel (Appendix 20) would be a good choice to promote the product among this target, putting it in the packaging for example and reinforcing this ecolabel in the advertising explaining the packaging has paper coming from FSC recognised sources.

Moreover, the conclusion of consumers trusting ecolabels, highlights the importance of integrating different ecolabels, according to the products' characteristics, going from production to disposal, in their promotion. This is likely to increase consumption of these products, since it helps consumers to identify which are the green products, which difficulty to identify green products was found by consumers in this study to be a barrier for them to make green purchases.

CONCLUSION

As environmental concern is more and more present in the Portuguese society, as there is evidence resulting from this investigation that suggest consumers in Portugal have a high environmental concern – going in line with other studies such as Oliveira van Schoor (2013) -, companies should take that in consideration when developing their businesses. In addition, it was found in this investigation, that environmental concern has a significant a positive impact on ecological conscious consumer behaviour, this is in agreement with previous studies (Roberts, 1996; Imkamp, 2000; Barros, 2011; Gatersleben *et al.*, 2012). Thus, the increase of environmental concern has been related to a change in consumer behaviour, towards a more environmentally-friendly behaviour, including the appearance of a green product demand (Peattie and Charter, 2003).

In the same matter, the green consumers in Portugal, were found in this research to present as well a high ecological consumer behaviour, going in line with studies such as Afonso (2010). This reflects the relation of environmental concern and the ecological conscious consumer behaviour already referred above. Green consumers were found to most engage in behaviours related to recycling household trash and the purchasing of products that enable them to save electric energy, and consequently save money. The engagement in behaviours related to economical benefits such as the previous, was also

found by Paço and Raposo (2010), to be the preferred green behaviours of the green consumers. Furthermore, the ecological green consumer was found to not differ with demographic variables, only gender was found to be a significant differentiating variable of ECCB, suggesting that companies should not focus on the demographic profile of green consumers for the general products; however, environmentally-friendly products considered to target women, such as feminine hygiene products or even makeup, might have an advantage when promoting them along their green characteristics, rather than gender neutral products or even the ones considered to target men.

However, it is important to know that consumers presenting high environmental concern might not translate that in a high ecological conscious consumer behaviour. As several studies have identified a gap between the willing to solve environmental issues and green behaviour, more specifically, green purchase behaviour. Many authors focused on determine what was behind this verified gap (McCarty and Shrum, 1994; Ottman, 1998 in Pickett-Baker and Ozaki, 2008; Tanner and Kast, 2003 in Joshi and Rahman, 2015; Paiva and Proença, 2011; Joshi and Rahman, 2015; Brough *et al.*, 2016 and Arli *et al.*, 2018), getting to some extremely relevant conclusions to the green marketing study. Different barriers that resulted from previous studies were found, in this research, to have a significant negative impact on ecological conscious consumer behaviour. The high price of green products was found in the present study to be one of the biggest barrier for green consumers in Portugal, this result emphasizes Joshi and Rahman (2015) conclusion, that high price is often linked when people think of green products. Hence, companies should think of their green products' price policy very carefully, in a way that can put these products in the market with a competitive price that still translates the environmentally-friendly characteristics of the products; additionally, companies may try and explain the reasons why their green products have a higher price compared to a similar non-green product, presenting the environmental concerns that were taken into account when producing these products.

Moreover, the presence of ecolabels is suggested to be efficient when promoting green products in Portugal, as green consumers in this study showed to trust ecolabels in a moderate way, this is in agreement with findings from D'Souza *et al.* (2006) and D'Souza *et al.* (2007). This is relevant for firms in a way that when promoting green products, certification will be an advantage among the majority of consumers. In an Era where greenwashing is very present (Terrachoice and Underwriters Laboratory, 2010),

companies who choose to certify their products among specialized organizations of ecolabels are more prone to be identified as a green company. Hence, these products are more easily identified by consumers as green products; this is highly relevant, since the majority of respondents in this study identified, the difficulty in understanding which products are green as a barrier for green purchasing (appendix 11). Additionally, results show that the perceived credibility of ecolabels positively impacts the green consumer behaviour, going in line with the findings of Sønderskov and Daugbjerg (2011).

The rising of the importance of green marketing is becoming clearer through the passing of time, companies are launching more and more product lines that have green characteristics, and even changing already available products to a greener version through its production, characteristics and/or its disposal; consumers are looking more for products that are less harmful for the environment in any type of way, creating demand for greener products. It is mandatory for companies to keep up with this demand and be able to satisfy the consumers' needs not leaving out their environmental concerns. The companies who fail to adapt and readjust to the "green challenge", will end up losing their credibility among environmental concerned consumers (Paço and Raposo, 2010), who are increasing as time goes by. There is no denying, "the environmental and sustainable organizations inserted in the economic and environmental surroundings are the only ones who can survive in a long-term view." (Paiva and Proença, 2011, pg.61).

LIMITATIONS

As any investigation, this dissertation faced some limitations, one of them being that the data collection was made through an online survey, making it only possible for people with access to internet during the survey publishing time to answer it. In addition, the long length of the questionnaire might have made people stop before the end and not submitting the survey. Still concerning the survey, the questionnaire was constituted only by closed questions.

Furthermore, only demographic variables were taken in count in this investigation, leaving out different psychographic variables that could have an impact on green consumer behaviour. Another limitation is that this study focused on the general green consumer behaviour and not the actual green purchase behaviour.

FURTHER RESEARCH

Further research could focus on the psychographic characteristics of the green consumers in Portugal that influence their green behaviour. This will possibly help companies to better target their green products according to the psychographic traits of their target.

Moreover, investigating which green products' segment are more relevant to people, understanding if there are green product segments that have more demand than others, for example: cosmetic products, food related products, fashion, cleaning products. This will give companies a view of the green consumers product demands and might help companies from those segments to make a green change and keep up with the preferences of consumers.

Furthermore, future studies could aim to measure actual green purchase of Portuguese consumers, along with the intentions to make a green purchase and try to relate green barriers to an eventual disparity in the intention and the actual green purchase. This would be beneficial for companies if after acknowledging the barriers that stop green purchase for consumers, they would try to eliminate or weaken these barriers, in order to try to reduce the gap of intention to buy green and actual green purchase.

BIBLIOGRAPHY

- Aertsens, J., Mondelaers, K., Verbeke, W., Buysse, J., & Van Huylenbroeck, G. (2011). The influence of subjective and objective knowledge on attitude, motivations and consumption of organic food. *British Food Journal*, 113(11), 1353-1378.
- Afonso, A. (2010). O consumidor verde: perfil e comportamento de compra. Masters Dissertation. Instituto Superior de Economia e Gestão.
- Anwar, A. and Jan, S. (2016). Consumer attitude towards the marketing-mix of the green products. *International Journal of Research in Commerce & Management*, 7(2), pp.86-90.
- Arli, D., Tan, L., Tjiptono, F. and Yang, L. (2018). Exploring consumers' purchase intention towards green products in an emerging market: The role of consumers' perceived readiness. *International Journal of Consumer Studies*, 42(4), pp.389-401.
- Atkinson, L. and Rosenthal, S. (2014). Signaling the Green Sell: The Influence of Eco-Label Source, Argument Specificity, and Product Involvement on Consumer Trust. *Journal of Advertising*, 43(1), pp.33-45.
- Awad, T. (2011). Environmental segmentation alternatives: buyers' profiles and implications. *Journal of Islamic Marketing*, 2(1), pp.55-73.
- Baran, T. and Popescu, C., 2016. Generation Z attitudes toward green marketing: a cross country and gender analysis. *Annals of the "Constantin Brâncuși" University of Târgu Jiu, Economy Series*, 3, pp. 6-9.
- Barros, A. (2011). O consumidor verde português: da preocupação ambiental ao consumo de produtos verdes. Masters. Instituto Superior de Economia e Gestão.
- Bell, E., Bryman, A. and Harley, B. (2018). *Business Research Methods*. 5th ed. Oxford, United Kingdom: Oxford University Press, pp.1-629.
- Borin, N., Lindsey-Mullikin, J. and Krishnan, R. (2013). An analysis of consumer reactions to green strategies. *Journal of Product & Brand Management*, 22(2), pp.118-128.
- Boztepe, A. (2012). Green Marketing and Its Impact on Consumer Buying Behaviour. *European Journal of Economic and Political Studies*, 5(1), pp.5-21.
- Brécard, D., Hlaimi, B., Lucas, S., Perraudeau, Y. and Salladarré, F. (2009). Determinants of demand for green products: An application to eco-label demand for fish in Europe. *Ecological Economics*, 69(1), pp.115-125.
- Brochado, A., Teiga, N. and Oliveira-Brochado, F. (2016). The ecological conscious consumer behaviour: are the activists different?. *International Journal of Consumer Studies*, 41(2), pp.138-146.
- Brough, A., Wilkie, J., Ma, J., Isaac, M. and Gal, D. (2016). Is Eco-Friendly Unmanly? The Green-Feminine Stereotype and Its Effect on Sustainable Consumption. *Journal of Consumer Research*, 43(4), pp.567-582.
- Bryman, A. and Bell, E. (2015). *Business Research methods*. 4th ed. Oxford: Oxford University Press.
- Burns, A., Veeck, A. and Bush, R. (2017). *Marketing research*. 8th ed. Pearson, p.496.

- Cai, Z., Xie, Y. and Aguilar, F. (2017). Eco-label credibility and retailer effects on green product purchasing intentions. *Forest Policy and Economics*, 80, pp.200-208.
- Carrigan M, Marinova S, Szmigin I, Gurau C, Ranchhod A. 2005. International green marketing: A comparative study of British and Romanian firms. *International Marketing Review*, 22(5), pp.547–561.
- Caswell, J. and Mojduszka, E. (1996). Using Informational Labeling to Influence the Market for Quality in Food Products. *American Journal of Agricultural Economics*, 78(5), p.1248.
- Čekanavičius, L., Bazytė, R. and Dičmonaitė, A. (2014). Green Business: Challenges and practices. *Ekonomika*, 93(1), pp.74-88.
- Chamorro, A., Rubio, S. and Miranda, F. (2009). Characteristics of research on green marketing. *Business Strategy and the Environment*, 18, pp.223–239.
- Chan, R. (1999). Environmental Attitudes and Behavior of Consumers in China. *Journal of International Consumer Marketing*, 11(4), pp.25-52.
- Chang, C. (2011). Feeling Ambivalent About Going Green. *Journal of Advertising*, 40(4), pp.19-32.
- Chen, C. (2001). Design for the Environment: A Quality-Based Model for Green Product Development. *Management Science*, 47(2), pp.250-263.
- Chen, Y. and Chang, C. (2013). Greenwash and Green Trust: The Mediation Effects of Green Consumer Confusion and Green Perceived Risk. *Journal of Business Ethics*, 114(3), pp.489-500.
- Chen, Y., Lin, C. and Chang, C. (2013). The influence of greenwash on green word-of-mouth (green WOM): the mediation effects of green perceived quality and green satisfaction. *Quality & Quantity*, 48(5), pp.2411-2425.
- Cherrier, H., Black, I. and Lee, M. (2011). Intentional non-consumption for sustainability. *European Journal of Marketing*, 45(11/12), pp.1757-1767.
- Cohen, S. (2014). The Growing Level of Environmental Awareness. [online] Huffpost.com. Available at: https://www.huffpost.com/entry/the-growing-level-of-envi_b_6390054 [Accessed 4 Aug. 2019].
- Corraliza, J., Berenguer J. 2000. Environmental values, beliefs, and actions: a situational approach. *Environment and Behaviour*, 32(6): 832–848.
- Cowan, K. and Kinley, T. (2014). Green spirit: consumer empathies for green apparel. *International Journal of Consumer Studies*, 38(5), pp.493-499.
- Creswell, J. (2003). Research design : Qualitative & Quantitative Approaches. 2nd ed. Thousand Oaks : SAGE.
- Dahl, R. (2010). Green Washing: Do You Know What You're Buying?. *Environmental Health Perspectives*, 118(6), pp.A246-A252.
- de Groot, J. and Steg, L. (2007). Value Orientations to Explain Beliefs Related to Environmental Significant Behavior. *Environment and Behavior*, 40(3), pp.330-354.

- Delmas, M. and Burbano, V. (2011). The Drivers of Greenwashing. *California Management Review*, 54(1), pp.64-87.
- Diamantopoulos, A., Schlegelmilch, B., Sinkovics, R. and Bohlen, G. (2003). Can socio-demographics still play a role in profiling green consumers? A review of the evidence and an empirical investigation. *Journal of Business Research*, 56(6), pp.465-480.
- Dietz, T., Kalof, L. and Stern, P. (2002). Gender, Values, and Environmentalism. *Social Science Quarterly*, 83(1), pp.353-364.
- D'Souza, C. (2004). Ecolabel programmes: a stakeholder (consumer) perspective. *Corporate Communications: An International Journal*, 9(3), pp.179-188.
- D'Souza, C., Taghian, M. and Lamb, P. (2006). An empirical study on the influence of environmental labels on consumers. *Corporate Communications: An International Journal*, 11(2), pp.162-173.
- D'Souza, C., Taghian, M., Lamb, P. and Peretiatko, R. (2007). Green decisions: demographics and consumer understanding of environmental labels. *International Journal of Consumer Studies*, 31(4), pp.371-376.
- Dunlap, R. (2008). The New Environmental Paradigm Scale: From Marginality to Worldwide Use. *The Journal of Environmental Education*, 40(1), pp.3-18.
- Dunlap, R. and Jones, R. (2002). Environmental concern: conceptual and measurement issues. In: R. Dunlap and W. Michelson, ed., *Handbook of environmental sociology*. Westport, CT: Greenwood Press, pp.482-524.
- Dunlap, R. and Van Liere, K. (1978). The "New Environmental Paradigm": A proposed measuring instrument and preliminary results. *The Journal of Environmental Education*, 9(4), pp.10-19.
- Dunlap, R., Van Liere, K., Mertig, A. and Jones, R. (2000). Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale. *Journal of Social Issues*, 56(3), pp.425-442.
- Egf.pt. (2018). Reciclar Vale Mais | EGF. [online] Available at: <http://www.egf.pt/pt/media/not%C3%ADcias/reciclar-vale-mais/> [Accessed 9 Oct. 2018].
- Eisend, M. (2002). Dimensions of Credibility in Marketing Communication. *Asia Pacific Advances in Consumer Research*, 5, pp.366-373.
- Elkington, J., Hailes, J. and Makower, J. (1990). *Green Consumer*. Penguin Books, New York.
- Eurobarometer, 2015. SMEs, Resource Efficiency and Green Markets. September, [online].
- Follows, S. and Jobber, D. (2000). Environmentally responsible purchase behaviour: a test of a consumer model. *European Journal of Marketing*, 34(5/6), pp.723-746.
- Fraj, E. and Martinez, E. (2006). Influence of personality on ecological consumer behaviour. *Journal of Consumer Behaviour*, 5(3), pp.167-181
- Gallastegui, I. (2002). The use of eco-labels: a review of the literature. *European Environment*, 12(6), pp.316-331.

- Gatersleben, B., Murtagh, N. and Abrahamse, W. (2012). Values, identity and pro-environmental behaviour. *Contemporary Social Science*, 9(4), pp.374-392.
- Ghoshal, M. (2011). Green marketing- A changing concept in changing time. *BVIMR, Management Edge*, 4(1), 82-92.
- Gifford, R. and Nilsson, A. (2014). Personal and social factors that influence pro-environmental concern and behaviour: A review. *International Journal of Psychology*, 49(3), pp.141-157.
- González, E., Felix, R., Carrete, L., Centeno, E. and Castaño, R. (2015). Green Shades: A Segmentation Approach Based on Ecological Consumer Behaviour in an Emerging Economy. *Journal of Marketing Theory and Practice*, 23(3), pp.287-302.
- Groening, C., Sarkis, J. and Zhu, Q. (2018). Green marketing consumer-level theory review: A compendium of applied theories and further research directions. *Journal of Cleaner Production*, 172, pp.1848-1866.
- Hart, C. (2018). *Doing a Literature Review - Releasing the research imagination*. 2nd Edn. London: SAGE Publications Ltd.
- Hartmann, P. and Apaolaza Ibánêz, V. (2006). Green value added. *Marketing Intelligence & Planning*, 24(7), pp.673-680.
- Henion, K. and Kinnear, T. (1976). *Ecological marketing*. Chicago, IL: American Marketing Association.
- Imkamp, H. (2000). The Interest of Consumers in Ecological Product Information Is Growing – Evidence From Two German Surveys. *Journal of Consumer Policy*, 23(2), pp.193-202.
- Issock Issock, P., Mpinganjira, M. and Roberts-Lombard, M. (2018). Drivers of consumer attention to mandatory energy-efficiency labels affixed to home appliances: An emerging market perspective. *Journal of Cleaner Production*, 204, pp.672-684.
- Joshi, Y. and Rahman, Z. (2015). Factors Affecting Green Purchase Behaviour and Future Research Directions. *International Strategic Management Review*, 3(1-2), pp.128-143.
- Junaedi, S. (2012). The Role of Income Level in Green Consumer Behaviour: Multigroup Structural Equation Model Analysis. *International Conference on Business and Management*, 6 – 7 September 2012. Phuket – Thailand. pp.372-382.
- Kalafatis, S., Pollard, M., East, R. and Tsogas, M. (1999). Green marketing and Ajzen's theory of planned behaviour: a cross-market examination. *Journal of Consumer Marketing*, 16(5), pp.441-460.
- Kassaye, W. (2001). Green dilemma. *Marketing Intelligence & Planning*, 19(6), pp.444-455.
- Kollmuss, A. and Agyeman, J. (2002). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour?. *Environmental Education Research*, 8(3), pp.239-260.
- Ku, H., Kuo, C., Wu, C. and Wu, C. (2012). Communicating Green Marketing Appeals Effectively. *Journal of Advertising*, 41(4), pp.41-50.

- Laroche, M., Bergeron, J. and Barbaro-Forleo, G. (2001). Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18(6), pp.503-520.
- Lazăr, C. (2017). Perspectives on green marketing and green businesses for sustainable development. *Bulletin of the Transilvania University of Braşov*, 10(1), pp.45-52.
- Lee, K. (2008). Opportunities for green marketing: young consumers. *Marketing Intelligence & Planning*, 26(6), pp.573-586.
- Lemke, F. and Luzio, J. (2014). Exploring Green Consumers' Mind-Set toward Green Product Design and Life Cycle Assessment. *Journal of Industrial Ecology*, 18(5), pp.619-630.
- Leonidou, C.N., Katsikeas, C.S. and Morgan, N.A. (2013), 'Greening' the marketing mix: do firms do it and does it pay off?. *Journal of the Academy of Marketing Science*, Vol. 41 No. 2, pp. 151-170.
- Leonidou, L., Leonidou, C. and Kvasova, O. (2010). Antecedents and outcomes of consumer environmentally friendly attitudes and behaviour. *Journal of Marketing Management*, 26(13-14), pp.1319-1344.
- Lewandowska, A., Witczak, J. and Kurczewski, P. (2017). Green marketing today – a mix of trust, consumer participation and life cycle thinking. *Management*, 21(2), pp.28-48.
- Ling-Yee, L. (1997). Effect of Collectivist Orientation and Ecological Attitude on Actual Environmental Commitment: The Moderating Role of Consumer Demographics and Product Involvement. *Journal of International Consumer Marketing*, 9(4), pp.31-53.
- Machi, L. A. and McEvoy, B. T. (2009) *The Literature Review: Six Steps to Success*. 1st Edn. United States of America:Corwin Press.
- Mahmoud, T. (2018). Impact of green marketing mix on purchase intention. *International Journal of Advanced and Applied Sciences*, 5(2), pp.127-135.
- Makatouni, A. (2002). What motivates consumers to buy organic food in the UK?. *British Food Journal*, 104(3/4/5), pp.345-352.
- Malhotra, N., Nunan, D. and Birks, D. (2017). *Marketing Research*. 5th ed. Harlow: Pearson Education Limited.
- Marconi, M. and Lakatos, E. (2002). *Técnicas de pesquisa*. 5th ed. São Paulo (SP): Atlas.
- Martinsons, M., So, S., Tin, C. and Wong, D. (1997). Hong Kong and China: emerging markets for environmental products and technologies. *Long Range Planning*, 30(2), pp.277-156.
- McCarty, J. and Shrum, L. (1994). The recycling of solid wastes: Personal values, value orientations, and attitudes about recycling as antecedents of recycling behaviour. *Journal of Business Research*, 30(1), pp.53-62.
- Moisander, J. (2007). Motivational complexity of green consumerism. *International Journal of Consumer Studies*, 31(4), pp.404-409.
- Moser, A. (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behaviour. *Journal of Consumer Marketing*, 32(3), pp.167-175.

- Moussa, S. and Touzani, M. (2008). The perceived credibility of quality labels: a scale validation with refinement. *International Journal of Consumer Studies*, 32(5), pp.526-533.
- Natural Marketing Institute (NMI). (2008). *Understanding The LOHAS Market™ Report*. 6th Edn. USA: Natural Marketing Institute.
- OECD. 1997. Eco-Labeling: Actual Effects of Selected Programme. OECD Joint Session of Trade and Environment Experts. Paris.
- Oliveira van Schoor, M. (2013). Consumo ecologicamente consciente em Portugal – análise de comportamentos e identificação de segmentos. Masters. Universidade Fernando Pessoa.
- Ottman, J. (1992). Industry's Response to Green Consumerism. *Journal of Business Strategy*, 13(4), pp.3-7.
- Ottman, J. (2011). *The New Rules of Green Marketing*. 1st ed. Greenleaf Publishing Ltd.
- Ottman, J.A. (1998) *Green Marketing: Opportunity for Innovation*. McGraw-Hill, New York.
- Paço, A. (2005). *Marketing Verde: uma aplicação da segmentação de mercado dos consumidores portugueses*. PhD Dissertation in Management. Universidade da Beira Interior, Covilhã.
- Paço, A. and Raposo, M. (2008). Determining the characteristics to profile the “green” consumer: an exploratory approach. *International Review on Public and Non-Profit Marketing*, 5, pp.129-140.
- Paço, A. and Raposo, M. (2009). “Green” segmentation: an application to the Portuguese consumer market. *Marketing Intelligence & Planning*, 27(3), pp.364-379.
- Paço, A. and Raposo, M. (2010). Green consumer market segmentation: empirical findings from Portugal. *International Journal of Consumer Studies*, 34(4), pp.429-436.
- Paço, A. and Reis, R. (2012). Factors Affecting Skepticism toward Green Advertising. *Journal of Advertising*, 41(4), pp.147-155.
- Paço, A., Alves, H., Shiel, C. and Filho, W. (2013). Development of a green consumer behaviour model. *International Journal of Consumer Studies*, 37(4), pp.414-421.
- Paiva, T., & Proença, R. (2011). *Marketing Verde*. Lisboa: Actual Editora.
- Peattie, K. (1995). *Environmental marketing management: meeting the green challenge*. London: Pitman.
- Peattie, K. (2001). Towards Sustainability: The Third Age of Green Marketing. *The Marketing Review*, 2(2), pp.129-146.
- Peattie, K. and Charter, M. (2003). Green marketing. In: M. BAKER, ed., *The Marketing Book*, 5th ed. Butterworth-Heinemann, p.875.
- Peattie, K. and Crane, A. (2005). Green marketing: legend, myth, farce or prophesy?. *Qualitative Market Research: An International Journal*, 8(4), pp.357-370.
- Pickett-Baker, J. and Ozaki, R. (2008). Pro-environmental products: marketing influence on consumer purchase decision. *Journal of Consumer Marketing*, 25(5), pp.281-293.

- Pirages, D. and Ehrlich, P. (1974). *Ark II: Social responses to environmental imperatives*. 1st ed. San Francisco: Freeman, p.344.
- Polonsky, M. (1994). An Introduction to Green Marketing. *Electronic Green Journal*, [online] 1(2). Available at: <https://escholarship.org/uc/item/49n325b7> [Accessed 8 Oct. 2018].
- Pordata.pt. (2019). PORDATA - Ambiente de Consulta. [online] Available at: <https://www.pordata.pt/DB/Portugal/Ambiente+de+Consulta/Tabela> [Accessed 10 May 2019].
- Rahbar, E. and Abdul, N. (2011). Investigation of green marketing tools' effect on consumers' purchase behaviour. *Business Strategy Series*, 12(2), pp. 73-83.
- Ridley, D. (2012). *The Literature Review - A step-by-step guide for students*. 2nd Edn. London: SAGE Publications Ltd.
- Roberts, J. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research*, 36(3), pp.217-231.
- Sachdev, S. (2011). Eco-friendly Products and Consumer Perception. *International Journal of Multidisciplinary Research*, 1(5), pp.279-287.
- Sarkar, R. Datta, A. Mukherjee and R. Hannigan, ed., *An Integrated Approach to Environmental Management*, 1st ed. John Wiley & Sons, Inc., pp.231-253.
- Scammon, D., and R. Mayer (1995), "Agency Review of Environmental Marketing Claims: Case-by-Case Decomposition of the Issues," *Journal of Advertising*, 24 (2), 33–43.
- Schultz, P. and Zelezny, L. (1999). Values as predictors of environmental attitudes: evidence for consistency across 14 countries. *Journal of Environmental Psychology*, 19(3), pp.255-265.
- Shamdasani, P., Chon-Lin, G. and Richmond, D. (1993). Exploring green consumers in an oriental culture: Role of personal and marketing mix. *Advances in Consumer Research*, 20, pp.488-493.
- Sharma, N. and Dayal, R. (2017). Drivers of Green Purchase Intentions: Green Self-Efficacy and Perceived Consumer Effectiveness. *Global Journal of Enterprise Information System*, 8(3), pp.27-32.
- Shrum, L., McCarty, J. and Lowrey, T. (1995). Buyer Characteristics of the Green Consumer and Their Implications for Advertising Strategy. *Journal of Advertising*, 24(2), pp.71-82.
- Singh, P. and Pandey, K. (2012). Green marketing: Policies and practices for sustainable development. *Integral Review- A Journal of Management*, 5(1), pp. 22-30.
- Sønderskov, K. and Daugbjerg, C. (2011). The state and consumer confidence in eco-labeling: organic labeling in Denmark, Sweden, The United Kingdom and The United States. *Agriculture and Human Values*, 28(4), pp.507-517.
- Sreen, N., Purbey, S. and Sadarangani, P. (2018). Impact of culture, behaviour and gender on green purchase intention. *Journal of Retailing and Consumer Services*, 41, pp.177-189.

- Stanton, W. and Futrell, C. (1987). *Fundamentals of marketing*. New York: McGraw-Hill.
- Straughan, R. and Roberts, J. (1999). Environmental segmentation alternatives: a look at green consumer behaviour in the new millennium. *Journal of Consumer Marketing*, 16(6), pp.558-575.
- Taghian, M., Polonsky, M. and D'Souza, C. (2016). Green Marketing Strategies. In: D. Sarkar, R. Datta, A. Mukherjee and R. Hannigan, ed., *An Integrated Approach to Environmental Management*, 1st ed. John Wiley & Sons, Inc., pp.231-253.
- Tang, E., Fryxell, G. and Chow, C. (2004). Visual and Verbal Communication in the Design of Eco-Label for Green Consumer Products. *Journal of International Consumer Marketing*, 16(4), pp.85-105.
- Tanner, C. and Wölfling Kast, S. (2003). Promoting sustainable consumption: Determinants of green purchases by Swiss consumers. *Psychology & Marketing*, 20(10), pp.883-902.
- Tavakol, M. and Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, pp.53-55.
- Terrachoice and Underwriters Laboratories (2010). *The Sins of Greenwashing: Home and Family Edition*. Terrachoice, pp.1-31.
- Tilikidou, I. and Delistavrou, A. (2006). Types and Influential Factors of Consumers' Non-Purchasing Ecological Behaviours. *Business Strategy and the Environment*, 18, pp.61-76.
- Truninger, M. (2000). *Consumo e ambiente – Consumos “verdes”: alimentação e risco*. Projecto Observa, ISCTE, Lisboa.
- Tsakiridou, E., Boutsouki, C., Zotos, Y. and Mattas, K. (2008). Attitudes and behaviour towards organic products: an exploratory study. *International Journal of Retail & Distribution Management*, 36(2), pp.158-175.
- Valle, P., Reis, E. and Menezes, J. (2003). The Relevance of the Communication Strategy in Encouraging Recycling Practices: An Application of Homals and Cluster Analysis. In: E. Reis and M. Magalhães Hill, ed., *Temas em Métodos Quantitativos - 3*, 1st ed. Lisboa: Edições Sílabo, p.320.
- Vermeir, I. and Verbeke, W. (2008). Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values. *Ecological Economics*, 64(3), pp.542-553.
- Wang, S. (2014). Consumer characteristics and social influence factors on green purchasing intentions. *Marketing Intelligence & Planning*, 32(7), pp.738-753.
- Webster, F.E. (1975) Determining the characteristics of the socially conscious consumer. *Journal of Consumer Research*, 2, pp.188-196.
- Wymer, W. and Polonsky, M. (2015). The Limitations and Potentialities of Green Marketing. *Journal of Nonprofit & Public Sector Marketing*, 27(3), pp.239-262.
- Yam-Tang, E. e Chan, R. (1998), “Purchasing behaviours and perceptions of environmentally harmful products”, *Marketing Intelligence & Planning*, 16 (6), pp. 356-362.

Yan, Y. and Yazdanifard, R. (2014). The concept of green marketing and green product development on consumer buying approach. *Global Journal of Commerce & Management Perspective*, 3(2), pp. 33-38.

Yang, Y. (2017). Consumer Behaviour towards Green Products. *Journal of Economics, Business and Management*, 5(4), pp.160-167.

Zahid, M., Ali, B., Ahmad, M., Thurasamy, R. and Amin, N. (2017). Factors Affecting Purchase Intention and Social Media Publicity of Green Products: The Mediating Role of Concern for Consequences. *Corporate Social Responsibility and Environmental Management*, 25(3), pp. 225-236.

Zhang, L., Li, D., Cao, C. and Huang, S. (2018). The influence of greenwashing perception on green purchasing intentions: The mediating role of green word-of-mouth and moderating role of green concern. *Journal of Cleaner Production*, 187, pp.740-750.

APPENDICES

Appendix 1 – Online Survey

Green Marketing and the green consumer in Portugal

In the context of the elaboration of the thesis of the Master in Marketing at ISCTE, this questionnaire was developed with the objective of understanding and studying the green consumers in Portugal. The completion of the questionnaire will take approximately 10 minutes. Thank you in advance for your contribution. You are asked to honestly answer the questions. We remind you that this is not a test to your knowledge but an understanding of your position in relation to the topic in question.

All answers will be anonymous.

For any question, feel free to contact: cqnss@iscte-iul.pt

* Required

Skip to question 1.

1. Are you currently living in Portugal?

1. *

Mark only one oval.

Yes

No *Skip to "Thank you for your participation. The questionnaire's target is people who are currently living in Portugal and are 18 years old or over.."*

2. Are you 18 years old or over?

2. *

Mark only one oval.

Yes *Skip to question 3.*

No *Skip to "Thank you for your participation. The questionnaire's target is people who are currently living in Portugal and are 18 years old or over.."*

Thank you for your participation. The questionnaire's target is people who are currently living in Portugal and are 18 years old or over.

Stop filling out this form.

Environmental Concern

In this section you are asked about your position regarding the environment. Please answer sincerely.

3. **3. For each sentence select the right option that better describes your point of view regarding the subject in question. Going from 1. Strongly disagree; to 5. Strongly agree.** * Mark only one oval per row.

	1. Strongly disagree	2. Disagree	3. Unsure	4. Agree	5. Strongly Agree
1. We are approaching the limit of the number of people the Earth can support.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Humans have the right to modify the natural environment to suit their needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. When humans interfere with nature it often produces disastrous consequences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Human ingenuity will ensure that we do not make the Earth unlivable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Humans are seriously abusing the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The Earth has plenty of natural resources if we just learn how to develop them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Plants and animals have as much right as humans to exist.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Despite our special abilities, humans are still subject to the laws of Nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. The Earth is like a spaceship with very limited room and resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Humans were meant to rule over the rest of nature.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. The balance of nature is very delicate and easily upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Humans will eventually learn enough about how nature works to be able to control it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. If things continue on their present course, we will soon experience a major ecological catastrophe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Skip to question 4.

Green Behavior

Green Behavior is one that tries to minimize the harm of the environment and tries to improve it. This type of behavior can be translated in several ways, it can be through purchasing green products, reducing consumption or even other eco-friendly ways of living.

4 4. Please choose the option that better fits you in each sentence. Going from 1- Strongly disagree, to 5- Strongly agree. * Mark only one oval per row.

	1. Strongly disagree	2. Disagree	3. Unsure	4. Agree	5. Strongly Agree
1. I normally make a conscious effort to limit my use of products that are made of or use scarce resources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I always try to use electric appliances (e.g., dishwasher, washer, and dryer) before 10 A.M. and after 10 P.M.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. I will not buy products that have excessive packaging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. When there is a choice, I always choose the product that contributes to the least amount of pollution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. If I understand the potential damage to the environment that some products can cause, I do not purchase these products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. I have switched products for ecological reasons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I use a recycling center or in some way recycle some of my household trash.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I make every effort to buy paper products made from recycled paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. I use eco-friendly detergent for my laundry.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I have convinced members of my family or friends not to buy some products that are harmful to the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. I have purchased products because they cause less pollution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not buy products in aerosol containers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Whenever possible, I buy products packaged in reusable containers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	1. Strongly disagree	2. Disagree	3. Unsure	4. Agree	5. Strongly Agree
14. When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. When I have a choice between two equal products, I always purchase the one less harmful to other people and the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I will not buy a product if the company that sells it is ecologically irresponsible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I buy toilet paper made from recycled paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I buy kleenex made from recycled paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. I buy recycled paper sheets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I try only to buy products that can be recycled.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. To reduce our reliance on fuels, I drive my car as little as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I do not buy household products that harm the environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. To save energy, I drive my car as little as possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. I try to buy energy efficient household appliances.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I have tried very hard to reduce the amount of electricity I use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I have purchased a household appliance because it uses less electricity than other brands.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I have replaced light bulbs in my home with those of smaller wattage so that I will conserve on the electricity I use.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I have purchased light bulbs that were more expensive but saved energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. I usually purchase the lowest priced product, regardless of its impact on society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. I buy high efficiency light bulbs to save energy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Skip to question 5.

Green Products

Green products can be defined as eco-friendly. These products cause the least amount of harm to the environment, people and animals. They use natural resources in a sustainable way, they do not use toxic ingredients, do not pollute, nor produce excessive waste.

5 5. Green Products

Characteristics *

Please check the boxes of the top 3 main characteristics you look for in green products.
Check all that apply.

- Are safe for the health of humans and animals.
- Don't harm the environment with their manufacturing;
- Don't use an excessive amount of energy and other resources during their life cycle (manufacturing, use and disposal).
- Don't produce unnecessary waste through their packaging or short life span.
- Don't conduct cruelty to animals.
- Don't use materials from endangered environments or species.
- Are produced in a sustainable way;
- The use of recycled materials in their
- production; Have recyclable packaging.

Skip to question 6.

Green Communication

Ecolabels aim to share information with consumers about environmental care and impacts of the products.

In the following questions please select the option in the agreement scale that better reflects your position regarding each sentence.

Example of an Ecolabel: European Organic Farming Label



7. 6.2 Perceived quality of green labels *

Mark only one oval per row.

	1. Totally Disagree	2. Disagree	3. neither at	4. Neither Agree or Disagree	5. Somewt at Agree	6. Agree	7. Totally Agree
1. I can trust what the ecolabels says.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Ecolabels come from an organization or recognized experts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Ecolabels are honest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The organizations in charge of ecolabels have good intentions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The organization has passed some serious tests before issuing this sign.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Ecolabels inspire me confidence.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Skip to question 8.

Barriers to green purchase

8 7. Where do you find yourself in agreement with the following being barriers for you to purchase green products? * Mark only one oval per row.

	1. Totally disagree	2. Disagree	3. Unsure	4. Agree	5. Totally agree
1. Green products have lower performance comparing to non-green ones.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The feminine stereotype associated with green behaviours.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Difficulty in identifying which products are green or not.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Sacrifices in terms of performance and cost when buying green products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. High price of green products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Lack of knowledge about green products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The limited availability of green products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Difficult access to green products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Distrust in environmental claims made by companies about their products.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Requires changing habits.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demographic Data

This section is intended to collect demographic information from the respondent. Please choose the option for each question that applies to you.

9. **8. GENDER:** *

Mark only one oval.

- FEMALE
 MALE

10. **9. AGE:** * *Mark only one oval.*

- 18-24
 25-31
 32-38
 39-45
 46-52
 53- 60
 ≥61

11 **10. CIVIL STATUS:** *

Mark only one oval.

- SINGLE
- MARRIED
- DIVORCED
- WIDOW(ER)

12. **11. NATIONALITY** * Please
right below your nationality.

13. **12. AREA OF RESIDENCE:** *

Mark only one oval.

- CITY
- SUBBURBS
- COUNTRYSIDE

14. **13. EDUCATION:** * *Mark only
one oval.*

- NO HIGHSCHOOL DIPLOMA
- HIGHSCHOOL DIPLOMA
- BACHELORS DEGREE
- MASTERS DEGREE
- PhD

15. **14. OCCUPATION:** * *Mark
only one oval.*

- STUDENT
- EMPLOYEE
- SELF-EMPLOYED
- UNEMPLOYED
- RETIRED

16. **15. MONTHLY NET INCOME :**

** Mark only one oval.*

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

- 0€
- Até/ up to 599€
- 600€ - 1000€
- 1001€ - 1500€
- 1501€ - 2000€
- Igual ou maior a/ Equal or more than 2001€

Powered by



Appendix 2 –Environmental Concern items Responses Percentage Table

EC1- We are approaching the limit of the number of people the Earth can support.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,2	13,3	23,2	33	27,3	100
EC2- Humans have the right to modify the natural environment to suit their needs.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	29,2	34,6	16,8	15,9	3,5	100
EC3- When humans interfere with nature it often produces disastrous consequences.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,9	3,2	4,4	34,9	54,6	100
EC4- Human ingenuity will ensure that we do not make the Earth unlivable.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	8,9	30,2	27,6	26	7,3	100
EC5 EC5 Humans are seriously abusing the environment.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,2	1,6	5,1	32,4	57,8	100
EC6- The Earth has plenty of natural resources if we just learn how to develop them.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	11,4	14,6	16,5	38,7	18,7	100
EC7- Plants and animals have as much right as humans to exist.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,9	4,8	4,8	31,4	56,2	100
EC8- The balance of nature is strong enough to cope with the impacts of modern industrial nations.						
	Valid					

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	43,8	35,9	11,1	6,7	2,5	100
EC9- Despite our special abilities, humans are still subject to the laws of Nature.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1	1,6	6,7	45,1	45,7	100
EC10- The so-called “ecological crisis” facing humankind has been greatly exaggerated.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	37,8	34,6	16,8	8,6	2,2	100
EC11- The Earth is like a spaceship with very limited room and resources.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	5,1	15,9	20,6	39,4	19	100
EC12- Humans were meant to rule over the rest of nature.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	37,8	26,7	23,5	10,5	1,6	100
EC13- The balance of nature is very delicate and easily upset.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,5	9,5	10,8	44,4	32,7	100
EC14- Humans will eventually learn enough about how nature works to be able to control it.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	16,5	32,7	27,3	20	3,5	100
EC15- If things continue on their present course, we will soon experience a major ecological catastrophe.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1,6	5,4	16,5	35,2	41,3	100

Appendix 3– Environmental Concern scale (NEP) Cronbach’s Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,784	,792	15

Appendix 4– Frequency table of Environmentally Concern Levels

	Frequency	Percent
Low EC	3	1,0
Moderate EC	80	25,4
High EC	232	73,7
Total	315	100,0

Appendix 5– Credibility of Ecolabels Items Responses Percentage Table

PCQL 1- I can trust what the ecolabels says.								
	Valid							
	1 Totally disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Totally agree	Total
Percent	4,4	9,2	15,2	21	26,3	20,6	3,2	100
PCQL 2- Ecolabels come from an organization or recognized experts.								
	Valid							
	1 Totally disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Totally agree	Total
Percent	2,2	4,4	8,9	28,9	22,9	27	5,7	100
PCQL3- Ecolabels are honest.								
	Valid							
	1 Totally disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Totally agree	Total
Percent	2,9	7,6	12,1	31,4	26,3	15,9	3,8	100
PCQL 4- The organizations in charge of ecolabels have good intentions.								
	Valid							
	1 Totally disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Totally agree	Total
Percent	2,5	4,1	12,1	28,9	21,3	25,4	5,7	100
PCQL 5- The organization has passed some serious tests before issuing this sign.								
	Valid							

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

	1 Totally disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Totally agree	Total
Percent	1,9	4,8	9,2	30,2	22,5	26	5,4	100
PCQL 6- Ecolabels inspire me confidence.								
	Valid							
	1 Totally disagree	2 Disagree	3 Somewhat disagree	4 Neither agree or disagree	5 Somewhat agree	6 Agree	7 Totally agree	Total
Percent	3,5	4,4	10,2	21,6	28,9	24,4	7	100

Appendix 6– Perceived Credibility of a Quality Label (PCQL) Cronbach’s Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,935	,935	6

Appendix 7– Frequency table of Perceived Credibility of a Quality Label Levels

	Frequency	Percent
Low PCQL	21	6,7
Moderate PCQL	208	66,0
High PCQL	86	27,3
Total	315	100,0

Appendix 8 –Environmental Conscious Consumer Behaviour items Responses Percentage Table

ECCB1- I normally make a conscious effort to limit my use of products that are made of or use scarce resources.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,5	13,3	16,8	51,1	16,2	100
ECCB2- I always try to use electric appliances (e.g., dishwasher, washer, and dryer) before 10 A.M. and after 10 P.M.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	7,9	25,7	18,1	26,3	21,9	100
ECCB3- I will not buy products that have excessive packaging.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,8	23,2	27	33,3	12,7	100

ECCB4- When there is a choice, I always choose the product that contributes to the least amount of pollution.]						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,2	11,7	18,1	42,9	25,1	100
ECCB5- If I understand the potential damage to the environment that some products can cause, I do not purchase these products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1,6	7,3	20	44,8	26,3	100
ECCB6- I have switched products for ecological reasons.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	6,3	14,3	13,7	39	26,7	100
ECCB7- I use a recycling center or in some way recycle some of my household trash.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,5	6,3	7,3	27	55,9	100
ECCB8- I make every effort to buy paper products made from recycled paper.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,8	18,4	21,9	33	22,9	100
ECCB9- I use eco-friendly detergent for my laundry.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	13,7	31,7	30,5	14,6	9,5	100
ECCB10- I have convinced members of my family or friends not to buy some products that are harmful to the environment.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	9,8	21,6	21	31,4	16,2	100
ECCB11- I have purchased products because they cause less pollution.]						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,1	8,6	13,7	45,7	27,9	100

ECCB12- I do not buy products in aerosol containers.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	8,9	22,9	26,3	24,4	17,5	100
ECCB13- Whenever possible, I buy products packaged in reusable containers.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,4	8,9	13,7	44,1	28,9	100
ECCB14- When I purchase products, I always make a conscious effort to buy those products that are low in pollutants.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,8	14,9	18,7	38,7	22,9	100
ECCB15- When I have a choice between two equal products, I always purchase the one less harmful to other people and the environment.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,2	7,9	17,5	41,6	30,8	100
ECCB16- I will not buy a product if the company that sells it is ecologically irresponsible.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,5	21,6	29,5	29,8	15,6	100
ECCB17- I buy toilet paper made from recycled paper.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	13,3	25,4	27,6	18,7	14,9	100
ECCB18- I buy kleenex made from recycled paper.]						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	12,7	27,6	33,7	16,2	9,8	100
ECCB19- I buy recycled paper sheets.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	10,8	25,1	30,8	21,6	11,7	100
ECCB20- I try only to buy products that can be recycled.						

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,8	10,5	17,1	41,9	25,7	100
ECCB21- To reduce our reliance on fuels, I drive my car as little as possible.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	11,7	25,7	22,9	23,5	16,2	100
ECCB22- I do not buy household products that harm the environment.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	7,6	23,2	35,9	24,4	8,9	100
ECCB23- To save energy, I drive my car as little as possible.]						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	11,1	30,5	20,3	22,9	15,2	100
ECCB24- I try to buy energy efficient household appliances.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,2	6,3	11,4	38,7	40,3	100
ECCB25- I have tried very hard to reduce the amount of electricity I use.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1,6	6,3	12,4	41,9	37,8	100
ECCB26- I have purchased a household appliance because it uses less electricity than other brands.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	3,8	8,3	20	31,4	36,5	100
ECCB27- I have replaced light bulbs in my home with those of smaller wattage so that I will conserve on the electricity I use.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1	3,2	5,7	38,4	51,7	100
ECCB28- I have purchased light bulbs that were more expensive but saved energy.						

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1	3,5	8,6	35,6	51,4	100
ECCB29- I usually purchase the lowest priced product, regardless of its impact on society.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	23,5	31,1	24,1	15,6	5,7	100
ECCB30- I buy high efficiency light bulbs to save energy.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	1	5,1	13,3	38,4	42,2	100

Appendix 9– Environmentally Conscious Consumer Behaviour (ECCB) Cronbach’s Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,939	,940	30

Appendix 10– Frequency table of Environmentally Conscious Consumer Behaviour Levels

	Frequency	Percent
Low ECCB	17	5,4
Moderate ECCB	115	36,5
High ECCB	183	58,1
Total	315	100,0

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

Appendix 11– Green Barriers individual frequencies and Responses Percentage Table by item

GREEN PRODUCTS' CHARACTERISTICS	Frequency
1. Are safe for the health of humans and animals.	196
2. Don't harm the environment with its manufacturing.	156
3. Don't use an excessive amount of energy and other resources during their life cycle (manufacturing, use and disposal).	65
4. Don't produce unnecessary waste through their packaging or short life span.	120
5. Don't conduct cruelty to animals.	94
6. Don't use materials from endangered environments or species.	67
7. Are produced in a sustainable way.	139
8. The use of recycled materials in their production.	42
9. Have recyclable packaging.	66
TOTAL	945

B1 Green products have lower performance comparing to non-green ones.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	18,4	33,7	29,5	15,9	2,5	100
GB2 The feminine stereotype associated with green behaviours.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	33,3	27,6	27	10,5	1,6	100
GB3 Difficulty in identifying which products are green or not.						
	Valid					

GREEN MARKETING AND CONSCIOUS CONSUMERS IN PORTUGAL

	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	6,7	16,8	19	50,2	7,3	100
GB4 Sacrifices in terms of performance and cost when buying green products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,8	18,4	26,7	38,4	11,7	100
GB5 High price of green products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	2,5	10,2	10,5	47	29,8	100
GB6 Lack of knowledge about green products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,8	11,1	16,5	51,7	15,9	100
GB7 The limited availability of green products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	4,1	10,2	20,3	47	18,4	100
GB8 Difficult access to green products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	5,4	18,7	24,4	37,5	14	100
GB9 Distrust in environmental claims made by companies about their products.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Agree	Total
Percent	6,3	11,4	36,8	33,3	12,1	100
GB10 Requires changing habits.						
	Valid					
	1 Strongly disagree	2 Disagree	3 Unsure	4 Agree	5 Strongly Disagree	Total
Percent	4,1	8,3	14,6	38,1	34,9	100

Appendix 12– Barriers to Green Purchase (GB) Cronbach’s Alpha

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,781	,782	10

Appendix 13– Frequency table of Barriers to Green Purchase Levels

	Frequency	Percent
Low GB	19	6,0
Moderate GB	163	51,7
High GB	133	42,2
Total	315	100,0

Appendix 14 – Model Summary and ANOVA outputs from the linear regression model outputs ECCB and PCQL

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,228 ^a	,052	,049	,64339	2,037

a. Predictors: (Constant), PCQL

b. Dependent Variable: ECCB

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7,091	1	7,091	17,129	,000 ^b
	Residual	129,568	313	,414		
	Total	136,659	314			

a. Dependent Variable: ECCB

b. Predictors: (Constant), PCQL

Appendix 15 – Model Summary and ANOVA outputs from the linear regression model outputs ECCB and EC

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,267 ^a	,071	,068	,63680	2,062

a. Predictors: (Constant), EC

b. Dependent Variable: ECCB

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9,731	1	9,731	23,996	,000 ^b
	Residual	126,928	313	,406		
	Total	136,659	314			

a. Dependent Variable: ECCB

b. Predictors: (Constant), EC

Appendix 16 – Group statistics of the Independent Samples t-test for ECCB and Gender

Group Statistics					
	GENDER	N	Mean	Std. Deviation	Std. Error Mean
ECCB	FEMALE	214	3,6400	,63443	,04337
	MALE	101	3,4102	,68776	,06843

Appendix 17 – Ranks table of the Kruskal-Wallis for ECCB and EDUCATION

Ranks			
	EDUCATION	N	Mean Rank
ECCB	NO HIGHSHOOL DIPLOMA	3	100,17
	HIGHSCHOOL DIPLOMA	49	140,40
	BACHELORS DEGREE	121	157,33
	MASTERS DEGREE	131	164,00
	PhD	11	188,00
	Total	315	

Appendix 18 – ONEWAY ANOVA ECCB and INCOME LEVELS

Descriptives								
ECCB								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0€	65	3,4877	,57743	,07162	3,3446	3,6308	2,17	4,87
Up to 599€	33	3,6414	,60948	,10610	3,4253	3,8575	1,80	4,87
600€ - 1000€	53	3,5830	,76241	,10472	3,3729	3,7932	1,13	4,90
1001€ - 1500€	50	3,5720	,66412	,09392	3,3833	3,7607	2,27	4,93
1501€ - 2000€	33	3,8232	,47181	,08213	3,6559	3,9905	2,77	4,87
Equal or more than 2001€	77	3,4580	,72144	,08222	3,2943	3,6218	1,13	4,87
Total	311	3,5621	,66095	,03748	3,4883	3,6358	1,13	4,93

Test of Homogeneity of Variances			
ECCB			
Levene Statistic	df1	df2	Sig.
1,687	5	305	,137

Appendix 19 – Model Summary and ANOVA outputs from the linear regression model outputs ECCB and GB

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,222 ^a	,049	,046	,64430	1,993

a. Predictors: (Constant), GB

b. Dependent Variable: ECCB

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6,725	1	6,725	16,199	,000 ^b
	Residual	129,934	313	,415		
	Total	136,659	314			

a. Dependent Variable: ECCB

b. Predictors: (Constant), GB

Appendix 20 – FSC* Ecolabels (Source: <https://ic.fsc.org/en/choosing-fsc/fsc-labels>)

*The Forest Stewardship Council (FSC) is an international non-profit organization, that promotes a responsible management of the world's forests. This organization establishes requirements concerning forest products and certifies products with ecolabels that guarantee the forests are managed in a way of the natural ecosystem and ensure it sustains economically viability.

