

**CONSUMERS AND PALM OIL: HOW MUCH DO THEY KNOW
AND DOES IT MATTER HOW MUCH THEY KNOW?**

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Resumo

A responsabilidade social das empresas é um conceito presente em empresas que pretendem aumentar os seus padrões de desenvolvimento social, respeitar os direitos fundamentais, proteger o ambiente e que estão interessadas em conhecer as preferências dos seus consumidores. O envolvimento das empresas com a responsabilidade social vai captar consumidores que se preocupam com os aspetos referidos acima.

O objetivo desta investigação é avaliar se a responsabilidade social das empresas tem impacto nas atitudes e comportamentos do consumidor, em específico no que diz respeito à partilha de informação por parte das empresas relativamente à presença de óleo de palma nos seus produtos e às consequências que essas produções têm para o ambiente. Para tal, foi desenvolvido um estudo cujo objetivo foi perceber se os consumidores têm o hábito de procurar informação sobre o óleo de palma e se, depois de lhes serem apresentadas com as consequências que a produção de óleo de palma tem para o ambiente, mudariam as suas atitudes e comportamentos relativamente aos seus hábitos de procura de informação e de compra.

Os resultados mostraram que o simples facto de apresentar informação aos consumidores sobre o impacto ambiental da produção de óleo de palma pode afetar os seus hábitos de compra.

Assim, verifica-se que há um papel importante a desempenhar por parte das empresas que são socialmente que procuram ser, que passa por educar os consumidores no que diz respeito às consequências ambientais na origem da produção de óleo de palma.

Palavras-chave: Responsabilidade Social das Empresas, Atitude e Comportamento do Consumidor, Óleo de Palma.

Classificação JEL: M3, Z0

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Abstract

Corporate social responsibility is a concept present in companies that aim to raise their morals of social progress, respect fundamental rights, protect the environment, and take into consideration the interests of their consumers. The involvement of companies with social responsibility is likely to capture the attention of consumers who are concerned with the aspects mentioned above.

The purpose of this research is to evaluate whether corporate social responsibility impacts consumer attitudes and behaviours, regarding the sharing of information by companies about the presence of palm oil in their products and the consequences that that the production of this same oil brings to the environment. For this purpose, a study was developed with the objective of perceiving whether consumers are aware of the environmental consequences of palm oil, seek information about this ingredient and if, when presented with the consequences that palm oil production has on the environment, their attitudes and behaviours in relation to their buying and information seeking habits would change.

The results show that the the simple fact of providing information about the negative environmental impact of palm oil's production can affect consumers' purchase intentions.

This investigation suggests that companies concerned with social responsibility can have an important role to play by facilitating consumer awareness regarding the negative consequences of the production of palm oil.

Keywords: Corporate Social Responsibility, Consumer Behaviour, Palm Oil.

JEL Classification System: M3, Z0

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CSR – Corporate Social Responsibility

CRM – Cause-Related Marketing

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I. Introduction

Corporate Social Responsibility (CSR) is a concept which refers to companies that attempt to increase standards of social development, respect the fundamental rights, environment protection, open governance and stakeholders' interests (Georgeta, 2008). CSR has been defined in several different ways for the last sixty-six years, being initially defined as “the obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society” (Bowen, 1953, p.38). Definitions approach other concepts as companies try to include the standards mentioned above – “CSR is concerned with the impacts that the activities of an organisation have on a social, environmental and economic environment in which operates” (Georgeta, 2008, p.661).

Currently, some authors distinguish between internal and external CSR, where the first is referred to the company's human resources (HR) and is a prerequisite to the second that involves consumers, shareholders, suppliers, physical and social environment (Georgeta, 2008). CSR is viewed as a way companies must embrace sustainable development, that is, increase of the economy, take care of the environment and make people to feel included in society and, a knowledge base society which means a society with information and capable of use that information (Georgeta, 2008). This means that information usage and spreading regarding companies' level of contribution to a sustainable development will have influence on society (Georgeta, 2008). Regarding a knowledge-based society, companies must attempt for fairness in their production (Castaldo et al, 2009) and therefore know how to communicate their social responsibility (Vrioni et al, 2001). Once consumers are aware of this fairness through communication, they will be more prompt to trust the company and demonstrate higher level of loyalty (Castaldo et al, 2009). Hence, after acquiring such information, repercussions on attitudes, intentions or behaviours might be perceived in consumers (e.g. information acquisition regarding a socially responsible action a company has by a consumer, can change their intention, attitude or even behaviour in a product purchase) (Bhattacharya and Sen, 2008).

Consumers can decide to behave towards sustainable product choices considering the way the product is produced (Antonides et al., 2015). For instance, according to Holloway and Watts (2015), in the last few decades the number of consumers that are changing their patterns of consumption, as for instance buying more sustainable products in their everyday life is increasing (Holloway et al., 2015).

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Companies sell products that may contain vestiges of a vegetable oil called palm oil and consumers may have information and be aware of the existence of palm oil on products. Palm oil is the most widely consumed vegetable oil in the world. This oil is extracted from the reddish pulp of palm oil fruits and it has several possible usages. It is found foremost in products such as food, cosmetic, detergents and chemical industry. Concerning palm oil industry, that is supplied as in the crude form, without being refined or processed.

The production of palm oil is concentrated in South-East Asia. Indonesia and Malaysia account for nearly 90 percent of world exports of crude palm oil being responsible for a significant part of palm oil production, and also for a significant amount of land clearance for its cultivation. Land clearance is the “process of removing trees, stumps, brush, stones and other obstacles from an area as required to increase the size of the crop producing land base of an existing farm or to provide land for a new farm operation.” (OregonLaws, 2017, p.1). Indonesia is planning to double palm fruit production by 2020 (Koh and Ghazoul, 2010). The product is mainly exported to developed countries such as USA and those in the European Union (Hamilton-Hart, 2015). It has been estimated that one in ten products sold in UK supermarkets includes palm oil (Millet et al, 2013).

Palm oil production practices can result in large-scale environmental costs in the form of deforestation and of biodiversity loss (Hamilton-Hart, 2015). According to Noor (2015), activists have suggested that palm oil production is one of the biggest threats driving the wholesale destruction of peatlands and rainforests, as well as increasing greenhouse gas emissions (Fitzherbert et al. 2008, Island 2015, Clough et al. 2016, Linder and Palko Vitz, 2016). Palm oil is of crucial importance for food multinationals such as Nestlé, Kraft Foods or Unilever, as it is a common ingredient in their food products. These companies do not publicly acknowledge their use of using palm oil, as this could lead to financial losses and a negative image (Millet et al, 2013). That is, if companies choose to inform that their products have palm oil, and consumers are aware of palm oil production practices that results in large-scale environment costs, they might not buy products from these companies and attribute a negative image to them. The issue thus rests on whether consumers are aware of the effects of palm oil production on the environment and land use, and whether the knowledge of these effects impacts their intentions, attitudes or even behaviours in terms of consumption. For instance, Millet (2013) studied consumers’ willingness to pay for products with or without palm oil in their labels. Results highlighted a significant influence on participants’ WTP when the negative impact of palm oil was labelled (Millet et al, 2013).

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However, barriers still exist when concerning to product sustainability and this is partly due to the lack of information on the topic and people end up not being aware on how to select more environmental-friendly products (Holloway et al, 2015).

According to Vermeir and Verbeke (2006), consumers' decision-making process in relation to sustainable consumption is based on their social responsibility (Vermeir et al, 2006). Vermeir (2006) connects consumer behaviour with consumer social responsibility. CSR can be defined as "the integration of social and environmental concerns in business operations and in interactions with stakeholders on a voluntary basis" European Union (Green Paper 2001, p.4). If consumers are socially responsible, their decision-making processes will rely on the sustainable side and act accordingly.

The issue of concern in this research is consumers' awareness of palm oil production and of its consequences to the environment, as well as the effect on attitudes and intentions of providing them with information regarding these negative environmental consequences. Understanding consumer awareness, that is, their knowledge and perceptions of the palm oil industry, will help to perceive consumer intentions, attitudes and behaviours regarding their purchase decisions, that is, consumers being aware of the negative consequences that palm oil production have on the environment, will change their intentions to buy a product that contains palm oil or even change their attitudes. These changes in intentions and attitudes will be reflected in their decision to start reading product information and deciding whether or not to choose the product with or without of palm oil. "Research suggests that including information as a factor in existing theoretical models can substantially help understanding consumer behavior". (Polonsky et al., 2012, p. 344).

This thesis will focus on the Portuguese consumers, namely Generation Y. Generation Y was born between 1985 and 1999 (Harris et al, 2012). Those born in this generation are commonly called "Millennials". Millennials are a generation marked by the increase in use and familiarity with digital communication, media and technologies (WordStream, 2018). So, if Millennials have more access to information and are dependent on technologies, should they not also be more aware of palm oil extraction and all the subjacent environmental consequences? Would Millennials be aware of companies' CSR activities to improve their environmental performance? And, would they change their intentions and attitudes when informed of palm oil production's environmental consequences?

This dissertation aims to investigate to what extent Millennials are familiar with the environmental impacts of palm oil production. The research further aims to understand and

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clarify whether consumption intentions, attitudes change after acquiring information regarding the environmental consequences of palm oil's production.

It is hoped that this study will help understand consumer awareness regarding the environmental consequences of palm oil production, in the Portuguese context.

The present dissertation is divided into six main parts: (i) introduction, (ii) literature review, (iii) research questions, hypotheses and methodology, (iv) findings, (v) discussion, and (vi) conclusions, limitations and further research.

- (i) Introduction: This chapter presents the theme of the dissertation and its relevance.
- (ii) Literature Review: In this section some relevant literature is reviewed in order to clarify the concepts that are the foundation of this dissertation.
- (iii) Research Questions, Hypotheses and Methodology: In this chapter, the research questions and hypotheses are presented; as is the methodology used when conducting the empirical investigation.
- (iv) Findings: This chapter presents the key results of the collection made.
- (v) Discussion: the main findings are discussed and related to the theoretical concepts previously presented.
- (vi) Conclusions, Limitations and further Research: In the final part of this dissertation, the main conclusions, limitations and paths for further research are presented.

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II. Literature Review

This chapter provides an overview of the most important theoretical research topics such as corporate social responsibility and respective communication, consumers' awareness regarding palm oil production and negative consequences on the environment. Therefore, an overview on the relationship between the topics of CSR and consumer awareness is provided. The chapter will be divided into three main sections. The first is concerned with corporate social responsibility (CSR) concepts. The second section will rely on consumers' awareness regarding CSR and its impact. The last section will refer to palm oil and its respective relation with CSR and consumer awareness.

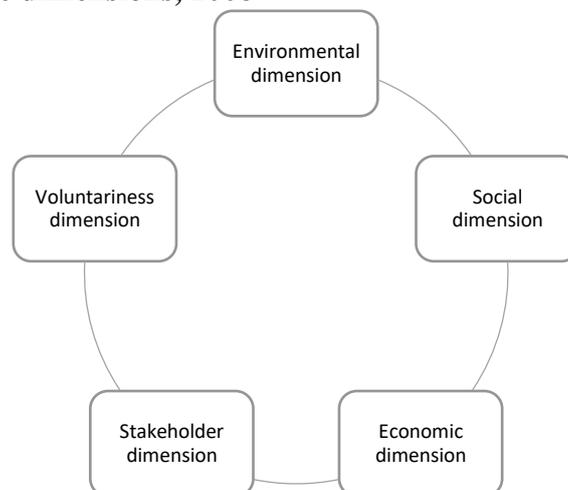
2.1. Corporate Social Responsibility

2.1.1. Corporate Social Responsibility definitions

Both the academic and the corporate worlds have looked to define the concept of Corporate Social Responsibility (CSR) throughout the decades but there is still uncertainty on how CSR should be defined (Dahlsrud, 2008). CSR's definition has been defined in different ways and understood in various forms, through different perspectives over time.

According to Dahlsrud (2008), five main dimensions were typically considered in the definition of CSR: environmental, voluntariness, social, stakeholder, and economic dimensions (see Figure 1).

Figure 1. Dahlsrud five dimensions, 2008



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These dimensions came from attempts at definitions made over time. The environmental dimension was pulled out with examples of phrases such as ‘a cleaner environment’, ‘environmental concerns in business operations’ and ‘environmental stewardship’ (Dahlsrud, 2008). The social dimension was based on phrases such as ‘contribute to a better society’; economic dimension from ‘contribute to economic development’ and ‘preserving the profitability’; the stakeholder dimension came from ‘how organizations interact with their employees, suppliers, customers and communities’; and last, the voluntariness dimension, was pulled out from phrases as ‘based on ethical values’ and ‘beyond legal obligations’ (Dahlsrud, 2008).

Although all the dimensions are displayed as necessary in CSR definitions, the environmental dimension was not included in earlier definitions and only started to become more common in the beginning of the two thousand (Dahlsrud, 2008), as follows:

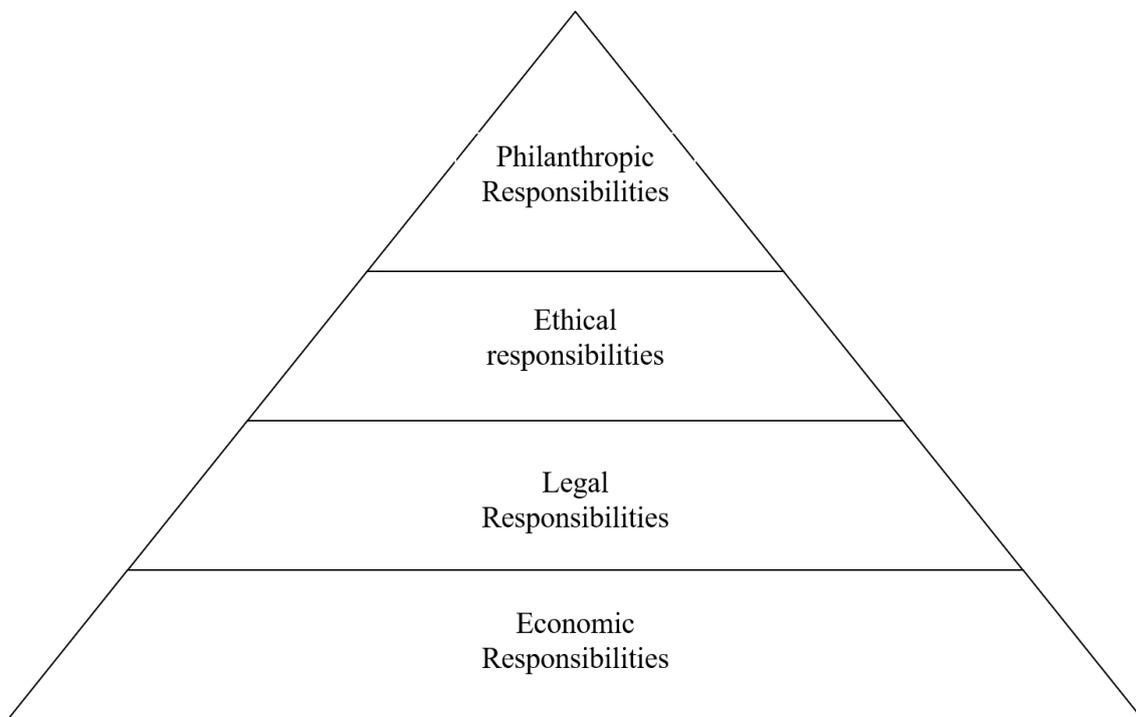
Table 1. First CSR definitions to include the five dimensions

Definition Source	Definition	Year/
Business for Social Responsibility	“Business decision making linked to ethical values, compliance with legal requirements and respect for people, communities and the environment”	2000
European Union	“CSR as the integration of social and environmental concerns in business operations and in interactions with stakeholders on a voluntary basis”	2001
Lea (Author)	“CSR is about businesses and other organizations going beyond the legal obligations to manage the impact they have on the environment and society. In particular, this could include how organizations interact with their employees, suppliers, customers and the communities in which they operate, as well as the extent they attempt to protect the environment”	2002
International Business Leaders Forum	“Open and transparent business practices based on ethical values and respect for employees, communities and the environment, which will contribute to sustainable business success”	2003

Later, definitions including all five dimensions started to be more common. For instance, Carroll and Shabana (2010) referred to CSR as an outcome of a set of aspects: “the social responsibility of the business encompasses the economic, legal, ethical and discretionary [later referred to as philanthropic] expectations that society has of organizations at given point in time.” (Carroll, Shabana, 2010, 1, p. 89).

Furthermore, there four categories or components of CSR might be depicted as a pyramid (Carrol, 1991, p.40).

Figure 2. Carroll’s CSR pyramid, 1991 (Carrol, 1991)



Carroll (2016) updated his pyramid of CSR. The purpose of the pyramid is to single out the CSR definitional aspects, being these aspects build upon society’s (consumers’) expectations (Carroll, 2016).

The order of the building blocks is reasonable, and Carroll explains it. The author states that “the economic responsibility was placed as the base of the pyramid because that is a foundational requirement in business” (Carroll, 2016, p.3). This is specified as a requirement due to societal expectations. In society’s point of view, companies must be sustainable, that is, having a surplus of gains over losses, which will incentivize the increase of the shareholders’

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investment and thus, create mobilization of the business operations. Legal responsibilities follow, since the society is transmitting the message that “ [it] is expected to obey the law and comply with regulations because the law and regulations are society’s codification of the basic ground rules upon which business is to operate in a civil society” (Carroll, 2016, p.3). Society requires the articulation of central notions of fair business practices and businesses must comply with legal responsibilities (Carroll, 2016). Ethical responsibilities appear as the third pillar once “business is expected to operate in an ethical fashion” (Carroll, 2016, p.3), which implies that organizations have the obligation of complying to what is right, just and fair; embracing activities, standards, norms and practices that are expected by society but do not have a legal emphasis (Carroll, 2016). Being ethical is “recognizing that business integrity and ethical behaviour go beyond mere compliance with laws and regulations (Carroll, 1991, p.41). Finally, Carroll (2016) adds a fourth responsibility that is more common than the other responsibilities in modern society, the philanthropic responsibility. “The business is expected to be a good corporate citizen, that is, to give back and to contribute financial, physical, and human resources to the communities of which that is part” (Carroll, 2016, p.3). The pyramid involves activities that are not mandatory, are not legal requirements, and are not ethical expectations. Also, the pyramid do not reflects an hierarchy that needs to be followed.

However, ethics is implicitly present in the economic, legal and philanthropic responsibilities. Ethics can help to determine future laws once it implies notions of correct behaviour or thinking (Carroll, 2016). It also motivates companies to thrive for doing what is right, potentially leading to philanthropic actions. Business economic operations take advantage in their businesses by engaging in ethical practices, activities, standards and norms (Carroll and Shabana, 2010) since this engagement can generate competitive advantage over competition, improve the company's reputation, and lead to win-win situations so long as they act accordingly towards society expectations (Kurucz. et al, 2008).

Contemplating all the five dimensions of CSR (Dahlsrud, 2008) and the four levels of responsibilities (Carroll, 2016), a complete definition of CSR must consider voluntary application; focus on assimilating the effects of the products and services delivered; take on board the various stakeholder groups and their expectations; consider the need to integrate social, environmental and economic responsibilities in everyday business decisions; be entrenched in business practices and companies’ system of values; and, its focus should be on operational considerations and go beyond philanthropic actions (Witkowska, 2016).

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2.2.2. CSR communication: the case of cause-related marketing

Companies embracing social responsibility are finding ways of communicating their sustainable actions to consumers. Cause-related marketing (CRM) is being used by many as a communication tool (Vrioni, 2001). CRM is defined “as the process of formulating and implementing marketing activities that are characterised by contributing a specific amount to a designated non-profit effort that, in turn, causes customers to engage in revenue providing exchanges” (Mullen, 1997). CRM can be defined “as the ability of the firm to communicate through advertising, packaging or promotions of their products and be socially responsible (through company affiliation or work) with the main goal of attracting consumers” (Vrioni, 2001, p. 215).

Consumers may or may not have confidence in CRM communication, which can depend on their level of knowledge regarding cause-related marketing or scepticism regarding company communications and actions (Vrioni, 2001). However, the fact that consumers are recently looking more often to companies who claim their involvement in social issues can raise consumer level of scepticism, that is, companies may join for a cause not because is interested in helping but because it may call out consumers interested in the cause. Consumers may perceive the reason behind the company joining the cause and increase their level of scepticism. Scepticism is defined as “doubt as to the truth of something” (Vrioni, 2001, p. 216) and can lead consumers to reject companies’ CRM communication, affecting the consumers’ purchasing behaviour (Roger, 1998). According to Ford (1990), the more sceptical a person is, the more this person will perceive the claim has low accuracy. Thus, consumers can display scepticism towards all type of claims such as companies claiming that their products are sustainable, even though these claims are easily verifiable, that is, it is easy to know if these claims are real or not (Ford, 1990). In a survey conducted by Webb and Mohr (1998), half of the respondents perceived the company’s motives to engage in CRM as “self-servicing”, that is, these respondents considered that companies do not exactly engage in CRM with the aim of being socially responsible but to gain more clients. Therefore, consumers can interpret CRM action, such as a sustainable packaging or advertising to sustainable products, as a company’s attempt to hide negative situations from them (Werbel & Wortman, 2000).

However, a survey conducted by Duncan, Moriarty and O’Sullivan (1997) has shown that, if price and quality are similar, consumers are more likely to switch to a brand with a cause-related marketing benefit. This is justified by the fact that consumers appreciate

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company's involvement in CRM activities, since the funds are being raised with a purpose. Companies supporting social causes can influence consumers' decision making (Barone et al, 2000). For example, consumers interested in a cause supported by a company will be interested to know more about that company and, therefore, if the consumer perceives that the company is really interest in helping the cause, the consumer may decide to start purchasing the company products. According to Duncan and Moriarty (1997), CRM can affect consumers' buying behaviours through the value-added to the brand, the more robust and positive relationships built between both internal and external stakeholders, and the ability to properly communicate the message companies want to transmit and the ability for the company to communicate a less ambiguous message, which makes it believable to consumers and induces less scepticism.

Mohr (1998, p. 218) defends that "scepticism can be decreased as knowledge increases", meaning that, when engaging in CRM activities, companies must consider the level of consumer knowledge and act accordingly. Knowledge has a negative effect on a person's scepticism level (Szyckman et al, 1997). This will lead to better behavioural responses regarding purchase actions. Therefore, "not only is it important for companies pursuing CRM to be genuine in their behaviour but they must also have a full understanding of consumers' knowledge of CRM and their level of scepticism before attempting this marketing technique" (Vrioni, 2001, p.208).

2.2. Consumer awareness concerning CSR

Awareness regarding companies CSR activities is not linear between consumers, (Bhattacharya and Sen, 2004), that is, consumers do not perceive CSR activities equally and this is because levels of awareness regarding CSR are different. For that reason, "large swaths of consumers do not seem to be aware that by and large most companies engage in CSR initiatives" (Bhattacharya and Sen, 2004). Merriam-Webster (1839, p. 1) defines awareness as "knowing, feeling, experiencing, or noticing a situation, condition, problem, sound, sensation, or emotion".

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2.2.1. Consumer Knowledge: An Overview

According to Sujan (1985), consumer knowledge significantly influences information processing. Consumers with knowledge on a subject can engage in more reasoning and analytical processing, than consumers with less (Sujan, 1985).

Knowledge is treated as a dimensional paradigm, being referred as product familiarity or prior knowledge (Pillar, 2005). Consumers are assumed to have some information or experience with a product. This depends on the purchase frequency (Bettman and Park 1980; Kiel and Layton 1981), formal training (Sujan 1985), and self-reported measures, measures in which consumers are asked to report directly on their own behaviours, beliefs, attitudes, or intentions (Johnson and Russo 1984). As mentioned, consumer knowledge has two major components: familiarity and prior knowledge or expertise. Familiarity is defined as the number of experiences with the same product that are being accumulated by the consumer. Expertise is the ability to perform product related tasks successfully. Prior knowledge is found to facilitate the acquisition of information as it increases search efficiency (Brucks, 1985). Expertise has five dimensions (Alba and Hutchinson, 1987):

- (a) Repetition: improves task performance, reducing the reasoning effort required to perform the task and sometimes with a probability of leading to automatic performance
- (b) Cognitive structure: becomes more refined, complete and veridical as familiarity increases
- (c) Analysis: the ability to analyze information increases with familiarity
- (d) Elaboration: the ability to generate accurate information increases with familiarity
- (e) Memory: the ability to remember the product information improves with familiarity

Consumer knowledge can be applied to product knowledge (Rao and Sieben, 1992) and environmental knowledge (Fryxell and Lo, 2003).

Rao and Sieben (1992, p. 259) define consumer product knowledge as “the amount of accurate information held in memory as self-perceptions of product knowledge”. Individuals with high product knowledge are found to have more and extensive general knowledge about product types – e.g. brands and models available in the markets and the characteristics of the different models. (Michell and Dacin, 1996).

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However, the definition of product knowledge can be separated between subjective and objective product knowledge. Subjective product knowledge is known as consumers' perception of how much they know while objective product knowledge refers to the amount, type, or organization of what an individual has stored in memory (Brucks, 1985).

Concerning environment knowledge, Fryxell and Lo (2003) state that it can be defined as the general knowledge of facts, concepts, and relationships considering the natural environment and its major ecosystems (Fryxell and Lo, 2003). According to Mostafa (2006), environmental knowledge and awareness contribute to environmental products purchase behaviour. Environmental and product knowledge can be related since consumers may purchase a product based on the knowledge they possess about the product and the environmental knowledge they have concerning the impact of the product on the environment. It can be separated between abstract and concrete knowledge. Abstract knowledge is a measure of the degree to which people believe they know about environmental issues, while concrete knowledge measures the hard knowledge about environment (Zhou, 2015). According to Hines, Hungerford and Tomera (2015), abstract environmental knowledge is found to be a strong predictor of people's environmental action.

Related with knowledge is information search, which is one of the literature streams in consumer research (Beatty and Smith, 1987). Information search can be distinguished between internal and external search. Internal search refers to the information usage stored in the consumer's memory, while external search refers to consumer information to be gathered from the outside world, because the information required was not previously acquired or is not stored in the memory (Beatty and Smith, 1987). The environment that affects the external search can be conditioned by the number of alternatives on product choice, for example (Schmidt and Spreng, 1996).

According to Schmidt and Spreng (1996), the information has different sources which can be classified as: marketing controlled, reseller information, third-party independent organizations, interpersonal sources or direct inspections. Consumer knowledge is the consequence/result of information search (Pillar, 2005).

Rizzi et al (2018), in his research, claims that lack of information about product sustainability can be a barrier to people selecting environmental-friendly products. This information is important and acts on consumers at a psychological level. According to Polonsky

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(2012), including “information as a factor in existing theoretical models can substantially help understanding consumer behaviour” (Polonsky, 2012, p.256).

Consumers of sustainable products are typically interested in obtaining information in a detailed way, meaning knowing production cycle, origin and environmental footprint (Oates et al, 2006). There is evidence that including quality and quantity information in labels, such as product certifications or the quantity of a certain commodity integration in the product, will improve the understanding of consumer behaviour in the act of purchase (Janssens, 2007). The information to be displayed on labels is often provided by manufacturers and reports, both mandatory information and discretionary information. Through words, pictures, symbols, diagrams and brand logos, the labels on products carry messages about a product, its production, distribution, consumption, and disposal. For instance, it can also be included information on the workers', local communities, suppliers and sub-contractors (Zadek et al, 1998). Labels are marketing tools to inform the consumers about the products (Testa et al, 2015). Labels can also be stated as social labels such as Fair Trade and child-labour-free labour labels “which communicate something about human aspects of the production processes to consumers” (Zadek et al, 1998). Evaluation of information on food labels can depend on several affects such as nutrition knowledge, preference for food naturalness, trust in actors in the food domain and affect (Asioli et al, 2017).

Although labels can influence consumer’s pro-environmental attitudes, consumers do not recognize the role of informative campaigns. Consumers look at labels depending on their level of environmental concern (Rizzi, 2018) since there are ingredients on products that such extraction per se from land (e.g. palm oil fruit extraction) can harm the environment and thus, consumers against the withdrawal will pay attention to product characteristics.

Consumer knowledge can have effects on consumers’ decision making. Involvement has some weight concerning consumer knowledge and consumer decision making. According to Zaichkowski (1985), involvement happens when people understand the importance of something that translates their desires and interests. Antil (1984) found that, although consumers do not show equal levels of involvement, there are some product categories that are perceived to be more highly involving than others (Hupfer and Gardner, 1971). There are several effects concerning high levels of involvement: time and effort spent in related activities, extensive decision making, higher perceived differences in product attributes, likelihood to establish brand preferences will create more involvement (Zaichkowski, 1985). Also, involved consumers tend to comprehend more information about products and have more elaborate

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meanings about products (Celsi and Olson, 1988). These consumers search more to judge relevant information (Pillar, 2005).

2.2.2. CSR and consumers trust: the case of fair-trade products

It has been argued that consumer intentions of buying a product from a company are impacted by its level of social responsibility (Castaldo et al, 2009). The consumer needs to believe that companies respect the ethical responsibility that they are obliged to. Consumers need to trust retailers (Castaldo et al, 2009). Trust is generally defined as “the trustor’s expectation that the trustee is willing to keep promises and to fulfil obligations (Castaldo et al, 2009). Trust is central to consumers intentions and subsequently to their attitudes. Accordingly, Page and Fearn (2005) note that when consumers perceive fairness and attribute a sense of fairness to companies, the greatest is the impact of the attribute of the sense of fairness by consumers on consumers’ attitudes towards companies.

Trust can also increase the intention to buy a product. This is directly related with the concept of brand loyalty (Oliver, 1999; Yoo and Donthu, 2001). Brand loyalty is defined as “the tendency to be loyal to a focal brand, which is demonstrated by the intention to buy the brand as a primary choice” (Oliver, 1999; Yoo and Donthu, 2001). Consumers’ trust in Fair Trade products is positively related with consumer loyalty to a brand and, therefore, its product. Once the consumers are loyal to the brand, they will continue to buy this brand’s products.

Castaldo (2009) calls attention to the relationship between trust and Fair Trade. Fair Trade is “a system of voluntary certification and labelling of products obtained according to a harmonized set of standards covering production and trade in a range of agricultural or other products. “The responsibility for applying these standards falls on importers buying the products from the original growers or producers” (Hira and Ferrie, 2006, p.4). The concept includes six standards, and according to Hira and Ferrie (2006) requires: 1 - “Fair Trade premium” for producers, 2 - social premiums for projects with the objective of developing funds, 3 - giving partial financial payments to producers, 4 - the producers’ obligation to participate in democratic cooperatives, 5 - long term contracts at low prices with producers, and 6 - sustainable environmental practices by producers. When companies engage in agreements with producers following the stated standards, they stand before the concept of Fair Trade. This concept can be extended to products, the “Fair Trade products”, which carry a “Fair Trade label”. Examples of Fair-Trade products can be bananas, coffee (EFTA, 2002) and palm oil

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(Fairtrade Foundation, 2018). These products are available in a variety of channels: Fair Trade shops, retail chains and even in online retailing. (EFTA, 2002).

The price for Fair Trade products is higher than the than the ones not considered so (Castaldo et al, 2009). This can lead consumers to not purchase or purchase less of these products: Gebben and Gitsham (2007) note that only 42% of people who endorse the Fair-Trade concept buy Fair Trade products. Another flaw is consumers' lack information towards the concept of Fair Trade (Castaldo et al, 2009). Consumers' trust in companies selling Fair Trade products depends in part on the level of information consumers have regarding the Fair Trade concept and "this trust will be nourished by information that consumers have about labelling organizations, by stories they read about farmers participating in the Fair Trade system, by endorsements by independent testimonials, and other considerations" (Castaldo et al, 2009, p.6).

When consumers have information towards the Fair-Trade concept and trust in Fair Trade products marketed by a retailer, their willingness to pay for a Fair Trade product is higher, since the consumers perceive that they will be helping producers in developing countries in Asia, Africa, and Latin America (Castaldo et al, 2009).

According to Castaldo (2009), consumers' trust will often depend on the reputation level of the retailers concerning Fair Trade products. This proposition is justified by the fact that "socially responsible companies are more transparent, because they typically subject themselves to increased disclosure" (Castaldo et al, 2009). These companies provide codes of conduct, ethical and social accounting and sustainability reports to inform the community. Therefore, consumers can monitor companies' actions, and that will in turn influence consumers' trust. Socially responsible companies should make consumers feel more confident regarding retailers undertaking their obligations (Castaldo et al, 2009).

2.2.3. Consumer responsiveness to CSR activities

Consumers are interested in the social behaviour of the firms, and this can even influence their purchase decisions (Castaldo et al, 2009). They look at both good (companies with a reputation for being socially responsible) and bad companies (that do not comply with their social responsibility). Regarding the good ones, consumers feel more attracted by their products and services, while concerning the bad ones, consumers will be more apt to boycott and punish them (Castaldo et al, 2009). However, consumers may not choose good companies

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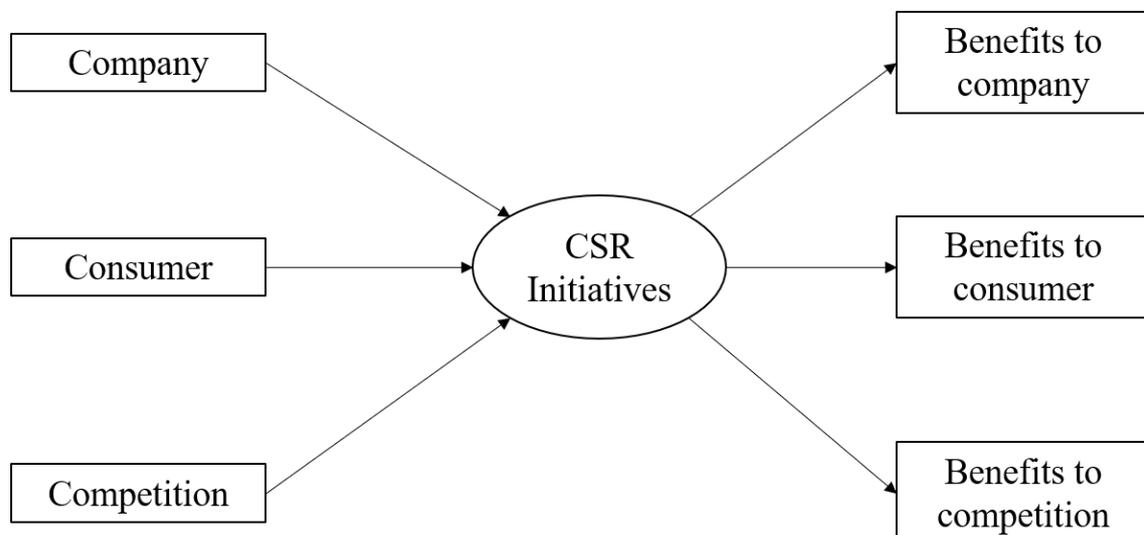
over bad companies when they have difficulties identifying which ones are complying with social behaviours, in which case they may end up not showing consistency in their purchase behaviours (Castaldo and Perrini, 2004).

CSR initiatives influence the creation of a positive relationship between companies and consumers, and this is reflected in some marketplace polls (Sen et al, 2006). In 2002, a marketplace poll conducted by Cone Communications found out that “84% of Americans say they would be likely to switch brands to one associated with a good cause, if price and quality are similar” (Cone Communications, 2002) and Hill & Knowlton interactive poll (2001) stated that “79% of Americans take corporate citizenship into account when deciding whether to buy a particular’s company product and 36% consider corporate citizenship an important factor when making purchasing decisions”. Though, it is important to highlight that companies start to notice that consumers do not translates what they say in actual behaviours (Carrington et al, 2010), a phenomenon known as an attitude-behaviour gap. Marketplace polls methods gathers self-reported behaviours and not actual observed behaviours, which is limited to understand the attitude-behaviour gap (Carrington et al, 2010).

Nevertheless, for consumers to be able to respond to CSR they must be aware of companies’ actions. The attributions, attitudes and purchase intentions are triggered by the consumer's awareness (Bhattacharya and Sen et al, 2004).

Bhattacharya and Sen (2004) in their study regarding the relationship between CSR actions consumers’ responsiveness, followed a contingent view of CSR, that is, one of the possible ways of looking at CSR:

Figure 3. A contingent view of CSR (Bhattacharya and Sen, 2004)



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According to Bhattacharya and Sen (2004), when companies understand consumers' reactions to CSR, they will be able to develop CSR initiatives in a business context. From these initiatives based on a previous analysis on company, consumer and competition, benefits will start to appear (as follows in the next sub-sections).

2.2.4. Consumers attributions and attitudes regarding CSR activities

Consumers' aware of CSR activities tends to buy the company's products and have positive attitudes towards the company's social responsibility which can lead to stronger intentions to behave accordingly (Sen et al, 2006). Consumers' intentions can be influenced by CSR activities either directly or indirectly. It is indirect when consumers have knowledge regarding the company and its associated socially responsible activities. Companies can also create socially responsible activities (such as communicating the environmental concern regarding the production of a given product) that will directly affect consumers and influence product attractiveness.

However, given the heterogeneity among consumers, it is difficult for companies to perceive what to include in their CSR initiatives, considering there is no linear method to please different consumers segments. CSR initiatives do not work equally for all consumers once consumers perceive differently and have different awareness regarding CSR (Bhattacharya and Sen et al, 2004). Moreover, internal outcomes such as awareness, attitudes and attributions by consumers regarding CSR initiatives impacts are easier to access and larger than external outcomes such word-of-mouth and purchase behaviour (Bhattacharya and Sen et al, 2004).

To gather the internal outcomes of consumers, companies must assure consumers are aware of CSR initiatives. Companies should see consumer awareness as a pre-requisite to attitudes and attribution building (Bhattacharya and Sen et al, 2004). According to Bhattacharya and Sen (2004, p.15), "consumers have a favourable attitude towards companies that engage in CSR". Attitude is defined as the "inner state of readiness to perform a task" (Cacioppo et al, 2004). When consumers access CSR information of a company and their evaluations of the company are positive, their attitude also tends to be more positive. A better relationship between the consumer and the company is intrinsically related with a company's good reputation, that is, a high fit between the company and the socially responsible cause the company is standing by, and the consumer's personal connection with that cause (Bhattacharya and Sen, 2004). Research shows that consumers' attitudes are enhanced when a company supports a specific

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cause (for example, American Express deliberately started a partnership with Share our Lights in 2013 with the purpose of ending childhood hunger in America). In these terms, consumers' reactions tend to be more positive when the company engages in a cause and also has a good reputation (Bhattacharya and Sen, 2004).

Regarding attributions, Bhattacharya and Sen (2004) claim that the higher consumers' awareness of a company participating in a CSR activity is, the higher and more favourable the attributions regarding these activities tend to be, and likely, the attitudes about the companies will also be positive as well. However, when a company belongs to a certain industry such as oil, tobacco and alcohol, the effect of CSR activities towards consumers' attributions is smaller and often cynical. For instance, companies in these stated industries tend to have lower reputations regarding the impacts they normally have on the environment (negative impacts) (Bhattacharya and Sen, 2004).

2.2.5. CSR activities and consumers' purchase intentions

In the Bhattacharya and Sen (2004) study, the authors discovered that the more supportive consumers were regarding CSR issues, the more positive the outcome would be, that is, the intentions to purchase. Consumers' support of companies' CSR actions depends on the level of product and service quality in these companies (Bhattacharya and Sen, 2004). If the company has a low level of product and service quality, consumers will depreciate its CSR actions. However, consumers' "beliefs, that is, that the company is engaged in CSR, are likely to be stronger when a company makes a "mediocre" product yet has an "excellent" CSR record" (Bhattacharya and Sen, 2004, p.18).

According to Mohr and Webb (2005), consumers tend to respond positively to CSR activities when they are willing to take more responsible purchase decisions and act more responsibly in their disposal behaviour. Therefore, for consumers to demonstrate the outcomes mentioned above, there is a certain number of conditions to be satisfied, such as the consumer supporting the company's CSR actions, a high fit between the company and the cause the company is prompt to engage in, the product quality and service, and the non-existence of a price premium purely because the company decided to engage in CSR efforts (Bhattacharya and Sen, 2004). If a company decides to act contradictorily to the last condition and raise the price premium only because CSR efforts are being made, sales may decrease as consumers are

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not particularly willing to pay more for products and services regarding CSR. Consumers end up penalizing companies if they perceive that CSR initiatives are resulting in higher price premiums for products and services (Bhattacharya and Sen, 2004).

Yet, the consumer support of a company's CSR activities is stronger when cause-related marketing is used as a communication tool. Consumers are more willing to pay a higher price premium such as when the “portion of the proceeds from the sales are slated to go towards the support of a certain issue or a non-profit/charity associated with it” (Bhattacharya and Sen, 2004, p.20).

A study conducted by Dawkins (2004) demonstrated that, in UK, 74% of the consumers responding signposted that the more the information they would possess regarding a company's social and ethical behaviour, the more it would influence their purchasing decisions. However, the study only was able to gather self-reported behaviours, which brings limitation to assume that consumer attitudes and intentions are actually translated into behaviours, appealing for the attitude-behaviour gap (Carrington et al, 2010).

2.2.6. CSR and the consumer: impact on purchase intentions

There are consumers that make decisions regarding the purchase of a product or service based on the level of environmental concern of the company they are intending to buy from (Grimmer et al, 2012). Consumers are adopting positive attitudes towards environmental issues, which is being accompanied by the willingness to gather more information and take it into consideration in their consumption decisions (Grimmer et al, 2012).

Still, there is evidence that even though consumers have knowledge regarding the impact of CSR on the environment, they tend to demonstrate positive attitudes towards it but have difficulties in turning these attitudes into actual behaviours, which demonstrates to be “contradictory and equivocal” (Auger et al, 2007). Evidence shows that consumers are into ethics and social issues but when it concerns to show a behaviour towards ethics and social issues, evidences are less visible (Carrington et al, 2010). According to Pomeroy and Dolnicar (2009), consumers do in fact show positive attitudes regarding the option to buy products from socially responsible companies, but these positive attitudes are not translated into an action such as buying the product (Pomeroy and Dolnicar, 2009).

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According to Grimmer (2012), consumers have a degree of environmental involvement, that is, the degree to which consumers consider the level of environmental performance of a company important. There is a difference between consumers with high levels of environmental involvement versus those with low levels. Consumers with high levels of involvement have a higher probability of having their purchase behaviours influenced by environmental concerns, that is, higher the involvement higher is the probability of consumers change their attitude (Grimmer et al, 2012).

These consumers with higher levels of environmental involvement are also those who are more likely to gather information regarding the level of company's environmental performance (Grimmer et al, 2012). However, consumers with low levels of environmental involvement will show lower purchase intentions towards companies with higher environmental performance and therefore, a low level of consistency between their attitudes and actual purchase behaviour (Grimmer et al, 2012). Regardless, these last consumers are less likely to gather information regarding a company's environmental performance (Grimmer et al, 2012).

Nevertheless, consumers may have positive attitudes beyond a company's environmental performance but not be willing to pay for the price premium of the products of these companies. Companies often increase the price of environmentally friendly products given the added value and only consumers who perceive this added value will be willing to demonstrate a behaviour consistent with their positive attitudes (Grimmer et al, 2012).

2.3. Impact of palm oil production on the environment

2.3.1. Overview

Palm oil is a vegetable oil that is a highly versatile food commodity. It can be used in cooking as well as an ingredient in processed foods (Oliveira et al, 2015). Also, it is considered an important raw material in the cosmetic and pharmaceutical industries. Currently, palm oil is mainly captured by the food industry (FAO, 2006). It is expected that its production will double by 2050 (FAO, 2006) and, in fact, Indonesia is planning to double its production by 2020 (Koh et al, 2010).

This commodity has an impact on the environment, the economy and the society, which are the three pillars of sustainable development (Yaakob, 2017). Regarding the environment,

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the conservation of natural resources has direct and indirect impacts on the economy and on human health. Services and goods are only provided when they are in condition of being consumed (Yaakob, 2017). Negative pressure on the ecosystem will reduce its health and subsequent service conditions. Palm oil negatively impacts the ecosystem and the environment (Yaakob, 2017). However, palm oil, for countries that produce massive quantities of food, is a “driving crop” (Yaakob, 2017). According to Yaakob (2017), nearly 35% of the total vegetable oil produced in the world is palm oil, and its demand is increasing as population grows. Also provoking an increase in palm oil demand, is the potential for biofuel feedstock that currently pressures production and exceeds what was initially predicted to be produced (Yaakob, 2017). Palm oil is a driver for the economy but has vastly negative environmental consequences that can put human health in danger.

Therefore, there is a relation between sustainability and palm oil. The sustainability of this industry is life-threatening. Plantations and expansion of palm oil are of great concern for environmentalists (Yaakob, 2017). According to Yaakob (2017), palm oil extraction follows a process: sterilization, stripping, digestion and pressing, clarification, purification, drying, and storage. This process can determine the quantity of oil that is in practice extracted, with the possibility of having either oil loss or increased oil production. As explained below, this can be harmful for the environment. However, palm oil, continues to have a major role in the global market for non-food related purposes (Trends in Biotechnology, 2016).

2.3.2. Palm oil and its impacts on the environment

The environment is a topic in everyone's minds these days. Concerns about recurrent food crises and the expansion of agricultural production to the forests are being discussed (Bitzer, 2011; Ericksen et al., 2009; Ingram et al., 2010). Several questions are being made considering the dynamics of palm oil industry.

The palm oil industry includes plantation and milling. This provokes deforestation, habitat loss, forest fragmentation, food chain disruption, soil property changes, biodiversity loss, water and air pollution, conversion of peatland and arable lands, and increases carbon dioxide carbon emission and forest fires. All these negative consequences can cause natural disasters (Yaakob, 2017). Palm oil mill effluents (POME) is the wastewater generated from palm oil milling activities and it requires effective treatment before discharge into watercourses,

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due to its highly polluting properties and the fact that it contains a large number of contaminating substrates that pollute land and water systems and release gas emissions.

However, according to Yaakob (2017), the main issue when it comes to the palm oil industry is deforestation. Tropical rainforests are being transformed into plantations and the higher rates of deforestation can be seen in Asia, mainly Malaysia and Indonesia. Plantations are causing biodiversity loss, air and water pollution from increased nitrogen and carbon emissions (Yaakob, 2017). Water quality is threatened due to the high rate of fertilizer application on plantations.

Thus, as mentioned, the most affected countries are Indonesia and Malaysia, home of the orangutans. Palm oil production is the main threat to the survival of orangutan populations and palm oil plantations are in a path of massive expansion in Borneo and Sumatra. As such, it is not only affecting the human health and increasing the probability of natural disasters, but also putting these animals in danger (BBC, 2019).

Efforts are being made to reduce the environmental impacts of palm oil. To certify the production of palm oil and try to reduce its production, a roundtable was created in 2004 called “Roundtable on Sustainable Palm oil”. The RSPO is more successful than other roundtables such as those for cotton and seafood, but in recent years it has been highly criticized for not having been able to change the industry at a fast-enough rate to halt deforestation (Linder et al, 2016). The primary foci of RSPO were national regulations regarding health and safety for consumers and coordinating production along the value chain (Linder et al, 2016).

Certification exists fundamentally for two reasons: consumers concerned with social and environmental issues will not buy a product that violates regulation, and socially responsible consumers are willing to pay more for a product that is certified (Linder et al, 2016). However, the results of certification on environmental issues are not clear, that is, is not known accurately known is consumers buys product that do not violates regulation (Linder et al, 2016).

2.3.3. Palm oil and CSR

According to Yaakob (2017), “best management practices significantly increase palm oil productivity” (Yaakob, 2017). Good management practices consider the environmental pillar (plantation and milling) and, as a consequence, reduce the pollution and pollutants, while intensifying ecological integrity (Yaakob, 2017). This includes “environmentally friendly milling, use of waste by-products and development of no-waste technology” and “finding

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alternative sources that can partially mitigate the palm oil demand and discovering suitable lands or justifying the allocation of lands by ecosystem service mapping (ESM) that can be used for plantation without further deforestation and environment hazard” (Yaakob, 2017).

To avoid negative consequences of palm oil production to the environment and activate good management in corporations, CSR efforts may serve as an insurance policy with an effort resulting in an agreement with suppliers of the product; that is, the corporation decides to pay more to a supplier that considers producing palm oil without harming the environment as much (Cooper et al, 2003).. Moreover, CSR efforts will add value to the company and help to secure its customers (Cooper et al, 2003). Companies do not want to have their brand associated with environmental and social abuse or be a possible target for damaging allegations. For these reasons, companies are starting to pay a premium to suppliers who comply with the standards of management given companies’ anxiety to protect their own reputations and not lose consumers trust (Cooper et al, 2003). As stated before, suppliers who comply with CSR tend to align their production with the concept of fair trade. In this context, suppliers in an agreement with a socially responsible company will provide Fair Trade products for a higher price, including a premium in exchange for the product that is Fair Trade (Castaldo et al, 2009). But firstly, companies must take the first step and inform consumers which products contain the commodity – palm oil (Cooper et al, 2003).

2.3.4. Palm oil and consumers

The amount of knowledge about a subject as palm oil industry and its impact may or may not affect consumer behaviour. In his study, Millet (2013) tries to understand if “consumers pay attention to the effects of the palm oil production and consumption on the environment, land use or health” and, if so, “do these effects impact their purchasing behaviours”. In his methodology, Millet (2013) introduced two products to consumers, milk rolls with palm oil and milk rolls free of palm oil and tested if the participants’ willingness to pay would be different after knowing that one of the products does not contain palm oil. Rounds were performed, where information about palm oil was shared. The results show that information tends to matter: round after round consumers were changing their willingness to pay, meaning that they would prefer to pay more for the palm oil free food; but not every consumer had internalized the palm oil free sticker, given their imperfect knowledge acquisition about the product (Millet et al, 2013).

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According to Millet (2013), after the exposure of consumers regarding the presence of palm oil on the product, the number of consumers with a willingness to pay dropping to zero when considering the palm oil product is much higher than those consumers considered indifferent. Considering these findings, public interventions should exist to enhance consumer information (Millet et al, 2013). Public intervention should be done intensively, as by way of a campaign to inform consumers on the palm issue and it should be assumed that consumers are imperfectly informed regarding the matter despite the “tick” in the product mentioning it is “palm oil free” (Millet et al, 2013).

The above findings notwithstanding, consumers still appear to prioritize information on issues other than palm oil (The Guardian, 2014). Even when sustainability is mentioned, the priority is still nutrition, provenance or packaging recycling. Consumers are not aware of the level of detail that is needed to become aware of the palm oil production, that is, they do not know that they need to search information how palm oil is produced (The Guardian, 2014).

Millet (2013) contemplates the consumers awareness and its impact on palm oil consumption but do not attempts to the company intervention and its socially responsible actions regarding palm oil production. So, should we be asking if both parties, consumers and firms, are putting effort into searching and sharing information on the subject? And if so, are Portuguese millennials searching for the information regarding companies’ CSR activities? And assuming that Portuguese millennials are aware of companies’ CSR activities, are their attitudes and purchase intentions affected?

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III. Methodology and Research Questions

This chapter presents the key research questions, as well as the methodology followed. It also contains an overview of the data collection methods, sample, measurement scales, and the procedures applied for data analysis.

3.1. Research questions and hypothesis

The current study is composed of an exploratory and descriptive study with the objective of obtaining an overview of consumers' knowledge and intentions regarding the presence of palm oil in products. The need for such an exploratory study is bound with the scarcity of research on this topic particularly in the Portuguese context. Another objective of this study is to see if information availability can influence consumers' intentions and attitudes regarding the purchase of products with palm oil.

There is an interest in analysing consumers' awareness regarding palm oil production by corporations and its impacts to the environment, and purchase intentions regarding products containing palm oil. This interest surge because is important to understand if consumers aware of the negative impacts of palm oil production to the environment changes consumers attitudes and intentions, that is, if they change their attitudes and intentions to buy a product that contains palm oil. Thus, is of concern to verify if consumers have awareness regarding the negative impacts of palm oil production to the environment, and whether they are aware of the existence of palm oil as an ingredient in a series of products. The first and second research questions aim to gauge the consumer' awareness regarding palm oil as an ingredient and its impact on the environment. Consumers first need to be aware of what palm oil is and where this ingredient can be found to then take decisions, that is, to buy the product that contains palm oil or not. As such, the first research question is defined as:

RQ1: Are consumers aware of what product categories contain palm oil?

The aim of this research is also to investigate whether consumers are aware of the environmental consequences caused by the production of palm oil. For consumers to be aware of these consequences, they must have information regarding the topic. Consumers need to

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acquire information and use that information (Beatty and Smith, 1987). The lack of information about product sustainability can be a barrier for the public when selecting environmental-friendly products (Rizzi, 2018). As such, the second research question is defined as follows:

RQ2: Are consumers aware of the environmental consequences of palm oil?

It is important to investigate if consumers gather information from corporations. Companies provide various sources of information to consumers. Often, this information is provided by manufacturers, most times on products' labels (Zadek et al, 1998). Depending on the issue the consumers are interested in knowing about (for instance, the environment) they may look at labels on products (Rizzi, 2018) or other sources of information. The third research question is defined as follows:

RQ3: Do consumers acquire CSR information about the companies they purchase from?

As mentioned in the literature review, consumers still prioritize information on issues other than palm oil (The Guardian, 2014). When consumers hear about sustainability, they consider first packaging and recycling, nutrition or provenance (Mullen, 1997). On the other hand, for companies to make consumers prioritize information regarding palm oil, they would have to use their communication tools, using methods such as cause-related marketing to engage the consumers (Mullen, 1997). It is of interest to analyze whether consumers acquire companies' social responsibility information regarding palm oil before making decisions when making their purchases. Therefore, the fourth research question is as follows:

RQ4: Do consumers acquire CSR information regarding palm oil before making purchases?

Is important to understand whether consumer attitudes and decision-making regarding purchase intentions changes when they are informed that palm oil production can harm the environment. According to Millet (2013), in his study which aimed to test if consumer willingness to pay for milk rolls would be different after getting information that the product contains palm oil, information does matter. For consumers informed on what palm oil is and its effects on the environment, the willingness to pay dropped to zero for the product with palm oil (Millet, 2013). The purpose of the analysis is also to comprehend whether consumer attitudes and purchase behaviour change when information is acquired, and whether consumers are

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aware of the consequences that the production of palm oil can have on the environment, since it will demonstrate if consumers are interested in contributing for a better environment. Thus, the fifth research question is the following:

RQ5: Do consumers' attitudes and purchase behaviour change when they are informed and aware of the environmental consequences of palm oil production?

Following the last research question, to test whether consumer attitudes and behaviours change when informed on the environmental consequences of palm oil production, five hypotheses were formulated. As shown in the literature (Millet, 2013), it seems consumers exposure to information changes their attitudes and behaviours. In the present study, it is aimed to observe if exposure to information changes their attitudes and behaviours regarding the consumption of palm oil. As such, it is expected that:

H1a: Exposure to information regarding environmental consequences of palm oil production increases consumers' willingness to reduce their consumption of products containing palm oil.

H2b: Exposure to information regarding environmental consequences of palm oil production increases perceived importance of information search regarding palm oil.

H3c: Exposing consumers to information regarding environmental consequences of palm oil increases the perceived importance of verifying if products have palm oil.

H4d: Consumers exposed to information regarding environmental consequences of palm oil production, when facing two products with the same quality and similar prices, will prefer the one without palm oil.

H5e: Consumers exposed to information regarding environmental consequences of palm oil production have higher levels of willingness to pay for a product without palm oil.

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3.2. Data collection

The data collection process followed a two-part study application in a questionnaire. The first part aimed to gather information from the participants regarding awareness of palm oil, the products that contain it, its environmental consequences, as well as on their search for information regarding CSR. In the second part, an experiment was conducted. Information regarding environmental impacts of palm oil production was provided to consumers to test whether or not their attitudes and stated intentions would change. For this purpose, a within subjects (repeated measures) experiment was carried out. In this experiment design, each participant was exposed to two handlings being tested. As long as there is independence between the two parameters, estimations can be obtained investigating participants' behaviour changes when the conditions change in the experiment (Charness et al, 2012).

Regarding the two handlings being tested, the handlings were separated in time and by an experimental treatment. This question contained five statements where participants would have to demonstrate their level of agreement with each statement on a scale of 1 to 5, where 1 = completely disagree and 5 = completely agree.

Thus, the same questions were separated by one condition. The first question was presented without any information regarding the environmental consequences of palm oil and the second question presented after participants were provided with information. Also, the questions had fillers in between, these fillers were questions.

The aim of the experiment analysis in the questionnaire is to know if responses are different before and after exposure to information regarding the negative environmental consequences of palm oil production.

The questionnaire was applied online. Questionnaires are prevalent over other approaches since they permit the collection of a high amount of data when targeting a sizeable population.

The software used for the data collection was Qualtrics. This tool allowed the development of the questionnaire as well as the application online.

Before the questionnaire application, a pre-test with 4 people was conducted to ensure the questions were clear and scale well applicable. Feedback was received and necessary adjustments were made accordingly. After the adjustment of the questionnaire having been done, it was disseminated throughout the network of personal contacts through the social media

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platforms Facebook, LinkedIn, Instagram and Twitter. The choice of disseminating the questionnaire through personal contacts is due to that not having any costs associated and the higher speed in gathering more responses. However, it has disadvantages such as biased data, unverified information provided (that is not possible to know if the participant answering the questionnaire is saying the truth).

The questionnaire was available online for two weeks and a half, from August 2nd to August 18th, 2019. The questionnaire was presented as a study on palm oil.

3.2.1. Target population and sample

The target population is the population of individuals that this study is aimed for, which means, the population to be described. The target population of this study is Portuguese consumers of products, in general, that goes shopping and belongs to the Millennial generation or, as it is also named, the generation Y.

In the current study, a total of 220 responses to the questionnaire were collected.

3.2.2. Questionnaire structure and measures scales applied

As noted in section 3.1., the questionnaire aimed to gather information from the participants regarding their awareness of palm oil and environmental consequences of its production, as well regarding their search for information about palm oil in product labels and other sources of information. A repeated measures experiment was likewise performed.

In the experimental study, the aim was to perceive if providing more information to the target population would change their responses. The experiment followed a one way within-subjects design. The questionnaire was composed of 6 sections:

1. The goal of the first section was to understand if the target population was familiar with palm oil and in which kind of products was palm oil present (RQ1). First, they were asked if they had heard about palm oil and if so, how much they thought they knew about palm oil with an adapted measure from Cerri (2018) and Magnuss (2002). This was measured on a five-point Likert type scale, from 1 – completely disagree to 5 – completely agree. We were also

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interested to know if consumers know in which kinds of products palm oil is likely to be present as well as their awareness of the negative consequences of palm production on the environment, and whether they would be willing to pay more for a product not containing palm oil (see Table 2, question 5). This last question was repeated in the last section for the experimental study. Likert and binary scales were also adapted from Cerri (2018) and Magnuss (2002).

2. In the second section, the aim was to understand consumers' awareness of the negative environmental consequences of palm oil production and whether they were able to identify some of its specific environmental consequences. The scale was used from J. Cerri (2018) and Magnuss (2002).

3. The objective of the third section was to perceive consumers' information acquisition of companies' labels. For this purpose, it was asked how frequently the target population read labels from the products they used to buy to understand if consumers would give any importance to information on labels.

4. The objective of the fourth section is similar to the third section, with the detail of palm oil. The main goal is to understand if consumers would acquire information regarding the existence of palm oil on products through labels.

5. Therefore, a manipulation was conducted in section five. The main goal was to analyze consumer attitudes and behaviours after being made aware of the negative consequences of palm oil production on the environment.

It has been suggested that consumers' behaviour is impacted by showing information in products to consumers regarding the absence or non-absence of palm oil, and results showed that, in fact, information results in a significant influence willingness to pay, in specific when the negative impact of palm oil is exposed (Millet, 2013).

As such, an experimental study was carried out to test if the participants would change their behaviour when informed of the environmental consequences that can be caused due to palm oil's production. The test worked in the following way: two equal questions were presented in the study to all participants, but one provided before the information of the negative consequences of palm oil production to the environment and the other question provided it afterwards.

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All the participants were assigned to both questions and presented with the excerpt: “The production of palm oil involves planting and grinding. This process provokes deforestation, loss of natural habitats, forest fragmentation, disruption of the food chain, changes in land ownership, lost biodiversity, air and water pollution, conversion of peat and arable land, increases emission of carbon dioxide, and forest fires. All these consequences can eventually cause natural disasters.”.

Participants were asked for their agreement in a five-point Likert type scale (from 1 – completely disagree to 5 – completely agree) with five statements:

1. I am willing to reduce my consumption regarding products containing palm oil.
2. I consider it important to search for information regarding palm oil and products containing it.
3. I consider it important to verify if the products I buy have palm oil.
4. When I am facing two products with the same quality and similar prices, I will prefer to buy the one without palm oil.

I am willing to pay more for a product without palm oil.

6. The sixth and final section relied on a demographic characterization regarding target population gender, age, qualifications, income and residence.

Table 2 summarizes research questions and the respective questions used in the questionnaire to give answer to them, as well as their source.

Table 2 – Summary of research questions, source scales and objectives

Research Questions	Questionnaire items	Source	Measurement scale	Aim
1) Are consumers aware of what product categories contain palm oil?	1. Have you heard about palm oil?	Cerri et al, 2018 (question adapted)	Binary (yes, no)	To know if consumers have heard about palm oil

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1) Are consumers aware of what product categories contain palm oil?	2. In your opinion, how much do you know about palm oil?	Cerri et al, 2018 (scale adapted) Magnusson et al, 2002 (question adapted)	Likert type (1 to 5, where 1 = I know almost nothing about palm oil and 5 = I know a lot about palm oil)	Consumer awareness regarding palm oil
1) Are consumers aware of what product categories contain palm oil?	3. Are you aware if the products you buy contain palm oil?	Cerri et al, 2018 (adapted)	Yes, no, I do not know	Consumer awareness regarding if the products they buy have palm oil
1) Are consumers aware of what products categories contain palm oil?	4. Indicate your level of agreement with the following statements, from 1 – Strongly disagree to 5 – Strongly agree: <i>1. Palm oil is present in almost all categories of food and hygiene products.</i> <i>2. Companies clearly inform consumers about the presence of palm oil in their products through labels and their websites.</i> <i>3. Companies should clearly inform consumers about the presence of palm oil in their products through labels and their websites.</i>	Cerri et al, 2018 (scale adapted) Magnusson et al, 2002 (question adapted)	Likert type (1 to 5)	Consumer awareness regarding palm oil presence and use by socially responsible companies

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<p>1) Are consumers aware of what product categories contain palm oil?</p>	<p>5. Indicate your level of agreement with the following statements, from 1 – Strongly disagree to 5 – Strongly agree:</p> <p><i>1. I am willing to reduce my consumption of products containing palm oil.</i></p> <p><i>2. I consider it is important to search for information regarding palm oil and products containing it.</i></p> <p><i>3. I consider it important to verify if the products I buy have palm oil.</i></p> <p><i>4. When faced with two products with the same quality and similar prices, I will prefer to buy the one without palm oil.</i></p> <p><i>5. I am willing to pay more for a product without palm oil.</i></p>	<p>J. Cerri et al, 2018 (adapted) Magnuss on et al, 2002 (adapted)</p>	<p>Likert type (1 to 5)</p>	<p>Consumer attitudes and behaviours before being aware of palm oil production's negative consequences to the environment</p>
<p>1) Are consumers aware of what product categories contain palm oil?</p>	<p>6. Palm oil is a frequent ingredient in a variety of products. Of the products below, which ones do you think typically contain palm oil?</p> <p><i>1. Chocolate; 2. Facial cream; 3. Laundry detergent; 4. Biodiesel; 5. Packaged bread</i></p>	<p>J. Cerri et al, 2018 (adapted)</p>	<p>Binary</p>	<p>Consumer awareness regarding products that contain palm oil</p>

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3) Do consumers acquire CSR information in general? (more on the environmental perspective)	7. How often do you typically read product labels before purchasing them?	J. Cerri et al, 2018 (adapted)	Likert type (1 to 5)	Consumers information acquisition of companies' labels
4) Do consumers acquire CSR information regarding palm oil before making purchases?	8. How often do you typically read product labels to know if they contain palm oil before purchasing them?	J. Cerri et al, 2018 (adapted)	Likert type (1 to 5)	Consumers information acquisition regarding the existence of palm oil on products through labels
2) Are consumers aware of the environmental consequences of palm oil?	9. To what extent are aware are you of the negative consequences of palm oil's production?	J. Cerri et al, 2018 (adapted)	Likert type	Consumers awareness of negative impact of palm oil's production to the environment
2) Are consumers aware of the environmental consequences of palm oil?	10. Please indicate, from the following environmental consequences palm oil, the ones you have heard about before: <i>1. Palm oil production leads to deforestation. 2. Palm oil production can contribute to the destruction of animals' natural habitats. 3. Palm oil is an ingredient the production of which can contribute to the increase of CO2 levels. 4. Palm oil production</i>	J. Cerri et al, 2018 (adapted)	Likert type	Consumer awareness regarding palm oil production's environmental consequences

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	<i>has a negative impact on the environment.</i>			
3) Do consumers acquire CSR information in general? (more on the environmental perspective)	<p>11. To what extent do you agree with the following statements? (from 1 – Strongly disagree to 5 – Strongly agree):</p> <p><i>1. I would pay more for the product of a company that cares about the environment.</i></p> <p><i>2. I consider the environmental and ethical reputation of a company when I go shopping.</i></p> <p><i>3. I avoid buying products from companies that do not have environmental concerns.</i></p> <p><i>4. I would pay more for the product of a company that shows interest in taking care of the environment.</i></p> <p><i>5. Faced with two products of similar price and quality, I would buy the product of the company with the reputation of having a greater concern with the environment.</i></p>	J. Cerri et al, 2018 (adapted)	Likert type (1 to 5)	Consumer awareness regarding the environmental side of socially responsible companies

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<p>5) Do consumers' attitudes and purchase behaviour change when they are informed and aware of the environmental consequences of palm oil's production?</p>	<p>Please read carefully the following excerpt about palm oil production.</p> <p><i>The production of palm oil involves planting and grinding. This process provokes deforestation, loss of natural habitats, forest fragmentation, disruption of the food chain, changes in land ownership, lost biodiversity, air and water pollution, conversion of peat and arable land, increases emission of carbon dioxide, and forest fires. All these consequences can eventually cause natural disasters.</i></p> <p>12. To what extent do you agree with the following statements: (from 1 – Strongly disagree to 5 – Strongly agree):</p> <p><i>1. I am willing to reduce my consumption of products containing palm oil.</i></p> <p><i>2. I consider it is important to search for information regarding palm oil and products containing it.</i></p> <p><i>3. I consider it important to verify if</i></p>	<p>J. Cerri et al, 2018 (adapted)</p> <p>Magnusson et al, 2002 (adapted)</p>	<p>Likert type (1 to 5)</p>	<p>Consumer attitudes and behaviours after being aware of palm oil production's negative consequences to the environment</p>
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	<p><i>the products I buy have palm oil.</i></p> <p><i>4. When faced with two products with the same quality and similar prices, I will prefer to buy the one without palm oil.</i></p> <p><i>5. I am willing to pay more for a product without palm oil.</i></p>			
Sample characteristics	Gender: male; female; other	J. Cerri et al, 2018 (adapted)	Binary	Demography
	Age			
	Qualifications: 1. basic education, 2. secondary education, 3. bachelor, 4. Master's degree, 5. PhD, 6. other			
	Income: 1. less than 600euro; 2. Between 601 and 1000; 3. Between 1001 and 1500; 4. Between 1501 and 2000; 5. More than 2000			
Residence: Norte, Centro, Grande Lisboa, Alentejo, Algarve, R. A. Azores, R. A. Madeira				

Table 3 – Summary of hypotheses, questions used in repeated measures and source scales

Hypotheses	Questionnaire	Adapted Scale	Measurement scale
H1: Consumers exposed to information regarding environmental consequences of palm oil production have higher levels of willingness to reduce their consumption regarding products containing palm oil.	To what extent do you agree with the following statements: <i>- I am willing to reduce my consumption regarding products containing palm oil.</i>	J. Cerri et al, 2018 (adapted)	Likert type (from 1 – Strongly disagree to 5 – Strongly agree)
H2: Consumers exposed to information regarding environmental consequences of palm oil production consider more important to search for information regarding palm oil and products containing it.	To what extent do you agree with the following statements: (from 1 – Strongly disagree to 5 – Strongly agree): <i>- I consider it important to search for information regarding palm oil and products containing it.</i>	J. Cerri et al, 2018 (adapted)	Likert type (from 1 – Strongly disagree to 5 – Strongly agree)
H3: Consumers exposed to information regarding environmental consequences of palm oil production consider more important to verify if the products they buy have palm oil.	To what extent do you agree with the following statements: <i>- I consider it important to verify if the products I buy have palm oil.</i>	J. Cerri et al, 2018 (adapted)	Likert type (from 1 – Strongly disagree to 5 – Strongly agree)
H4: Consumers exposed to information regarding environmental consequences of palm oil production when facing two products with the same quality and similar prices, will prefer to even more buy the one without palm oil.	To what extent do you agree with the following statements: <i>- When I am facing two products with the same quality and similar prices, I will prefer to buy the one without palm oil.</i>	J. Cerri et al, 2018 (adapted)	Likert type (from 1 – Strongly disagree to 5 – Strongly agree)

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H5: Consumers exposed to information regarding environmental consequences of palm oil production have higher levels of willingness to pay more for a product without palm oil.	To what extent do you agree with the following statements: <i>- I am willing to pay more for a product without palm oil.</i>	J. Cerri et al, 2018 (adapted)	Likert type (from 1 – Strongly disagree to 5 – Strongly agree)
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IV. Results

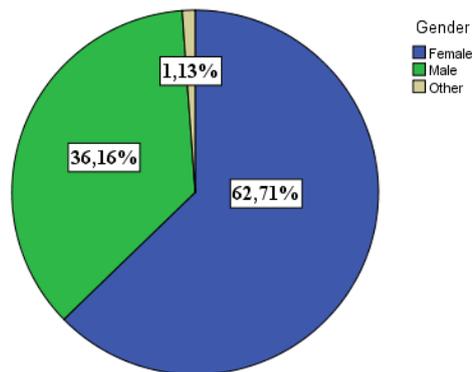
In this section the results from the questionnaire are analyzed. To analyze the data and gather the results, the software used was SPSS.

The study had the participation of 220 individuals. These participants were mainly from Greater Lisbon with ages between 18 and 35.

4.1. Demographic characterization

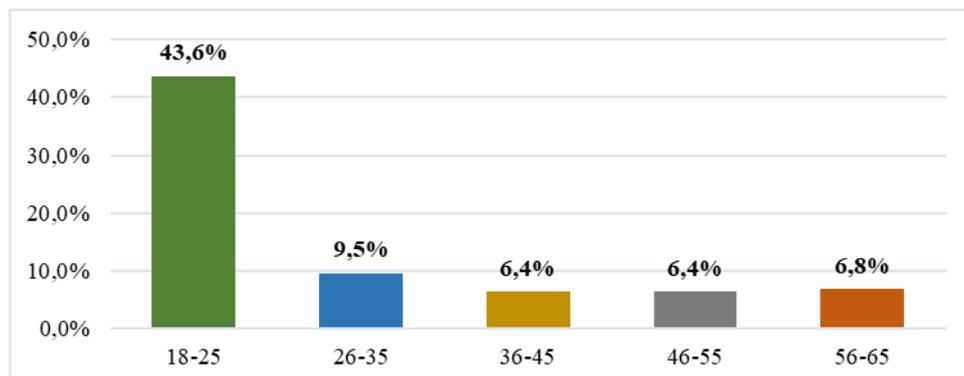
Of the 220 participants, 62,71% were female, 36,16% male and 1,13% did not identified as female or male (Figure 4).

Figure 4 – Gender of the participants



The age of the participants in the sample was predominantly young. 160 of the participants answered their age. Over 40% of participants were under 26 years old (Figure 5).

Figure 5 – Age of the participants

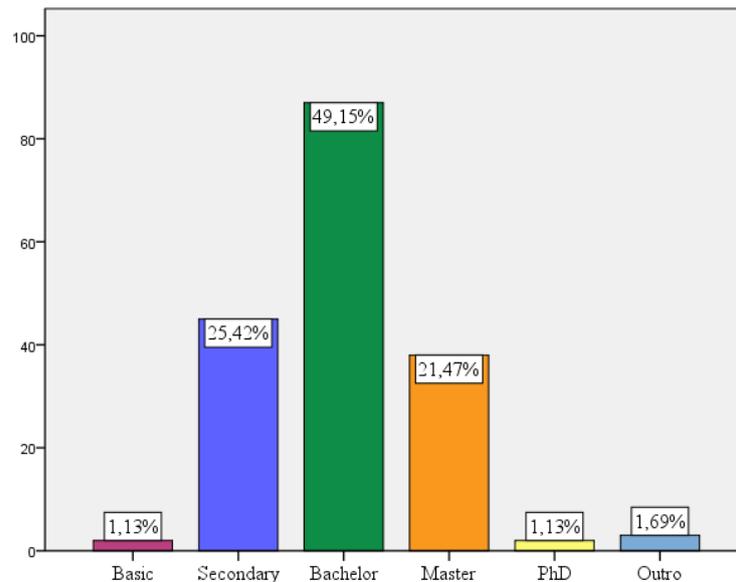


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The ages of the participants are consistent with the objective of analyzing Portuguese millennials, who were born between 1985 and 1999 (Harris et al, 2012).

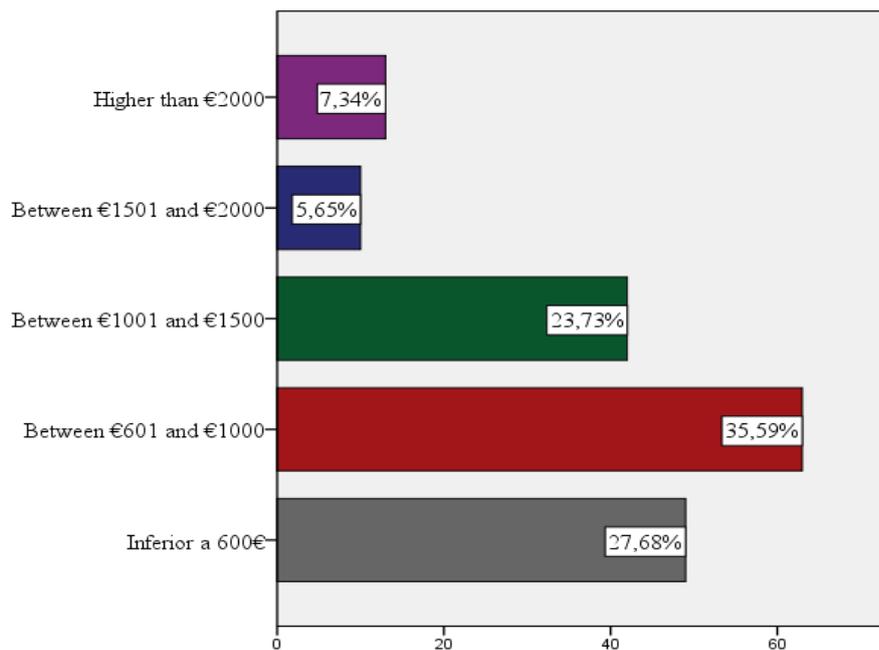
When considering the educational background (Figure 6), the majority of the participants has a bachelor's degree (49,15%), a secondary degree (25,42%) or a master's degree (21,47%).

Figure 6 – Educational background of the participants



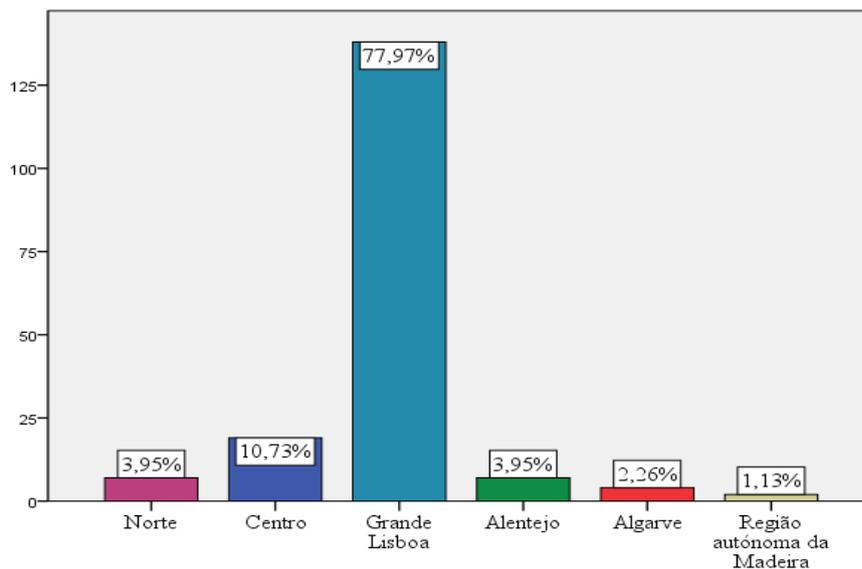
Regarding the income of the respondents (Figure 7), more than 35% of the participants stated they earn between €600 and €1000 per month and almost 28% indicated they earn less than €600 (the minimum wage in Portugal).

Figure 7 – Monthly income of the participants



Regarding the residence of the participants, more than 70% residence is located in the area of Greater Lisbon, as shown in Figure 8.

Figure 8 – Area of residence of the participants

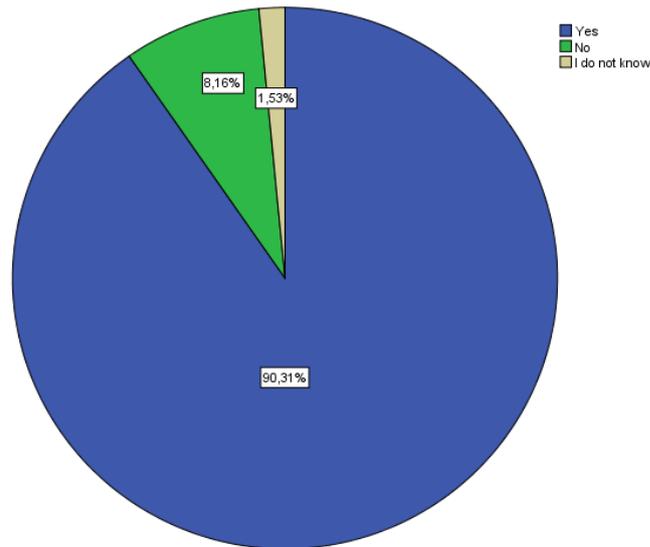


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4.2. Consumer awareness of palm oil

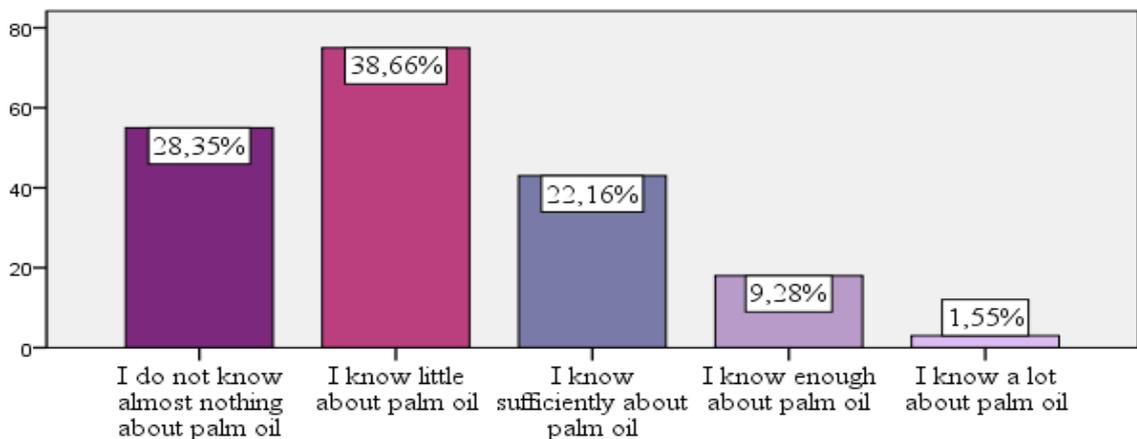
We wanted to know whether consumers know what palm oil is. For our surprise, more than 90% knows what palm oil is and 8,16% do not know what palm oil is (Figure 9).

Figure 9 – Consumer knowledge of palm oil



Also, to know how much they think they know about it. Consumers were presented with a Likert scale from 1 – I know almost nothing about palm oil to 5 – I know a lot about palm oil. Most participants (almost 40%) felt they “know little about what palm oil is” and only 1,55% of the participants claimed to know a lot about palm oil (Figure 10).

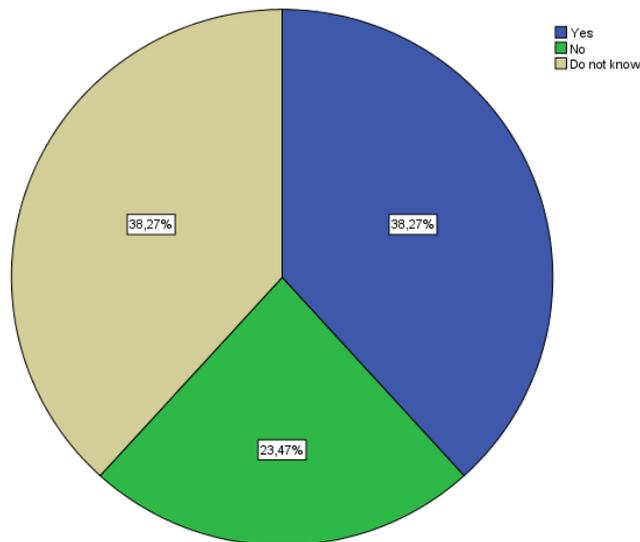
Figure 10 – Level of knowledge about palm oil



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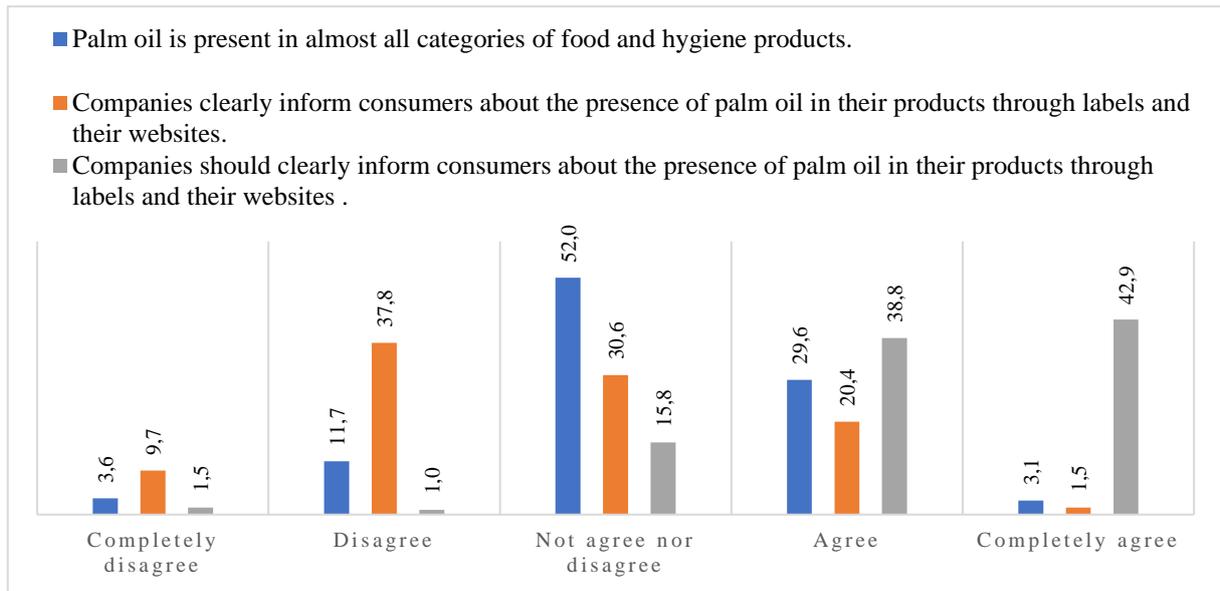
It was of interest to understand if consumers do buy products than contains palm oil. Almost 24% of the participants claim that they do not buy products than contains vestiges of palm oil what may indicate that these consumers may look for information on the product regarding the presence of palm oil (Figure 11). For other hand, more than 38% says that do buy products with palm oil and therefore, this must indicate that they look and knows these products have palm oil. The difference between the consumers buying and not buying products with palm oil may be acknowledged by the fact that consumers not buying may be aware of the negative consequences the production of palm oil brings to the environment and there is a chance of the participants saying yes being aware however their intentions and attitudes are not translated into actually behaviours.

Figure 11 – Consumer purchase habits of products with palm oil



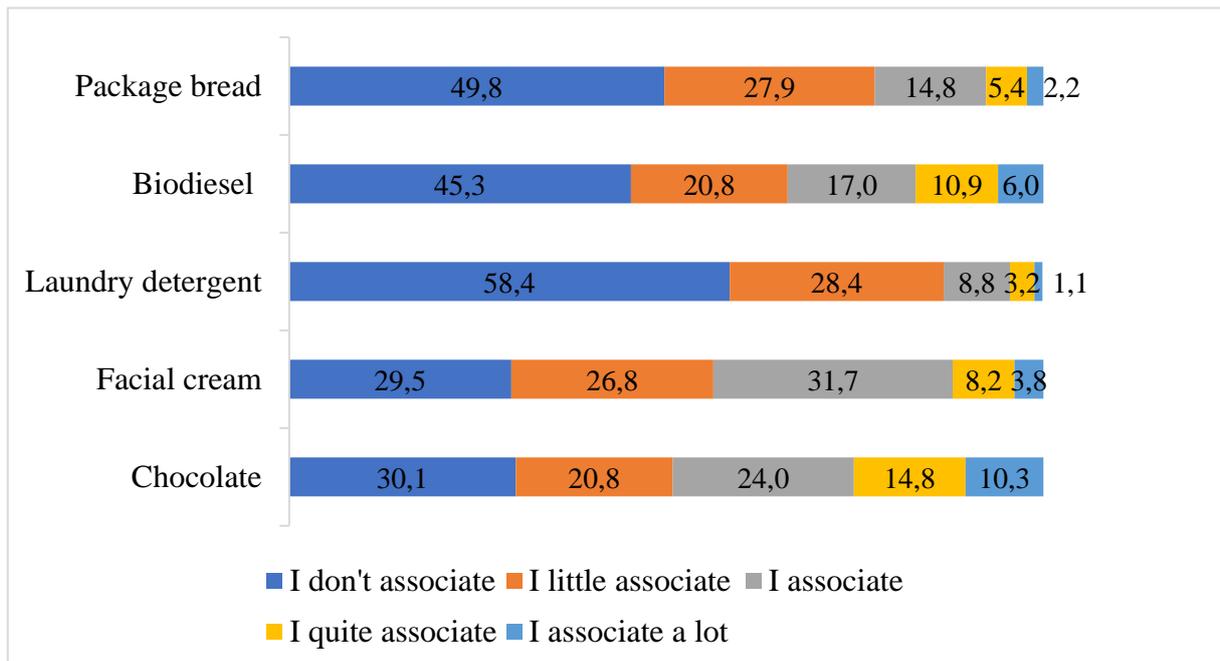
Looking at participants answers, more than 50% do not agree or disagree that palm oil is present in almost categories of food and hygiene suggesting that they are not informed about the presence of palm oil in these products (Figure 12). Thus, the majority of the participants, almost 50%, disagree and completely disagree that companies clearly informs about having vestiges of palm oil in their products and more than 80% agree and completely agree that companies should clearly inform about it.

Figure 12 – Companies information regarding palm oil in their products



It was of relevance to attempt participants and ask them to associate certain products with palm oil. Participants were asked to associate products such as package bread, biodiesel, laundry detergent, facial cream and chocolate to palm oil since that all of these products have vestiges of palm oil. For all products, the majority of participants do not associate palm oil to the products (Figure 13).

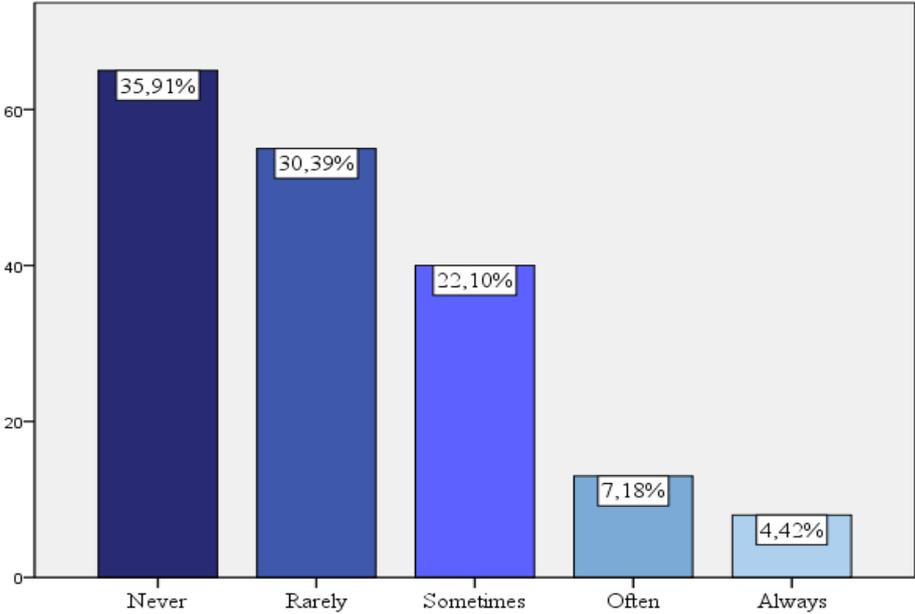
Figure 13 – Association of products with the presence of palm oil



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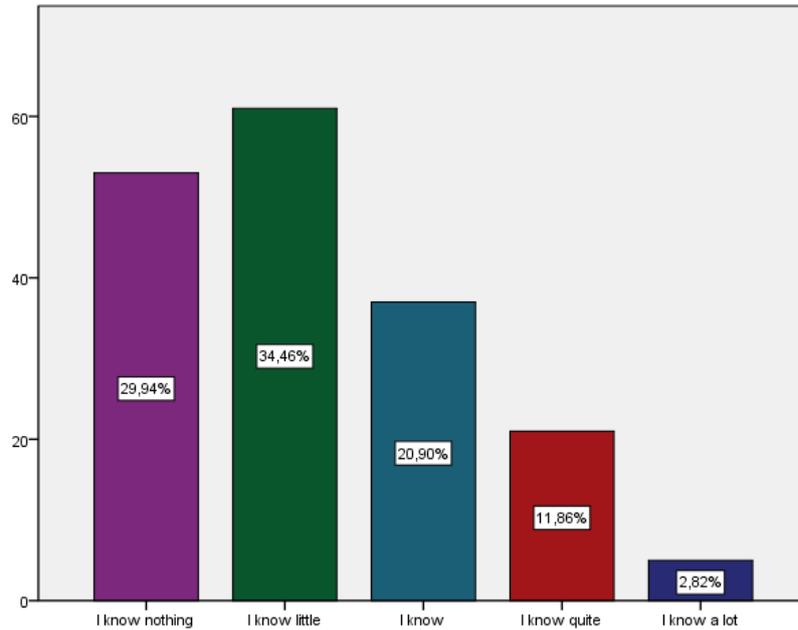
In addition, the interest was also to perceive whether consumers search for information, particularly in labels, regarding the presence of palm oil presence in products. More than 35% of the participants indicated that they never searched for that type of information in labels and almost 31% rarely search for it (Figure 14). This means that more than 65% have little interest in searching for information on labels, what will reduce participants awareness of the existence of palm oil on products.

Figure 14 – Consumers’ search for information regarding palm oil on product labels



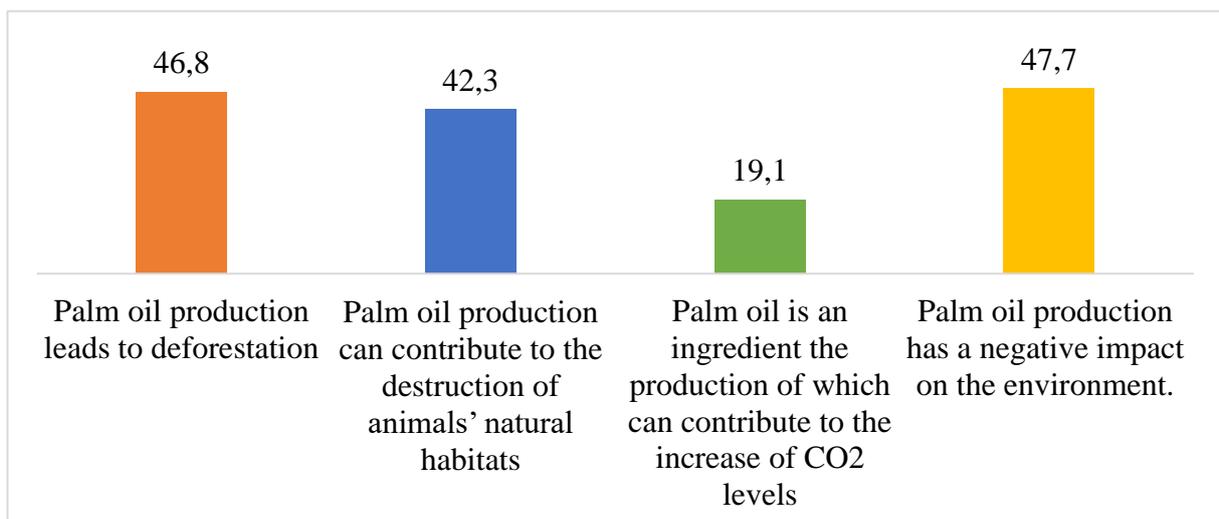
Participants were asked if they how well they know the impacts of palm oil production to the environment. Almost 30% claims that they do not know anything about the subject and almost 35% knows little about the topic (Figure 15). This might significate that consumers do not have knowledge on palm oil production topic and such, the impacts the palm oil production has to the environment.

Figure 15 – Consumer knowledge of the environmental impacts of palm oil production



Participants were asked if they associate some negative impact on the environment with the production of palm oil. Less than 50% of the participants knows that palm oil production has negative effects on the environment and only 19% knows that palm oil production contributes to the increase of CO₂ levels in the environment which translates in a little awareness on this topic (Figure 16).

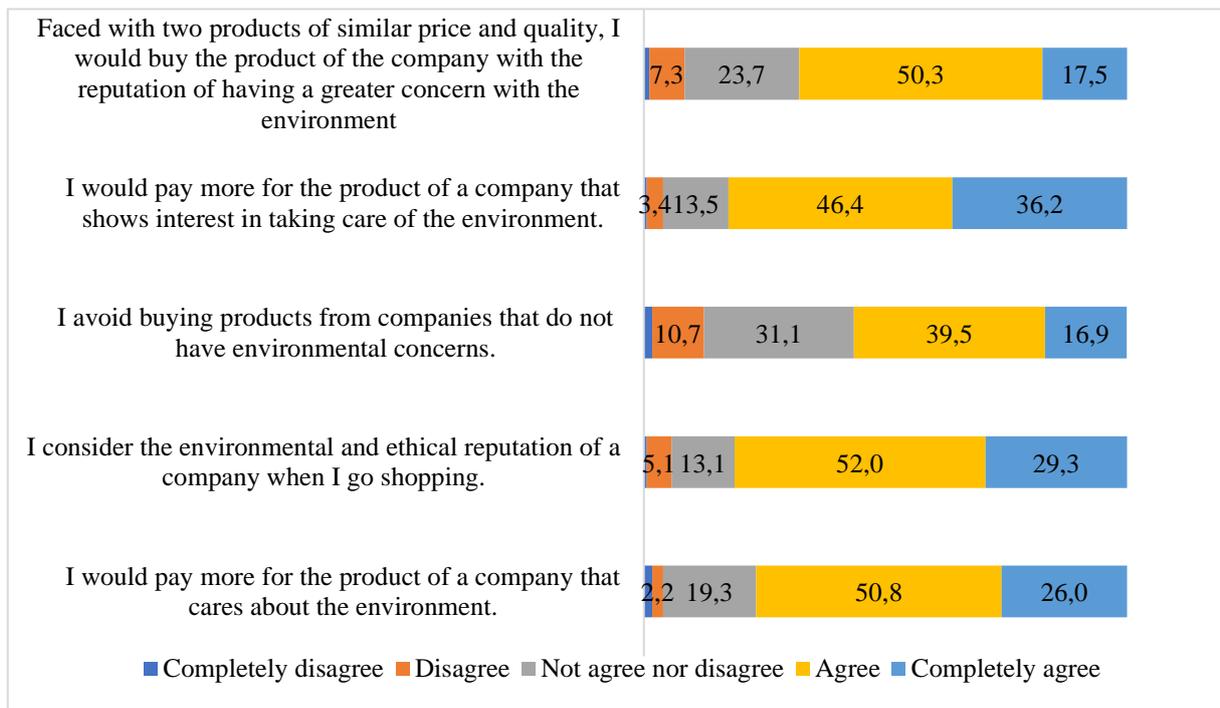
Figure 16 – Palm oil production consequences to the environment



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Lastly, participants were asked to read five statements and answer their level of agreement with the statements. The question assertions were constructed to perceive if consumers have intentions and attitudes to change their behaviours concerning the consumption of products from companies preoccupied with the environment. For the majority of participants, more than 50%, agree in changing their behaviour, for example, pay more for a product from a company that cares about environmental issues or even consider environmental and ethical reputation of company when buying the company products (Figure 17). However, the reported levels of agreement by the participants are not translated into actual behaviours due to the limitations of this study.

Figure 17 – Consumers intentions and attitudes on buying from companies involved in CSR



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4.3. Impact of information

For the five statements present equally in both questions, five hypotheses were formulated.

It is of interest to perceive the impact of information regarding palm oil on consumers. Subsequently, considering consumers exposure to information regarding environmental consequences of palm oil production results show that consumers, after being informed of the environmental consequences of palm oil production, have higher levels of willingness to reduce their consumption of products containing palm oil ($M_{\text{bef}} = 3,70$; $M_{\text{after}} = 4,21$; $F = 60,781$; sig-value = $0,000 < 0,005$, with $p \leq 0,005$). The manipulation results were reliable (Cronbach's Alpha = $0,916$) and significant since it provided changed intentions, confirming the hypothesis H1 (Table 4).

Table 4 – Within-subjects test result for the first manipulation (H1A)

Multivariate Tests^a

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
H1A Pillai's Trace	,274	60,871 ^b	1,000	161,000	,000	,274
Wilks' Lambda	,726	60,871^b	1,000	161,000	,000	,274
Hotelling's Trace	,378	60,871 ^b	1,000	161,000	,000	,274
Roy's Largest Root	,378	60,871 ^b	1,000	161,000	,000	,274

a. Design: Intercept

Within Subjects Design: H1A

b. Exact statistic

Thus, results show that consumers after being exposed to information regarding the environmental consequences of palm oil's production, consider more important to search for information regarding palm oil and products containing palm oil ($M_{\text{bef}} = 3,99$; $M_{\text{after}} = 4,23$; $F = 15,882$; sig-value = $0,000 < 0,005$, with $p \leq 0,005$). The results are significantly reliable (Cronbach's Alpha = $0,916$) and the manipulation results were significant since it provided intentions, confirming the hypothesis H2 (Table 5).

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Table 5 – Within-subjects test result for the second manipulation (H2B)

Multivariate Tests^a

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
H2B Pillai's Trace	,090	15,882 ^b	1,000	161,000	,000	,090
Wilks' Lambda	,910	15,882^b	1,000	161,000	,000	,090
Hotelling's Trace	,099	15,882 ^b	1,000	161,000	,000	,090
Roy's Largest Root	,099	15,882 ^b	1,000	161,000	,000	,090

a. Design: Intercept

Within Subjects Design: H2B

b. Exact statistic

It is important to understand if consumers after being aware of the possibility of almost every product having palm oil, if they will start look at these products' information. Giving this, results show that consumers, after being exposed to information regarding the environmental consequences of palm oil's production, consider it more important to verify if the products they buy have palm oil. ($M_{bef} = 3,89$; $M_{after} = 4,14$; $F = 161,000$; sig-value = $0,000 < 0,005$, with $p \leq 0,005$). The manipulation, again, is reliable (Cronbach Alpha = $0,961$) and the results were significant since it provided intentions, confirming the hypothesis H3 (Table 6).

Table 6 – Within-subjects test result for the third manipulation (H3C)

Multivariate Tests^a

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
H3C Pillai's Trace	,109	19,742 ^b	1,000	161,000	,000	,109
Wilks' Lambda	,891	19,742^b	1,000	161,000	,000	,109
Hotelling's Trace	,123	19,742 ^b	1,000	161,000	,000	,109
Roy's Largest Root	,123	19,742 ^b	1,000	161,000	,000	,109

a. Design: Intercept

Within Subjects Design: H3C

b. Exact statistic

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To understand consumer choices after being aware of the negative consequences of palm production to the environment, it is of interest to perceive if when faced with two similar products except the existence of palm oil in one of them, consumers would prefer to buy the product not containing vestiges of palm oil. Thus, results show that consumers, after being exposed to information regarding the environmental consequences of palm oil's production, when facing two products with the same quality and similar prices, will prefer even more to buy the one without palm oil. ($M_{\text{bef}} = 3,78$; $M_{\text{after}} = 4,30$; $F = 161,000$; sig-value = $0,000 < 0,005$, with $p \leq 0,005$). Similarly, to the results of the previous manipulations, there is existence of reliability between the items (Cronbach Alpha = 0,961) and results were significant since it provided intentions, confirming the hypothesis H4 (Table 7).

Table 7 – Within-subjects test result for the fourth manipulation (H4D)

Multivariate Tests^a

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
H4D Pillai's Trace	,239	50,652 ^b	1,000	161,000	,000	,239
Wilks' Lambda	,761	50,652^b	1,000	161,000	,000	,239
Hotelling's Trace	,315	50,652 ^b	1,000	161,000	,000	,239
Roy's Largest Root	,315	50,652 ^b	1,000	161,000	,000	,239

a. Design: Intercept

Within Subjects Design: H4D

b. Exact statistic

Lastly, it is of attention to verify If consumers would pay more for a product without palm oil. Results show that consumers, after being exposed to information regarding the environmental consequences of palm oil's production, have higher levels of willingness to pay more for a product without palm oil. ($M_{\text{bef}} = 3,33$; $M_{\text{after}} = 3,77$; $F = 161,000$; sig-value = $0,000 < 0,005$, with $p \leq 0,005$). The manipulation results were reliable (Cronbach Alpha = 0,961) significant since it provided changed intentions, confirming the hypothesis H5 (Table 8).

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Table 8 – Within-subjects test result for the fifth manipulation (H5E)

Multivariate Tests^a

Effect	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
H5E Pillai's Trace	,191	38,118 ^b	1,000	161,000	,000	,191
Wilks' Lambda	,809	38,118^b	1,000	161,000	,000	,191
Hotelling's Trace	,237	38,118 ^b	1,000	161,000	,000	,191
Roy's Largest Root	,237	38,118 ^b	1,000	161,000	,000	,191

a. Design: Intercept

Within Subjects Design: H5E

b. Exact statistic

The discussed results showed that information have impact on consumers. From the analysis, it is perceived change in intentions and there is an interest from the participants to change their behaviours after being informed with what is palm oil, where palm oil exists and how it can contribute to a negative impact in the environment. Thus, results are consistent with some authors studies, as discussed in next chapter, and confirms the hypothesis of the present study.

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V. Discussion

The results show that most consumers have heard about palm oil before. However, consumers feel that they know little or almost nothing about the product. Another result is that most consumers do not know if the products they buy have palm oil in them. This result is consistent with the fact that consumers do not read product labels to know if there is existence of palm oil in them. Also, most consumers report that they are not aware of the environmental consequences of palm oil's production.

Consumers state that when making their purchase decision they typically look at products' labels; however, they also state that in doing so they do not look for information regarding the existence of palm oil. This may be due to the fact that they are not aware of how palm oil's produced. This is consistent with Rizzi's (2018) statement that consumers look at labels depending on their level of environmental concern.

Our results show that consumers agree that companies should clearly inform them about the presence of palm oil in their products. One way of informing consumers of CSR activities is with marketing tools, by demonstrating that there is certified palm oil in their products, that is, palm oil produced under the limits of environmental damage Sen (2006). And, as shown by Sen (2006), consumers aware of CSR activities have more positive attitudes towards the company's social responsibility and stronger intentions to behave accordingly, that is, to buy the company's products, and. This is consistent with Auger's (2017) studies, stating that there is evidence that consumers with knowledge regarding the impact of CSR on the environment tend to demonstrate positive attitudes.

Interestingly, although consumers know little about palm oil (almost 70%), they agree that they are willing to reduce their consumption of products with palm oil. And if consumers had to pay more for a product without palm oil, most of them would do so. Results demonstrate that consumers' level of agreement concerning buying products from socially responsible companies is higher, that is, consumers that prefers to buy products from company more socially responsible. Consumers are willing to pay more for a product without palm oil, since products without palm oil are products whose production is likely to be less harmful for the environment. This is consistent with what Bhattacharya and Sen (2004) state, when companies

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are shown to be engaged in CSR activities, it results in consumers paying a higher additional premium for the company's products.

The results also show that informing consumers of the environmental consequences of palm oil production significantly affects their attitudes and intentions. Consumers indicate a greater willingness to reduce their consumption of products with palm oil and to pay more for products without palm oil after being informed of its effect on the environment. After the conducted manipulation, participants also show more agreement in considering it important to search information regarding palm oil, and that companies should provide this information often. Consumers do, in fact, show positive attitudes regarding the option of buying products from socially responsible companies, but these positive attitudes "are not transferred in actual purchase behaviour" (Pomeroy and Dolnicar, 2009) and a deep gap exists between the extent to which a positive environmental attitude manifests through consumer buyer behaviour (Grimmer et al, 2012). This means, although the results were interesting, there is a need to have some caution when doing interpretations, since it cannot be translated in actual behaviours.

Overall the results seem to suggest that if consumers were more aware of how the environment is harmed by the production of palm oil, they would be more careful with their buying, and would search for information regarding the presence of palm oil. As shown in the results and the literature, the consumers being informed is translated in positive attitudes. However, a gap still exists when looking at their buying patterns. Positive attitudes may not be translated in behaviour and the study carried out was not able to show this effect. To show evidence of this gap, practical studies must be carried out.

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VI. Conclusions, Limitations and Suggestions for Future Research

CSR initiatives attract consumers interested in companies social responsibility which can be translated into benefits for both companies and consumers (Bhattacharya and Sen (2004), that is, if the company engaging in CSR considers that consumers will buy more from their products if they have CSR activities going on, companies will embrace social responsibility more. However, consumers must be aware of companies' CSR engagement. As mentioned in the literature, consumers aware of CSR activities have higher intentions, show positive attitudes and behaviours accordingly (Sen et al, 2006).

For consumers to be aware of companies' CSR engagement, companies must know how to properly communicate said engagement. Companies need to use marketing tools such as cause-related marketing (CRM). CSR efforts, such as CRM implementation, can result in consumers being willing to pay more for products from companies engaged in said activities (Bhattacharya and Sen (2004). CRM may be achieved through packaging or labelling. However, scepticism from consumers can result in distrust in this type of communication, and the resulting behaviour will not be what is expected by the company (Werbel & Wortman, 2000).

Consumers decide to engage and have higher levels of purchase behaviour depending on their level of concern on the subject or, as Grimmer (2012) states, consumers make decisions depending on their level of environmental concern. Consumers with higher levels of environmental concern will look to be more informed and therefore demonstrate positive attitudes when companies are engaged in CSR activities relating to the environment. As such, companies engaging in CSR activities, such as fair trade of products, will draw the attention of consumers concerned with the environmental and social impact of their purchases.

Palm oil production can result in severe harm to the environment. Companies engaged in CSR will make efforts to reduce palm oil production negative environmental consequences and engage in fair trade. Companies will pay a higher price for socially responsible suppliers (Castaldo et al, 2009). These suppliers are generally certified, and their method of producing is less negative (e.g.: deforestation is reduced) and does not harm the environment as much.

Concerning consumers, literature shows that they still prioritize information on issues other than palm oil (The Guardian, 2014). Consumers are not aware of the level of information they need about palm oil and thus, the level of information they have about the subject is limited

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(Millet, 2013). In this same study, Millet concludes that information matters and consumers do, in fact, change their behaviour when informed of details regarding palm oil production's negative consequences to the environment.

The study conducted in this research shows us that information is important and that it can, in fact, change consumers' attitudes and behaviour. Consumers, after being exposed to information about palm oil's production and what consequences it can have on the environment, are willing to make more considerate decisions in their purchasing. However, as in any research, the study came with limitations. It was not possible to tap into actual consumer behaviours. Although consumers may demonstrate positive intentions and attitudes, as shown in the literature, this may not be translated into real behaviours. Also, what may contribute for this gap is the fact that in the present study was used a convenience sample and measures were self-reported.

It would be of interest to see if in consumers' behaviours are affected by information gathering, and if the existence of CSR efforts by companies has a clear effect on their behaviours as well.

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VII. Bibliography

Auger, P., Devinnes, P., Louviere, J. (2003). What will consumers pay for social product features? *Journal of Business Ethics*, 42

Ben & Jerry's Corporate Social Responsibility. (2019). Retrieved 13 August 2019, from <https://bjsocialresponsibility.weebly.com/>

Bhattacharya, C. & Sen, S. (2003). Consumer company identification: A framework for understanding consumers' relationship with companies. *Journal of Marketing*, 67

Bhattacharya, C. & Sen, S. (2004). Doing Better at Doing Good: When, Why, and How Consumers Respond to Corporate Social Initiatives. *California Management Review*, 47

Brønn, P. S., & Vrioni, A. B. (2001). Corporate social responsibility and cause-related marketing: an overview. *International journal of Advertising*, 20(2), 207-222.

Bucic, T., Harris, J., & Arli, D. (2012). Ethical consumers among the millennials: A cross-national study. *Journal of Business Ethics*, 110(1), 113-131.

Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2010). Why ethical consumers don't walk their talk: Towards a framework for understanding the gap between the ethical purchase intentions and actual buying behaviour of ethically minded consumers. *Journal of business ethics*, 97(1), 139-158.

Carroll, A. B., (2016). Carroll's pyramid of CSR: Taking another look. *International Journal of Corporate Responsibility*, 1

Carroll, A. B., (1999). Corporate Social Responsibility – Evolution of a Definitional Construct. *Business & Society*, 38

Castaldo, S., Perrini, F., Misani, N., & Tencati, A. (2009). The missing link between corporate social responsibility and consumer trust: The case of fair trade products. *Journal of business ethics*, 84(1), 1-15.

Cerri, J., Testa, F., & Rizzi, F. (2018). The more I care, the less I will listen to you: How information, environmental concern and ethical production influence consumers'

Consumers and palm oil: how much do they know and does it matter how much they know?

attitudes and the purchasing of sustainable products. *Journal of Cleaner Production*, 175, 343-353.

Charness, G., Gneezy, U., & Kuhn, M. A. (2012). Experimental methods: Between-subject and within-subject design. *Journal of Economic Behavior & Organization*, 81(1), 1-8.

Conrads, J., & Lotz, S. (2015). The effect of communication channels on dishonest behavior. *Journal of Behavioral and Experimental Economics*, 58, 88-93.

Cox, J. C. (2010). Some issues of methods, theories, and experimental designs. *Journal of economic behavior & organization*, 73(1), 24.

Dahlsrud, A. (2006). How Corporate Social Responsibility is Defined: An Analysis of 37 Definitions. *Corporate Social Responsibility and Environmental Management*

Disdier, A. C., Marette, S., & Millet, G. (2013). Are consumers concerned about palm oil? Evidence from a lab experiment. *Food Policy*, 43, 180-189.

Georgeta, G. (2008). A general framework of corporate social responsibility. *Annals of the University of Oradea, Economic Science Series*, 17(2), 666-669.

Grimmer, M., Kilburn, A. P., & Miles, M. P. (2016). The effect of purchase situation on realized pro-environmental consumer behavior. *Journal of Business Research*, 69(5), 1582-1586.

Lange, D., & Pfarrer, M. D. (2017). Editors' comments: Sense and structure—The core building blocks of an AMR article.

Maignan, I. (2001). Consumers' perceptions of corporate responsibilities: a cross-cultural Comparison. *Journal of Business Ethics*, 3

Mohr, L., Webb, D., Harris, K. (2001). Do Consumers Expect Companies to be Socially Responsible? The Impact of Corporate Social Responsibility on Buying Behavior. *The journal of consumer affairs*, 35

Mullen, J. (1997). Performance-based corporate philanthropy: How "giving smart" can further corporate goals. *Public Relations Quarterly*, 42(2), 42.

Consumers and palm oil: how much do they know and does it matter how much they know?

Oberseder, M., Schlegelmilch, B. & Gruber, V. (2011). "Why don't consumers care about CSR?": A qualitative study exploring the role of CSR in consumption decisions. *Journal of Business Ethics*, 104

Oosterveer, P. (2015). Promoting sustainable palm oil: viewed from a global networks and flows perspective. *Journal of Cleaner Production*, 107, 146-153.

Polonsky, M. J., Vocino, A., Grau, S. L., Garma, R., & Ferdous, A. S. (2012). The impact of general and carbon-related environmental knowledge on attitudes and behaviour of US consumers. *Journal of Marketing Management*, 28(3-4), 238-263.

Pomeroy, A. & Dolnicar, S. (2009). Assessing the prerequisite of successful CSR implementation: are consumers aware of CSR activities? *Journal of Business Ethics*, 85

Rao, A. R., & Sieben, W. A. (1992). The effect of prior knowledge on price acceptability and the type of information examined. *Journal of consumer research*, 19(2), 256-270.

Swaen, V., & Vanhamme, J. (2004). See How 'Good' We Are: The Dangers of Using Corporate Social Activities in Communication Campaigns. *Journal of consumer research*, 31

Thornhill, A., Saunders, M., & Lewis, P. (2009). *Research methods for business students*. Prentice Hall: London.

To save the rainforest we need to work with the palm oil industry. (2019). Retrieved 13 August 2019, from <https://www.theguardian.com/education/2019/jan/15/to-save-the-rainforest-we-need-to-work-with-the-palm-oil-industry>

What is sustainable palm oil? (2019). Retrieved 13 August 2019, from <https://www.bbc.co.uk/news/science-environment-49553703>

Zadek, S., Lingayah, S., & Forstater, M. (1998). *Social labels: Tools for ethical trade*. London: New Economics Foundation.

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of consumer research*, 12(3), 341-352.

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2. Na sua opinião, quanto sabe sobre o óleo de palma, de 1 – não sei quase nada sobre o óleo de palma a 5 – sei muito sobre o óleo de palma:

- 1 - Não sei nada ou quase nada sobre o óleo de palma 2 - Sei pouco sobre o óleo de palma 3 - Sei o suficiente sobre o óleo de palma 4 - Sei bastante sobre o óleo de palma 5 - Sei muito sobre o óleo de palma

3. Sabe se habitualmente compra produtos com óleo de palma?

- Sim
 Não
 Não sei

4. Indique o seu nível de concordância com cada uma das seguintes afirmações, de 1 - discordo completamente a 5 - concordo completamente:

	1 - Discordo completamente	2 - Discordo	3 - Não discordo nem concordo	4 - Concordo	5 - Concordo completamente
O óleo de palma está presente em quase todas as categorias de produtos alimentares e de higiene.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As empresas informam de forma clara os consumidores sobre a presença de óleo de palma nos seus produtos através de rótulos e dos seus sites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	1 - Discordo completamente	2 - Discordo	3 - Não discordo nem concordo	4 - Concordo	5 - Concordo completamente
As empresas deviam informar de forma clara os consumidores sobre a presença de óleo de palma nos seus produtos através de rótulos e dos seus sites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Segundo bloco

5. Indique o seu nível de concordância com cada uma das seguintes afirmações, de 1 - discordo completamente a 5 - concordo completamente:

	1 - Discordo completamente	2 - Discordo	3 - Não concordo nem discordo	4 - Concordo	5 - Concordo completamente
Estou disposto a reduzir o meu consumo de produtos com óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero importante procurar informação sobre o óleo de palma e os produtos que o contêm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero importante verificar se os produtos que compro contêm óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Perante dois produtos com qualidade e preço semelhantes, prefiro comprar o que não tem óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estou disposto a pagar mais por um produto que não contém óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Ingredientes

6. O óleo de palma é um ingrediente frequente numa variedade de produtos. Dos produtos abaixo, o quanto associa cada um ao óleo de palma?

	Não associo nada ao óleo de palma	Associo pouco ao óleo de palma	Associo ao óleo de palma	Associo bastante ao óleo de palma	Associo muito ao óleo de palma
Chocolate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creme facial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Detergente de roupa	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Biodiesel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pão empacotado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Rótulos

7. Com que frequência lê os rótulos dos produtos que consome antes de os comprar?

- Nunca Raramente Às vezes Muitas vezes Sempre

8. Com que frequência lê os rótulos dos produtos que consome para saber se contém óleo de palma, antes de os comprar?

- Nunca Raramente Às vezes Muitas vezes Sempre

Impactos

9. Quão bem conhece os impactos ambientais da produção de óleo de palma?

- Não sei nada sobre os impactos ambientais do óleo de palma
- Sou pouco conhecedor/a dos impactos ambientais do óleo de palma
- Sou conhecedor/a dos impactos ambientais do óleo de palma
- Sou bastante conhecedor/a dos impactos ambientais do óleo de palma
- Sou muito conhecedor/a dos impactos ambientais do óleo de palma

10. Por favor assinale, das consequências ambientais do óleo de palma apresentadas abaixo, aquelas de que já ouviu falar:

- A produção de óleo de palma contribui para a deflorestação.
- A produção de óleo de palma contribui para a destruição dos habitats naturais de alguns animais.
- A produção de óleo de palma contribui para o aumento dos níveis de emissão de CO₂.
- A produção de óleo de palma tem um impacto negativo no ambiente.

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11. Indique o seu nível de concordância com cada uma das seguintes afirmações, de 1 - discordo completamente a 5 - concordo completamente:

	1 - Discordo completamente	2 - Discordo	3 - Não discordo nem concordo	4 - Concordo	5 - Concordo completamente
Eu pagaria mais pelo produto de uma empresa que se preocupa com o ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu prefiro comprar a empresas com uma boa reputação no que toca a ações ambientais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu evito comprar produtos de empresas que não se preocupam com o ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando a relação preço/qualidade entre dois produtos é semelhante, eu escolho aquele que aparenta ser mais amigo do ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero ativamente o impacto que a produção dos produtos de meu consumo têm no ambiente.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Demografia

Género

- Feminino
- Masculino
- Outro

Idade

Habilitações

- Ensino básico

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- Ensino secundário
- Licenciatura
- Mestrado
- Doutoramento
- Outro

Rendimentos

- Inferior a 600€
- Entre 601€ e 1000€
- Entre 1001€ e 1500€
- Entre 1501€ e 2000€
- Superior a 2000€

Residência

- Norte
- Centro
- Grande Lisboa
- Alentejo
- Algarve
- Região autónoma da Madeira
- Região autónoma dos Açores

Texto informativo

Por favor leia atentamente o texto que segue sobre a produção de óleo de palma:

A produção de óleo de palma envolve a cultivoação e a moagem. Este processo provoca desflorestação, perda de habitats naturais, fragmentação florestal, perturbação da cadeia alimentar, mudanças nas propriedades da terra, perda de biodiversidade, poluição do ar e da água, conversão de turfa e terras aráveis, aumento da emissão de dióxido de carbono e incêndios florestais. Todas estas consequências podem eventualmente causar desastres naturais.

Questão final

12. Indique o seu nível de concordância com cada uma das seguintes afirmações, de 1 - discordo completamente a 5 - concordo completamente:

	1 - Discordo completamente	2 - Discordo	3 - Não discordo nem concordo	4 - Concordo	5 - Concordo completamente
Estou disposto a reduzir o meu consumo de produtos com óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero importante procurar informação sobre o óleo de palma e os produtos que o contêm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Considero importante verificar se os produtos que compro contêm óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	1 - Discordo completamente	2 - Discordo	3 - Não discordo nem concordo	4 - Concordo	5 - Concordo completamente
Perante dois produtos com qualidade e preço semelhantes, prefiro comprar o que não tem óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Eu pagaria mais por um produto que não contém óleo de palma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Questão aberta

13. Na sua opinião, qual acha que é o propósito do presente estudo?

Annex 2 – Descriptive statistics of the first hypothesis testing

Descriptive Statistics

	Mean	Std. Deviation	N
5.a.	3,70	,959	162
12.a.	4,21	,726	162

Annex 3 – Descriptive statistics of the second hypothesis testing

Descriptive Statistics

	Mean	Std. Deviation	N
5.b.	3,99	,863	162
12.b.	4,23	,674	162

Annex 4 – Descriptive statistics of the third hypothesis testing

Descriptive Statistics

	Mean	Std. Deviation	N
5.c.	3,89	,885	162
12.c.	4,14	,763	162

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Annex 5 – Descriptive statistics of the fourth hypothesis testing

Descriptive Statistics

	Mean	Std. Deviation	N
5.d.	3,78	,989	162
12.d.	4,30	,723	162

Annex 6 – Descriptive statistics of the fifth hypothesis testing

Descriptive Statistics

	Mean	Std. Deviation	N
5.e.	3,33	,939	162
12.e.	3,77	,962	162

Annex 7 – Paired sample statistics of the five hypotheses

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	5.a.	3,70	162	,959	,075
	12.a.	4,21	162	,726	,057
Pair 2	5.b.	3,99	162	,863	,068
	12.b.	4,23	162	,674	,053
Pair 3	5.c.	3,89	162	,885	,070
	12.c.	4,14	162	,763	,060
Pair 4	5.d.	3,78	162	,989	,078
	12.d.	4,30	162	,723	,057
Pair 5	5.e.	3,33	162	,939	,074
	12.e.	3,77	162	,962	,076

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Annex 8 - Paired sample correlations

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 5.a. & 12. a.	162	,538	,000
Pair 2 5.b. & 12. b.	162	,496	,000
Pair 3 5.c. & 12. c.	162	,622	,000
Pair 4 5.d. & 12. d.	162	,448	,000
Pair 5 5.e. & 12. e.	162	,561	,000

Annex 9 – Paired sample test of hypotheses testing

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 5.a. - 12. a.	-,512	,836	,066	-,642	-,383	-7,802	161	,000
Pair 2 5.b. - 12. b.	-,247	,789	,062	-,369	-,125	-3,985	161	,000
Pair 3 5.c. - 12. c.	-,253	,725	,057	-,366	-,141	-4,443	161	,000
Pair 4 5.d. - 12. d.	-,519	,927	,073	-,662	-,375	-7,117	161	,000
Pair 5 5.e. - 12. e.	-,432	,891	,070	-,570	-,294	-6,174	161	,000

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Annex 10 – Cronbach's alpha for reliability analysis

Reliability Statistics

Cronbach's Alpha	N of Items
,916	10