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AMAZON RAINFOREST PRODUCTS: THE REGION OF ORIGIN EFFECT ON CONSUMER PERCEPTION

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Abstract

Purpose: This dissertation aims to comprehend the existence of the ROO (region of origin) effect on consumer perception about products manufactured with Amazon rainforest ingredients. Moreover, it specifically aims to investigate the ROO effects on consumers' willingness to buy and willingness to pay premium prices for these products.

Design/methodology/approach: The research model was tested on a sample of university students from Portugal, with a total of 133 respondents participating in an experimental test and a survey. Statistical data analysis was performed by the approach of the Partial Least Square – Structural Equation Modeling (PLS-SEM) method with SmartPLS software to test the hypothesized model.

Findings: The main findings showed that (i) the product was better rated by consumers when Amazon rainforest was mentioned as the ROO, (ii) ROO image impacts directly and positively on the willingness to pay premium prices for the product, but (iii) indirectly and positively in the perception of quality, and willingness to buy. Sustainability concerns emerge as a direct influencing factor of ROO image, bringing up an insufficiently researched issue to be discussed.

Research limitations: The major study limitations are (i) the sample, in terms of size, and homogeneity, precluding the extrapolation of the results to all the potential market for Amazon rainforest products; (ii) the impossibility of extending the results for different regional areas due to the specificities of the studied region.

Practical implications: The findings have important implications for firms operating in international marketing with Amazon rainforest products, mainly about the potential to create value through the origin. Moreover, public sector can play a significant role in the strengthening of a positive image for ROO, which will reflect in firms' operations.

Originality: The dissertation provides new insights such as the Amazon rainforest as region of study and sustainability concerns as an influencing factor of ROO image, triggering the interest for more studies from different perspectives toward this issue in international marketing literature.

Keywords: region-of-origin, place-of-origin, cosmetic industry, Amazon rainforest, sustainability concerns

Resumo

Objetivo: Esta dissertação tem como objetivo compreender a existência do efeito região de origem na perceção do consumidor sobre produtos manufaturados com ingredientes provenientes da floresta Amazónica. Adicionalmente, buscou-se especificamente investigar o efeito região de origem na disposição do consumidor em comprar e pagar preços *premium* por estes produtos.

Metodologia: O modelo de pesquisa foi testado em uma amostra de estudantes universitários de Portugal, num total de 133 participantes nos testes experimentais e questionários. Análise estatística de dados foi utilizada sob a abordagem do método de Mínimos Quadrados Parciais - modelagem de equações estruturais por meio do software SmartPLS para testar o modelo hipotético.

Resultados: Os principais resultados mostraram que (i) o produto foi melhor avaliado pelos consumidores quando a Amazónia foi mencionada como região de origem, (i) a imagem da região de origem impacta diretamente e positivamente na disposição em pagar preços *premium* pelo produto, mas (ii) indiretamente e positivamente na perceção de qualidade e disposição em comprar. As preocupações com sustentabilidade emergiram como um fator de influência direta na imagem da região, trazendo um tema pouco estudado para discussão.

Limitações de pesquisa: As principais limitações do estudo são (i) a amostra, em termos de tamanho e homogeneidade, impedindo a extrapolação dos resultados para todo o potencial mercado de produtos da Amazónia, (ii) a impossibilidade de estender os resultados para diferentes regiões dadas as especificidades da região estudada.

Implicações práticas: Os resultados têm importantes implicações para firmas que operam no mercado internacional com produtos da Amazónia, principalmente sobre o potencial de criar valor através da origem do produto. Além disso, o setor público pode ter um papel significante no fortalecimento da imagem positiva de uma região, que irá refletir nas operações das empresas.

Originalidade: A dissertação apresenta novos *insights* como a Amazónia como região de estudo e as preocupações com sustentabilidade como um fator influenciador da imagem da região de origem, despoletando o interesse por mais estudos de diferentes perspetivas sobre o tema na literatura de *marketing* internacional.

Palavras-chave: região de origem, país de origem, indústria de cosméticos, Amazónia, preocupações com sustentabilidade

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1. Introduction

Over the past years, international trade has been growing along with the development of worldwide markets motivating a relevant increase in understanding the nature of competitiveness. Since it is believed that the called country-of-origin (COO) is among the many other factors which can impact on the competition at the international level, the COO concept has been in the spotlight, attracting significant attention in the academy (Al-Sulaiti & Baker, 1998).

In the same direction, motivated by the growing access to a large selection of imported products and services from other countries, the consumer awareness of the goods available throughout the world has been increasing as well (Kaynak, Kucukemiroglu, & Hyder, 2000).

Generally, brand name and price are established as factors that affect the consumers' perception of a product. However, the globalization, and the consequent increasing degree of competitiveness at global level brought another factor to the list, which is the product´s COO (Ahmed, Johnson, Yang, Kheng Fatt, et al., 2004; García Gallego, Chamorro Mera, & García Galán, 2015; Wang & Chen, 2004).

The COO concept as a topic of research first emanated from Robert Schooler's seminal article in 1965, ever since, this phenomena has emerged among the most extensively researched topics in marketing, international business, and consumer behavior (Lu, Heslop, Thomas, & Kwan, 2016; Peterson & Jolibert, 1995).

COO is treated by Apetrei and Petrusca (2010, p. 210) as "the perceptions and attitudes of a certain country extend on its products" since these impressions and stereotypes compound part of the brand image and contribute to its labeling.

If on one hand companies try to adjust their products to the local markets to reduce the COO effect when it is not positive, on the other, when companies want to insert a worldwide-recognized high-quality product in the market, foreign identification can offer a competitive advantage (Apetrei & Petrusca, 2010).

The COO of a product is usually transmitted through the expression "made in" and it is considered an extrinsic product attribute since it is different from intrinsic attribute. Thus, the COO attribute is close to brand name, price or warranty, because none of these have outcome directly on the product performance (Peterson & Jolibert, 1995).

In a study conducted by Lu et al. (2016) that maps the scientific production about COO between 1978 and 2013, it was evidenced that until 2010 an increase of articles was identified, although since 2010 there has been a notable downward trend in the production about this topic.

Nevertheless, despite the proliferation of studies addressing the COO, gaps in this area are found, in particular approaching the region-of-origin (ROO) of a product, since the academic literature has focused on the place-of-origin (POO) impact on nation level (García Gallego et al., 2015).

But, according to Bruwer and Johnson (2010), the studies have now evolved to the ROO context, once the more involved consumers are in their purchase the more ROO brand indicators will be considered in their process of decision.

The demand for products featuring ingredients coming from Amazon rainforest region is potentially growing globally, given its extensive potential of biodiversity, it has led the industry to the extraction of bioactive principles from this forest by the pharmaceutical and cosmetic industry (Burlando & Cornara, 2017; Funasaki, Barroso, Fernandes, & Menezes, 2016).

Extracted from peels, leaves, roots, seeds or fruits, original ingredients from Amazon rainforest like "andiroba", "cumaru", "copaiba" turn into extracts to produce shampoos, perfumes, conditioners, oils, and moisturizing creams (Carola, 2003).

Amazon rainforest is the world´s extensive tropical forest and spreads across eight countries: Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, and French Guiana. The forest, which is 60% housed in Brazil, encompasses 10% of the global known biodiversity (Funasaki et al., 2016; WWF, 2019).

 Despite the growing demand for these products and being Amazon rainforest a place of possible interest for the global market, no public study covering the consumer´s perceptions regarding Amazon rainforest products under the ROO effects perspective was identified in the literature. From this context emerges the concernment to comprehend the influence of this factor on consumers' behavior and to broaden current knowledge about this issue.

Given the pattern above and the need to fulfill the gaps in the literature, this dissertation aims at addressing the following research questions: "***Does ROO image cause effects on consumer behavior regarding products produced with Amazon rainforest's ingredients? What influencing factors surrounding the ROO impact consumer in the purchase decision?***"

In order to answer these questions, the present study seeks to comprehend the existence of ROO effects on consumer perception regarding products manufactured with Amazon rainforest's ingredients. Moreover, it specifically aims to investigate the ROO effects on consumers' willingness to buy these products and their willingness to pay premium prices for them.

In doing so this dissertation was intended to contribute with (i) firms that can create value to their products through the ROO in order to influence consumer intentions and create a source

of competitive advantage in the market. Furthermore, given the low exploitation in the literature about the ROO effects, it was also relevant to better understanding the role of this phenomenon (ii) to contribute to the academic dialogue, fulfilling the gaps found in the literature.

To accomplish the proposed objectives, the investigation consisted of a quantitative research. An experiment with cosmetics followed by data collection through questionnaires was conducted on university students in Portugal. Statistical data analysis was performed by the approach of the Partial Least Square – Structural Equation Modeling (PLS-SEM) method with SmartPLS software, aiming to test the validation of the proposed hypotheses constructed based on similar studies present in the marketing literature.

Besides this chapter, this report is structured as follows: in chapter 2 is presented the literature review of relevant studies. This section includes the topic 2.1, which outlines an overview of the POO concept, a discussion from the country (2.1.1) and region level (2.1.2) perspective, and the exploitation of the influencing factors for this issue, closing the review with a summary of the highlights the main points under analysis (2.2). In topic 2.3 the rationale for hypotheses proposed to be investigated is presented, jointly with the hypothesized model that close this section.

Chapter 3 outlines the methodological framework, setting the methodological procedures to achieve the aim of this study (3.1), defining the population and the sample (3.2), presenting the process to define questionnaire questions (3.3), and finally providing the statistical framework and analysis tools used to reach the results presented in the next chapter.

Chapter 4 outlines the results obtained in statistical analysis since the descriptive statistical analysis to characterize the sample (4.1), the product judgments made by consumers in the experimental tests (4.2), the reliability tests (4.3), the discriminant validity assessment (4.4), and the structural equation model (4.5), approaching each construct individually to presented and accepted and refused hypotheses. Results are discussed considering all the previous scientific knowledge about the findings (4.6). This chapter is closed by the results conclusions highlighting the main findings.

Chapter 5 outlines the major conclusions about the research responding to the questions that this dissertation set out to discuss about the ROO, highlighting how the proposed objectives were accomplished, indicating the major contributions to international marketing literature and the managerial implications emerged from these findings, and closing the dissertation with its limitations and possible future directions for academic dialogue in this topic.

2. Bibliographical review

In this chapter, a theoretical relevant framework to formulate hypotheses to answer the research questions is provided. The bibliographical review addresses the key concepts related to the POO, COO, and ROO effect. The discussion approaches the POO and its possible division in levels, the COO effect, and the influence of the image associated with developed and developing countries. Finally, ROO effects are addressed with an approach about the region of study object: The Amazon rainforest. Finally, influencing factors surrounding the consumer buying decision-making process of a foreign product are addressed.

2.1. Place-of-origin effect

Since the growth of the globalization and internationalization of markets, the research on the use of products´ POO as a factor of differentiation has received emphasis in studies in the marketing field (Chamorro, Rubio, & Miranda, 2015; García-Gallego & Chamorro Mera, 2016a).

In the purchase process of some specific products, particularly when there is difficulty in evaluating their intrinsic attributes, the extrinsic attributes assume great significance in consumer decision making. Among these extrinsic attributes that can become a key differentiating element to a product is its provenance or geographical origin (Chamorro et al., 2015; García-Gallego & Chamorro-Mera, 2016b).

POO effect concept was defined by Papadopoulos and Heslop (2003) as a set of strengths and weaknesses linked to the origin that adds or subtracts the value supplied by a brand or service to the manufacturer and/or its clients. When the provenance of a product turns into a key attribute in the decision-making process of purchase, thus this cue becomes a source of competitive advantage for small and regional firms (García-Gallego & Chamorro-Mera, 2016b).

The geographical origin of a product can be analyzed in different levels: regional, national and foreign, so different terms variation, such as "made in" effect, POO effect, COO effect or ROO effect, derived in the literature to approach the same issue from different perspectives (Chamorro et al., 2015; García-Gallego & Chamorro Mera, 2016a). In the next topics, the POO will be analyzed from the nation (COO) and region (ROO) level perspective.

2.1.1. Country-of-origin effect

The differentiation made by customers from products of one country to another is denominated COO effect. Studies about this topic are focused on how geographical associations work like an assistant in the marketing of certain products and if these associations can work as a

protection for brand images avoiding negative associations to the POO. Usually, the occurrence of this association is linked with the nations' and regions' images that work like brands (Bayraktar & Uslay, 2016; Javed & Hasnu, 2013).

Consumers use the COO as a cue to minimize the risk of buying a product. The origin tends to impact their perceptions of the products originating from a country based on stereotypes and attitudes about the people from that country. Other aspects related to the culture, religion, language, history, environment, economy and technological development also contribute to the construction of the country's image in consumer's mind (Adina, Gabriela, & Roxana-Denisa, 2015; Brijs, Bloemer, & Kasper, 2011; Milovan-Ciuta, Ardelean, Sahour, & Jurca, 2019).

Schooler (1965) conducted a study in Guatemala based on simple manipulation. Juice and a swatch of fabric were presented to students with fake labels associated to four South American countries. It was identified that students evaluated negatively products from a less developed country compared to local products, confirming the effect caused by COO on consumer's perception of the product.

This effect is produced because COO turns into a component of the product when it is exported, it means an option to differentiate products from competitors. The value added to the product can be coming from the current environmental and human attributes of the place, and it is translated into the consumer's perception of the quality of the good, through their behavior and choices, or their purchase intention (Anholt, 2005; García-Gallego & Chamorro-Mera, 2016b; García Gallego et al., 2015)

2.1.1.1. Developed vs. Developing markets

Wide studies approaching the per capita income of the population about economic differences between developed and developing countries have been explored, and other factors as the differences regarding the general country image about economy, politics, and technological advances have been studied in international business literature as well (Jin et al., 2015).

Studies show that consumers in developed countries are more inclined to perceive local products as being of higher quality compared to foreign ones, while the opposite is observed in developing countries (Okechuku, 1994; Wang & Chen, 2004).

Oplatka (2004) refers to "developing countries" as those which are outside of Europe and North America with a few exceptions (e.g. Australia, New Zealand, Japan, etc.). Controlled by Europeans for many years, generally, their mortality rates, birth rates, and levels of poverty are high, large gaps between rich, and poor are identified.

Despite the lack of technology base in these countries, that consequently punish their product innovation, they have great potential to benefit from agriculture due to relatively abundant labor and to be recognized by lower use of agrochemicals (Chandra & Neelankavil, 2008; UNCTAD, 2019).

In contrast, developed countries are highly industrialized, being product development and innovation the strong point of these nations' economies. They are identified by their low proportion of the population in rural areas and even a smaller percentage of the population working in agriculture (Berge & Mckean, 2015; Chandra & Neelankavil, 2008).

Wang and Lamb (1983) argued for the existence of a hierarchy of countries based on their stages of social, cultural, and economic development. So, an originating product from a country lower classified in this hierarchy would be evaluated as having poor quality, in contrast, a similar product from a country higher classified in the hierarchy would be perceived to be of better quality.

In empirical research proposed by Kaynak et al. (2000) aiming to examine Bangladesh consumers' quality perceptions of goods imported from nine foreign countries in comparison to their perceptions of local products, the products whose origin was developed countries were perceived by consumers as good or very good quality, reliability, performance, and good workmanship, in contrast, the imported products from developing countries were evaluated as less reliable in quality.

For Anholt (2005), there is a top ten countries perceived as having a good brand image. They are America, England, Scotland, France, Germany, Japan, Scandinavia, Switzerland, South Korea, or Italy. When consumers know that a brand is from one of these places, which are developed countries, automatically it will be expected a certain type of brand image, a certain degree of quality, and they will be willing to pay a certain price for it.

This happens since certain developing countries are renowned for producing a certain food, for example, India for its tea and Brazil and Colombia for their coffees. It can vary across kinds of products, once Colombia can perform very high on the coffee category on consumer perception, but very low on other products, such as electronics (Ahmed, Johnson, Yang, Fatt, et al., 2004; Anholt, 2005)

These conclusions opened the possibility to discuss the traditional presumption proposed by Wang and Lamb (1983) that a negative country image reflects on product evaluation internationally, since it is not a rule and can vary across product categories.

2.1.2. Region-of-origin effect

Despite the extensive studies about the COO as a relevant attribute on consumer decision, on García Gallego et al. (2015) and van Ittersum, Candel, and Meulenberg (2003) view, in some product categories, the differentiating attributes arise from characteristics of some specific region within a country.

To distinguish their products and consequently add value to them, many companies use as strategy the development of regional specialties variants of their products, even in the food or the non-food sector. Many times, emphasizing the origin on their products label allows producers to practice better prices or even premium prices opposite to similar products where the ROO is not mentioned (Dekhili & d'Hauteville, 2009; Latusi, Zerbini, Maestripieri, & Luceri, 2017; van Ittersum et al., 2003).

In wine marketing, for instance, the origin is strongly relevant once this product is not only associated to a territory and its traditions, but also the physical characteristics of the land (the mineral composition of the soils, climate, and topography) and its human dimensions (culture, history, technology). Thus, it could be described as the essence of a place bottled in a wine bottle (Balestrini & Gamble, 2006; Chamorro et al., 2015).

The differentiation of a region comes from specificities such as history, geography, culture. The union between the human expertise, the natural environment, and regional image factors turns into qualifications and create value to the product, likewise, consumers use the image they have of the product's ROO to measure regional product's attributes (Santos & Ribeiro, 2005; van Ittersum et al., 2003).

Although ROO is part of COO, and the effects related to the COO look similar to ROO in some aspects, there are some unique factors and special connotations making the second perspective differs from the first one (García-Gallego & Chamorro Mera, 2016a; van Ittersum et al., 2003).

The first consideration to be done is that using the ROO as an attribute could be compared to adopting a strategy of branding since the company can use the positive associations' consumers have about a specific area and promote the product associated with a specific image. The regions' human and environmental factors are not so heterogeneous as countries are, guaranteeing a consistent image (van Ittersum et al., 2003).

García Gallego et al. (2015) also concluded that region characteristics are composed of greater uniformity and consistency than those of a country, which enable firms to communicate an products' identity based on factors like know-how of people, climate, agricultural characteristics,

and culture. If another country or region does not have all characteristics together simultaneously, the product will be unique and cannot be imitated.

The second factor is regarding the existence of the opportunity to differentiate a product from both foreign and local competitors (van Ittersum et al., 2003). For example, according to Santos and Ribeiro (2005), Portugal is globally recognized by its famous Port wine, although, a lot of regions inside the country produce wine. Considering that, the ROO enables these Port wine producers not only to create an advantage to meet foreign competitors but also to local competitors.

In a study conducted by García Gallego et al. (2015), applied to purchasers of wine in the region of Extremadura (Spain), it was identified that when consumers have less familiarity with the region's wines, a greater relationship between the image established in their minds about the region as a wine producer and their evaluation of its wines' quality was presented, meaning that the factor familiarity with the product from a specific region can influence the ROO effect, and ROO effect can be affected by other variables in different conditions.

2.1.2.1. Amazon rainforest vs. Brazil

The Amazon rainforest, which is 60% housed in Brazil, encompasses 10% of the global known biodiversity. Brazil is also known to hold a wealthy flora, approximately 20% of the planet's biodiversity, stimulating the use of Brazilian biodiversity as ingredients to the formulation of cosmetics, which grant to these products a special identity for their exoticity, mainly for those produced with ingredients from the Amazon rainforest (Paterlini, Giraldi, & Amui, 2012).

According to BBC Brasil (2007)[1], cosmetics industry executives believe that Brazilian products are perceived as more natural than those originating from other world regions, justified by the abundance of natural oils, fruits, and plants extracts, including the Amazon rainforest ingredients, is favorable to the increasing demanding for natural products.

Paterlini et al. (2012) advanced in a study whose aim was to help Brazilian cosmetics-exporting enterprises to adapt to the international market and to improve their communication techniques and strategies within this market. Five Brazilian cosmetics exporters participated in answering a questionnaire about their operations abroad. Results indicated that most exporters were sending their products to South America, but in some cases, other countries were cited, such as countries in Europe, including Portugal, Spain, England, France, Netherlands, Bulgaria, Poland, and Greece.

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[1] Although it does not configure a bibliographic reference based on scientific evidence, it presents the tacit knowledge of industry players.

Two exporters emphasized the use of Brazilian biodiversity to promote their products abroad, besides, one of them related some advantages in associating Brazil to the product especially due to the recognized biodiversity and cultural mix that exist in the country. On another hand, it was related that consumers believe that products from Brazil should be less expensive than products from other countries, once consumers do not evaluate Brazil as a producer of high-quality goods (Paterlini et al., 2012).

The study concluded that the positive country image for cosmetics with Amazonian origins is maintained by the following attributes: Brazil's biodiversity and cultural mix. Nevertheless, the negative COO effect overcomes the positive one from the viewpoint that consumers consider these products should be sold at lower prices because they have lower quality since their origin is a developing country (Paterlini et al., 2012).

Another study with a Brazilian company acting in the cosmetics sector was developed by Sutter, MacLennan, Fernandes, and Oliveira Jr (2015). The research focused on analyzing the use of COO image by an emerging market multinational on their internationalization process. The multinational offers an extensive range of products such as lipsticks, soaps, shampoo, body moisturizers, and perfumes and one of the brands in its portfolio uses natural ingredients from the Amazon rainforest, such as oils extracted from exotic seeds rarely known.

According to Sutter et al. (2015), Brazil's image characteristics, called Brazilianness and identified as the Brazilian people specific way of being, can be divided into five dimensions: nature, population, sports and art, lifestyle, and economy and politics.

The first dimension covers attributes such as the Amazon rainforest, diversity, and environmental exuberance - rivers and waterfalls, beaches, sea, islands, wetlands, forests, – sustainable development, aesthetics, and pharm-therapy. The second one includes miscegenation and plurality. The third comprises prestigious artists, such as Jorge Amado, Carlos Drummond, Ayrton Senna, Oscar Niemeyer, Portinari, and popular music as Bossa Nova and Samba. The fourth dimension includes joyful, receptive, welcoming lifestyle, spontaneity in relationships, simplicity in everyday life, the colors, and the smiles. The last one covers a youth country open to innovation, corruption, violence, and social inequity (Sutter et al., 2015).

This same firm in analysis by Sutter et al. (2015) is positioned as a sustainable company, committed to social and environmental development. It is used to adapt its business model to attend the international market to be competitive. For instance, to compete in the European market, specifically in France, where solid industry competitors are established, the product line with raw materials originated from the Amazon is more exploited, since it has elements valued by

these consumers. Besides, the company outlines its origin to the French consumers, explaining the meaning of Brazilianness concept.

Through the product line with Amazonian ingredients, the company transmits the Brazilianness by being sustainable and by using the biodiversity. The fact of being Brazilian adds value in the process of innovation, especially concerning the use of raw materials from Brazilian biodiversity, representing a product differentiation in mature markets. On the other hand, Sutter et al. (2015) emphasize that the company tries to avoid associations to traditional stereotypes such as samba, beach, soccer, sensuality, others.

2.1.3. Role of influencing factors on POO effect

The relation between COO effect and purchase intention is influenced by several factors which lead to attraction/repulsion reactions towards domestic/foreign products (Adina et al., 2015; Jin et al., 2015). Studies in literature, presented in Annex A, identify different possible variables influencing the purchase decision.

According to Li and Wyer Jr (1994), one of the variables is the level of involvement product. When using COO to evaluate a product, the effects produced by the origin tend to be more pronounced for high involvement products, such as automobiles and electronics, than for low involvement products, such as food staples, since the last decision produces less significance considering its monetary risk.

In addition, both level of familiarity and level of knowledge about a place or a product category can be influencing factors on consumer decisions. For Guina and Giraldi (2012), the COO effect tends to be more positive when consumers hold more knowledge about a country and more familiarity with a particular product.

Finally, ethnocentrism and animosity, concepts commonly discussed in studies approaching the COO effect issue, and factors of interest in this study, are analyzed separately in the following subchapters.

2.1.3.1. Ethnocentrism

Historically exploited by sociologists and psychologists, ethnocentrism was defined by Josiassen, Assaf, and Karpen (2011) as the group seeing itself as the center of everything, being the others evaluated based on it. Derived from this general concept of ethnocentrism, consumer ethnocentrism was coined by Shimp and Sharma (1987) in the field of marketing as the consumers' beliefs regarding the appropriateness and morality of purchasing local products and rejecting the imported ones.

Ethnocentrism is responsible for leading to attraction/repulsion reactions towards domestic/imported products and the higher ethnocentric the consumers are, the more they will refuse to buy imported products and services since the favorable perception about domestics products is bigger than foreign products (Adina et al., 2015; Jin et al., 2015).

Shimp and Sharma (1987) argue that this rejection to foreign goods is linked to the thought they are being averse to the national economy and causing unemployment. However, for van Ittersum (2001), ethnocentrism is more strongly identified on consumers whose jobs depend directly on the domestic product than on consumers whose jobs are not dependent on it directly.

Nadiri and Tümer (2010) conducted a study in the developing region of North Cyprus and brought other factors to the academic discussion. One of these factors is that the ethnocentric tendency looks to differ according to age. The respondents who were older than 51 years old presented the highest levels of consumer ethnocentrism. Differences according to education levels were also found, once who had postgraduate degrees manifested major ethnocentric tendencies. Finally, high levels of ethnocentrism also were identified on consumers with lower levels of income than on individuals with higher levels of income.

The managerial implications derived from ethnocentrism should be treated carefully by marketers. First, domestic manufacturers should concentrate their effort on nationalism advertising strategy and defend locally manufactured products against foreign competition. Second, foreign producers should be careful in introducing their product in these markets, communicating without mentioning the COO, and concentrating their advertising more on product attributes (Nadiri & Tümer, 2010; Wu, Zhu, & Dai, 2010).

2.1.3.2. Animosity

Consumer animosity feelings are a geographic origin-specific construct, which is linked to antipathic behaviors due to previous or ongoing events, such as historical events, rivalry between countries, economic or political tensions, use of slave labor, or diplomatic disputes that might influence negatively on the attitude toward its products (Adina et al., 2015; Klein, Ettenson, & Morris, 1998; Ramadania, Gunawan, & Jamaliah, 2014; Torres & Gutiérrez, 2008).

Being an important component in the purchase decision, this feeling can lead to the rejection toward products from the offending nation, tending to shape both willingness to buy a product and products judgments, regardless the assessment of the product (Adina et al., 2015; Klein et al., 1998; Ramadania et al., 2014; Torres & Gutiérrez, 2008).

Differently from consumer ethnocentrism, which has roots in patriotism and nationalism, animosity is a nation-specific construct, thus consumer might buy many foreign products, but reject goods from a specific origin, despite recognizing the quality of products manufactured by that country (Chao & Arnold, 2005; Fernández-Ferrín, Bande-Vilela, Klein, & del Río-Araújo, 2015; Klein et al., 1998; Ramadania et al., 2014).

The disregard of product judgments when animosity raises reflects in managerial implications. Firms are supposed to know their customers and purchase products from foreign countries that do not trigger customer's animosity. Broader knowledge about this issue can even lead managers to develop strategies in operation market to overcome this constraint by the production of "hybrid" products – goods produced in one country and labeled by a firm from another country that does not trigger their animosity feelings (Klein et al., 1998).

2.2. Summary of the bibliographical review

Over the past years, the globalization and the competitiveness in the international market associated to the increasing level of demand from consumers due to the wide variety of goods from different origins (domestic and foreign) available to be consumed have lead firms to concern themselves about how to differentiate their products from competitors.

The country's image can be formed by different factors, such as culture, economy, environment, technology, and affects consumer perception. Besides, the POO effect is also under the influence of several factors, such as consumer ethnocentrism and consumer animosity.

Depending on the image people form in their mind about a place, the POO can produce positive or negative effects. If positive, it can be a source of advantage for firms and add value to the product, although, the biggest challenge faced by companies consists of a negative image to their COO, on account of the consumer perception about a country is out of their control, but can subtract value from their products.

When the ROO is under discussion, the major difference from the COO concept is the possibility to create greater advantages of a brand through the region consistency in the international and national market as well. On the other hand, the good reputation of regional products may not be subject to being so geographically extensive as the positive image of a country.

In ROO literature, previews studies have extensively discussed the influence of the

region on consumers' perception about wine, justified by being extremely linked to people's know-how from a specific region, its climate, its agricultural conditions, and its traditions.

In the case of the Amazon rainforest, the characteristics of being endowed with unique biodiversity worldwide grant to its products rarity and benefits that cannot be imitated mainly about raw materials, guaranteeing attractive positioning opportunities in the market.

2.3. Hypotheses

In this subchapter, the research hypotheses derived from the bibliographical review are discussed and the investigation model to be validated is presented. The same literature applied for POO or COO was used to formulate the hypotheses in this study, once effects related to the COO look similar to the ROO (García-Gallego & Chamorro Mera, 2016a; van Ittersum et al., 2003).

2.3.1. Investigation model construction

When consumers are unable to evaluate the quality of a country's product before purchasing it, what means, when product information is lacking, they evaluate the product using its provenance or geographical origin image (Han, 1989). This decision-making process is impacted by some influencing factors such as product quality, animosity, ROO image, ethnocentrism, level of familiarity with the product, etc.

Additionally, considering the latest happenings about the deforestation rising rates in the Brazilian Amazon (Moriyama & Sandy, 2019) and also the companies' concern about being positioned as sustainable producers of Amazon products in the cosmetics market (Sutter et al., 2015), a small group of students was interviewed in order to comprehend their opinion about how they perceive this issue in the purchase process.

The brief preview interview was conducted to collect these inputs to adjust hypotheses avoiding the author´s bias. In random mode, 10 university students were invited to answer two open questions: "Have you ever bought products manufactured with Amazon ingredients? Why?" and "What aspects would you consider if you bought these products?".

 A qualitative analysis was performed to identify the main points brought up by this small group to formulate adequate hypotheses and questions to be included in the final questionnaires.

For the first question, the major of the students mentioned to not know if they have already bought these products because they do not pay attention to labels. Two students

mentioned that they have already bought these products because they believe they are more natural than others.

For the second question, the mentioned factors were sustainable production (eight times), the products' reputation (five times), quality (five times), price (twice), products' certification (twice) and reliable production process (once). The most frequent aspect for the second question was the sustainability concerns, considering this, this aspect was included as a variable in the hypotheses model to be tested in this study.

2.3.2. Hypotheses model

The investigation model was established considering the following constructs to be tested: ethnocentrism, animosity, sustainability concerns, ROO image, general product attributes, perception of quality, willingness to buy, and willingness to pay premium prices for the product. It is expected to assess some relationships between these variables, which rational will be presented in this subchapter.

Ethnocentrism

Consumer ethnocentrism has as outcome the underestimation of foreign products and its specific attributes (Chryssochoidis, Krystallis, & Perreas, 2007; Sharma, Shimp, & Shin, 1994). The higher levels of ethnocentrism tend to result in higher rates to local products and even in willingness to pay premium prices for them, but in negative evaluations for foreign products. Their economic and moral beliefs make them consider their country produces the best goods compared to the others (Klein et al., 1998; Šmaižiene & Vaitkiene, 2014).

According to Jin et al. (2015) and Adina et al. (2015), ethnocentric consumers tend to refuse to buy foreign products, once the favorable perception about domestic products is bigger when compared to the imported ones. Besides, Okechuku (1994) suggests that consumers from developed countries pursue a preference scale on buying decision: first, domestically manufactured products, second, foreign-made goods from other developed countries and last, the products from less developed countries. As a result of ethnocentrism tendencies, COO image can be highly impacted (Al-Sulaiti & Baker, 1998).

Thus, it can be supposed that consumer ethnocentrism exerts influence on the perceived product attributes and the perceived quality of foreign products, also, negative correlation with the willingness to buy these goods or pay premium prices for them. ROO

image will also be negatively affected by the nationalistic emotions. It is also expected that the consumers' overestimation for their own country compared to the others results in a higher tendency for levels of animosity for some specific countries, affecting positively this variable.

From this assessment, the following hypotheses are derived from consumer ethnocentrism:

H1.1: Ethnocentrism impacts negatively on the general product attributes.

H1.2: Ethnocentrism influences on the willingness to buy the product.

H1.3: Ethnocentrism impacts negatively on the perception of quality.

H1.4: Ethnocentrism affects negatively the willingness to pay premium prices for the product.

H1.5: Ethnocentrism affects negatively the ROO image.

H1.6: Ethnocentrism influences positively on the animosity levels.

Animosity

Consumer animosity might also be translated on the POO image and on the perceived quality of the product and purchase intention. High levels of animosity can impact on lower rating in product judgment, and consumers with this feeling tend to be higher price sensitivity compared to consumers with a low level of animosity. Additionally, animosity feelings tend to be more pronounced if the country is not recognized for producing high-quality products and less pronounced in the opposite case (Klein et al., 1998; Rose, Awang, & Yazid, 2017; Rose, Rose, & Shoham, 2009).

Considering this, it can be supposed that animosity feelings result in underestimation of the product attributes and the quality of foreign products. Besides, it might result in unwillingness to buy these goods or pay premium prices for them.

In this research, the animosity feelings assessed were related to Brazil, so it is intended to evaluate if the animosity at the nation level can impact on the image of a region.

From this assessment, the following hypotheses are derived from consumer animosity feelings:

H2.1: Animosity impacts negatively on perceptions related to general product attributes.

H2.2: Animosity impacts negatively on willingness to buy the product.

H2.3: Animosity impacts negatively on the perception of product quality.

H2.4: Animosity affects negatively the willingness to pay premium prices for the product.

H2.5: Animosity affects negatively on the ROO image.

Sustainability concerns

Sustainability and the environmental consequences of consumption behavior emerge as a topic of concern for consumers in the last years. Considering it as a new variable in the purchase process decision, as studied by Lazzarini, Visschers, and Siegrist (2017), the POO turns into a source of information and decision criteria in consumers' sustainability assessment, such as, to evaluate the environmental impact of a product.

Giraldi (2016) discusses that no study has focused on approaching the relation between country image and sustainability, but it can be supposed that there is a correlation between them, given the new consumers' awareness. Higher prices for this kind of product were also identified not as a problem for consumers, except for those sensitive to price (Gotze & Brunner, 2019).

Considering that this variable is not yet widely exploited in literature, it was opted for testing its correlation for all the constructs, except for ethnocentrism and animosity, since they are related to negative attitudes toward foreign products.

From this assessment, the following hypotheses are derived from consumer concerns about sustainability:

H3.1: Sustainability concerns influence on the general product attributes perception.

H3.2: Sustainability concerns influence on the willingness to buy the product.

H3.3: Sustainability concerns impact on the perceived quality of the product.

H3.4: Sustainability concerns influence on willingness to pay premium prices for the product.

H3.5: Sustainability concerns affect the ROO image.

ROO image

The POO can work as a driver of the product image and influence the evaluation of its quality made by consumers, once it gives information cue that enables them to learn about

the product quality. The product's origin affects consumers' decisions directly and independently of product assessment (Brijs et al., 2011; Diamantopoulos, Schlegelmilch, & Palihawadana, 2011; Klein et al., 1998; Roth & Diamantopoulos, 2009; Unal, 2017).

Consumers tend to respond more positively to a product when the COO image is favorable, furthermore the ones originated in countries with a better image justify the charging of premium prices (Agrawal & Kamakura, 1999; Anselmsson, Bondesson, & Johansson, 2014).

This construct intends to measure its subsequent effects, such as product evaluation and intention to buy. Thus, it can be supposed that the ROO image can influence on the general product attributes, on the purchase intention, and on the perception of quality. Additionally, it was evaluated if the ROO image could influence also on the willingness to pay premium prices, once Amazon rainforest can be considered a differentiated origin for its unique natural characteristics.

From this assessment, the following hypotheses are derived from the ROO image:

H4.1: ROO image impacts on the general product attributes.

H4.2: ROO image influences on the willingness to buy the product.

H4.3: ROO image influences on the perception of product quality.

H4.4: ROO image impacts on the willingness to pay premium prices for the product.

General product attributes

The product attributes are unique characteristics associated to a specific product, which differentiate them from others and can influence the purchase intention (Zia, 2017). Considering this, it can be supposed that the general product attributes can influence on the intention to purchase, on the perception of quality, and on the willingness to pay premium prices, once the attributes of the hand cream produced with Amazon rainforest ingredients can be considered differentiated from other hand creams.

From this assessment, the following hypotheses are derived from the general product attributes:

H5.1: General product attributes impacts on the willingness to buy the product.

H5.2: General product attributes influence on the products perception of quality.

H5.3: General product attributes impact on the willingness to pay premium price for the product.

Perception of quality

The perception of product quality is linked to the product judgment, which is different from the objective quality, and it can directly affect the purchase intention (Saleem, Ghafar, Ibrahim, Yousuf, & Ahmed, 2015; Zeithaml, 1988). It was assumed that the perception of quality could lead to willingness to buy the product, and to willingness to pay premium prices.

From this assessment, the following hypotheses are derived from the perception of product quality:

H6.1: Perception of product quality influences on the willingness to buy the product.

H6.2: Perception of product quality influences on the willingness to pay premium price for the product.

Given the mentioned constructs, the following investigation model was derived (Figure I):
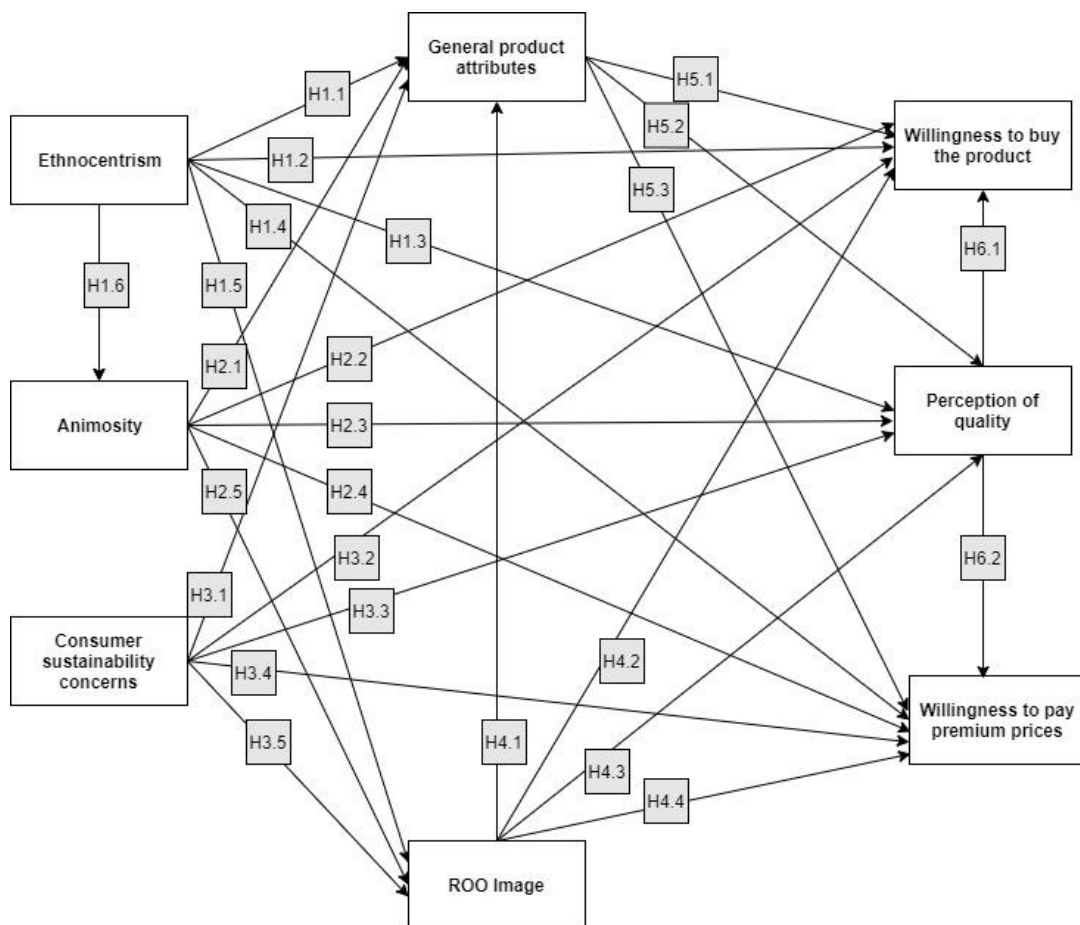
Figure I: Investigation model

3. Methodology

In the last chapter, a bibliographical review was conducted to explore the concepts of POO, COO and ROO effects, deriving the hypotheses and investigation model of this study. In the next one, the methodological approach, in terms of sample, data collection, and data analysis strategy are presented.

3.1. Methodological approach

To determine the methodological strategy and their procedures, firstly it was necessary to identify what kind of research is particularly appropriate to be conducted given the objective presented in the first chapter.

Sousa and Baptista (2012, p. 53) argue that the quantitative methodology is appropriate "when there is the possibility of collecting quantifiable measures and inferences from samples of a population".

Frequently used in studies which the aim is to find and classify the relationship between variables, the quantitative methodology is also characterized by formulating hypotheses, verifying them through statistical analysis based on the data collected, and generalizing the results observed in a selected sample (Richardson, 1999; Sousa & Baptista, 2012). Given that this research aims to verify the relation between the ROO effects and the consumer perception about products from the Amazon rainforest, the quantitative analysis shows to be an adequate option.

To test the constructed hypotheses, an experimental test was combined with the application of a survey. This questionnaire aimed at capturing the respondents' profile, their perception of product quality, their willingness to buy the product and pay premium prices for them. In addition, respondents answered questions to measure the general product attributes, the general region attributes (ROO image), ethnocentrism, animosity, sustainability concerns, and familiarity with the product.

The experimental test consisted of going personally to the Faculty of Economy at Porto in Portugal, and randomly invite students (from bachelor, master or doctorate) to test two hand creams. The type of product selected to develop this experience is justified by the convenience of testing it.

The first hand cream was identified as a common hand cream (identified as product I) and the other one as a hand cream made with ingredients from the Amazon rainforest

(identified as product II). Although both presented creams were the same product, none of them were made in Amazon or contained ingredients from there. The experiment's intention was to examine the placebo effect caused by the ROO on consumer perception about the product characteristics and general quality (Shiv, Carmon, & Ariely, 2005). The hypothesis to be tested in this step was:

H0: Product I and Product II are evaluated with the same scores by consumers.

After this test, the students were invited to answer the questionnaire reporting their perceptions about both creams and additional questions to measure the feeling about other topics mentioned before.

3.2. The population and the sample

The tests were conducted in Portugal, a developed country (Trade, 2019), in a non-probabilistic sample chosen according to the convenience criteria for the population, as follows: Portuguese students in bachelor, master, and doctor degree belonging to Faculty of Economics, University of Porto. Questionnaires were applied during a job fair in the Faculty between March 3rd and 4th 2020. The total of respondents was 133 students.

Among the reasons that justify the choice for this sample, the first one is that university students samples are common in other researches in this area such as Hakala, Lemmetyinen, and Kantola (2013), Montanari (2015), Latusi et al. (2017) and Ramsaran (2015) or even sample of younger generation consumers as chosen by Jin et al. (2015).

In addition, younger consumers are seen as a huge potential segment to managers of multinational firms, not only due to their magnitude globally in hundreds of millions, but also due to being most likely open to the globalization topic and accept international trends more quickly than the older ones (Shukla, 2011; Strizhakova, Coulter, & Price, 2008).

The research project previewed to apply the questionnaire in a sample of 200 students, although, due to emergency state caused by COVID-19 pandemic, which was decreed in March 18th imposing restrictive measures to people circulation until May 31st, including the suspension of regular classroom sessions in Universities, the planning was amended to respect the imposed measures and guarantee the safety of researchers and respondents (Decreto n.º 14-A/2020 do Presidente da República, 2020).

3.3. The questionnaire

A three parts semi-structured survey with a set of questions was applied as an instrument to obtain data from respondents. The first part included demographic information to characterize the sample in terms of gender, age, education, household income, and country of birth.

The second part of the questionnaire was focused on measuring the experiment's effects for product I (common hand cream) and product II (hand cream with Amazon rainforest ingredients) separately. The questions were about relevant characteristics typically associated to hand creams, which were found out in e-commerce selling these products. To measure these characteristics, a scale from 1 to 7 was used, where 1 was equal to "very little" and 7 was equal to "very much" (Table I). Additionally, in order to measure their willingness to pay premium prices for product II, a question was included about how much consumers were willing to pay for product II, considering the price of four euros for product I.

Table I: Hand cream judgement

General quality	1	2	3	4	5	6	7
Texture: thick	1	2	3	4	5	6	7
Density: fluid	1	2	3	4	5	6	7
Perfume: pleasant	1	2	3	4	5	6	7
Moisturizing power	1	2	3	4	5	6	7
Skin absorption: quickness	1	2	3	4	5	6	7

Source: Elaborated by the author

This questionnaire's section was closed by the final question "If you purchased one of the products, which one would you buy?". The response options were product I, product II, none, or both.

The third part of the questionnaire was focused on measuring the influencing factors of the ROO effect through the adaption of reliable scales scientifically validated for general region attributes, familiarity with the product, general product attributes, animosity, ethnocentrism, and sustainability concerns. The variables were operationalized using seven-point Likert items, which rates the respondents' level of agreement about a statement with 1 being "Strongly disagree" and 7 being "Strongly agree" (Albert & Tullis, 2013; Nadimi, Mansori, & Ismail, 2012).

To evaluate the general region attributes and comprehend what shapes the ROO image for consumers, the scale developed by Parameswaran and Pisharodi (1994) regarding general country attributes was adapted to the region's attributes in study according to factors of interest to characterize the region, as shown in Table II.

Table II: General region attributes scale

The Amazon rainforest is a region…

Rich in biodiversity	1	2	3	4	5	6	7
With unique features worldwide	1	2	3	4	5	6	7
Of exotic plants	1	2	3	4	5	6	7
With high technological level	1	2	3	4	5	6	7
Ecologically preserved	1	2	3	4	5	6	7
Of great benefit plants for skin	1	2	3	4	5	6	7
Exploited in a sustainable way	1	2	3	4	5	6	7

Source: Adapted from Parameswaran and Pisharodi (1994)

To measure the respondents' familiarity with the product, two questions adapted from Guina and Giraldi (2012) were included: "I know several brands of cosmetics with Amazon rainforest ingredients " evaluated in seven-point Likert items and "Have you ever bought cosmetics with Amazon rainforest's ingredients?" was evaluated using the answers "Yes, many times", "Yes, a few times", and "No, never before".

The inquires that answered they had bought these cosmetics many times or a few times received, respectively, 1 and 2 points. Those ones who had never bought these cosmetics received 3 points. To evaluate the familiarity, the points attributed to both answers were added up, and inquires "having a total score lower than 6 were considered familiar with the product, whereas those with total score higher than 6 were considered unfamiliar" (Guina & Giraldi, 2012, p. 88).

To evaluate the general product attributes, the scale developed by Parameswaran and Pisharodi (1994) was adapted and measured using also the seven-point Likert items, as shown in Table III.

Table III: General product attributes scale

	1	2	3	4	5	6	7
Unreasonably expensive	1	2	3	4	5	6	7
Luxury products	1	2	3	4	5	6	7
Exotic products	1	2	3	4	5	6	7
High quality	1	2	3	4	5	6	7
Natural products	1	2	3	4	5	6	7
Handmade products	1	2	3	4	5	6	7
Sold in many countries	1	2	3	4	5	6	7
Intensively advertised	1	2	3	4	5	6	7
Easily available	1	2	3	4	5	6	7
Innovative products	1	2	3	4	5	6	7
High technology	1	2	3	4	5	6	7
Prestigious products	1	2	3	4	5	6	7
Less aggressive to the body	1	2	3	4	5	6	7
Few chemical ingredients	1	2	3	4	5	6	7

Source: Adapted from Parameswaran and Pisharodi (1994)

To measure the animosity level, a validated scale developed by Klein et al. (1998) to measure the importance and power of this feeling as a predictor of foreign product purchase was used. This scale, which includes animosity, economic animosity, and war animosity, was adapted to animosity, economic animosity and historical animosity, as shown in Table IV.

It was supposed that just a very few people would have a well-formed opinion about people who live in the Amazon rainforest due to lack of previous events between the region and Portugal. Considering it and also that Amazon rainforest is 60% housed in Brazil, besides the historical colonization between Brazil and Portugal, the scale was adapted to measure the feelings toward Brazil.

Table IV: Animosity scale

	1	2	3	4	5	6	7
I dislike the Brazilians	1	2	3	4	5	6	7
I feel angry toward the Brazilians	1	2	3	4	5	6	7
Brazil is not a reliable trade partner	1	2	3	4	5	6	7
Brazil wants to gain economic power over Portugal	1	2	3	4	5	6	7
Brazil is taking advantage of Portugal	1	2	3	4	5	6	7
Brazil has too much economic influence in Portugal	1	2	3	4	5	6	7

The Brazilians are doing business unfairly with Portugal.	1	2	3	4	5	6	7
Brazil does not show gratitude for its colonizer (Portugal)	1	2	3	4	5	6	7
Brazilian immigrants in Portugal cause rise in property rental prices for the Portuguese	1	2	3	4	5	6	7

Source: Adapted from Klein et al. (1998)

To measure ethnocentrism, the Consumer Ethnocentric Tendencies Scale' ('CETSCALE') was adapted for the study. This scale was designed by Shimp and Sharma (1987) to measure tendencies in purchase-decision of foreign or domestic products, as shown in Table V.

Table V: Ethnocentrism scale

Portuguese people should always buy Portuguese-made products instead of imports	1	2	3	4	5	6	7
Only those products that are unavailable in Portugal should be imported	1	2	3	4	5	6	7
Buy Portuguese-made products. Keep Portuguese working	1	2	3	4	5	6	7
Portuguese products, first, last, and foremost	1	2	3	4	5	6	7
Purchasing foreign-made products is un-Portuguese	1	2	3	4	5	6	7
It is not right to purchase foreign products	1	2	3	4	5	6	7
A real Portuguese should always buy Portuguese-made products	1	2	3	4	5	6	7
We should purchase products manufactured in Portugal instead of letting other countries get rich off us	1	2	3	4	5	6	7
It is always best to purchase Portuguese products	1	2	3	4	5	6	7
There should be very little trading or purchasing of goods from other countries unless out of necessity	1	2	3	4	5	6	7
Portuguese should not buy foreign products, because this hurts Portuguese business and causes unemployment	1	2	3	4	5	6	7
Curbs should be put on all imports	1	2	3	4	5	6	7
It may cost me in the long run but I prefer to support Portugal products	1	2	3	4	5	6	7
Foreigners should not be allowed to put their products on our markets	1	2	3	4	5	6	7
Foreign products should be taxed heavily to reduce their entry into Portugal	1	2	3	4	5	6	7
We should buy from foreign countries only those products that we cannot obtain within our own country	1	2	3	4	5	6	7
Portuguese consumers who purchase products made in other countries are responsible for putting their fellow Portuguese out of work	1	2	3	4	5	6	7

Source: Adapted from Shimp and Sharma (1987)

The interest for the consumers' sustainability concerns derived from insights gained in the preview interview described in subchapter 2.3.1. To measure this construct, a scale developed by Toti and Moulins (2016) in their study to explore how consumers consider ethics in their consumption choices was adapted for this research, as shown in Table VI . The scale comprises three dimensions: political, social, and environmental. According to these authors, "sustainable consumption, which does not necessarily consider ethical concerns, is a part of ethical consumption" (Toti & Moulins, 2016, p. 2).

Table VI: Sustainability concerns scale

I prefer to buy products with an eco-label	1	2	3	4	5	6	7
I prefer to buy in shops that highlight the ecological and organic products	1	2	3	4	5	6	7
I prefer to do my shopping in stores that promote fair trade	1	2	3	4	5	6	7
I buy fair trade product in solidarity with producers	1	2	3	4	5	6	7
I avoid products or brands that make children work even indirectly	1	2	3	4	5	6	7
I avoid products from companies that do not respect the rights of their employees	1	2	3	4	5	6	7
I restrict my consumption to what I really need	1	2	3	4	5	6	7
I contribute to the preservation of the environment through everyday actions	1	2	3	4	5	6	7
To reduce my contribution to global warning, I consume differently	1	2	3	4	5	6	7

Source: Adapted from Toti and Moulins (2016)

The questionnaire was closed by the open question "When you think about the Amazon rainforest, what countries do you have in mind?". The intention was to evaluate what countries consumers could associate the Amazon rainforest to.

3.4. Data analysis tools

Both SPSS Statistics and SmartPLS software were used to conduct the set of data statistics analyses to comprehend the data obtained through questionnaire, to refine model consistency, and to access the correlations. SPSS Statistics was used to carry out confirmatory factor analysis to ensure the consistency of indicators for each construct. SmartPLS was used to perform Partial Least Squares (PLS) equation model analysis for the measurement model, and the structural model.

3.4.1. Confirmatory factor analysis in SPSS Statistics

The SPSS Statistics software was used to perform a factor analysis "to identify underlying factors that explain the pattern of correlations within a set of observed variables". This method of extraction in statistical software provides the reduction of a large number of variables to a small number of factors. Through this reduction, it is possible to group similar variables into similar dimensions based on correlations among the variables (Basto & Pereira, 2012, p. 1).

Using the factors analysis jointly with the varimax rotation, and confidence interval of 95%, the scales were fitted by removing outer loadings lower than the recommended minimum value of 0.5 and retaining the other factors with value above 0.5 (Basto & Pereira, 2012). From this step, the constructs were derived in dimensions exhibited in Table VII:

Table VII: Dimensions derived from the factor analysis

Construct		Questions
Ethnocentrism 1 | immediate purchase (R)	This variable captures factors related to the immediate relation between consumer and purchase.	Only those products that are unavailable in Portugal should be imported
		It is always best to purchase Portuguese products
		Portuguese should not buy foreign products, because this hurts Portuguese business and causes unemployment
		It may cost me in the long run but I prefer to support Portugal products
		Buy Portuguese-made products. Keep Portuguese working
		Portuguese products, first, last, and foremost
		Portuguese people should always buy Portuguese-made products instead of imports
Ethnocentrism 2 | purchase judgment (R)	This variable captures factors related to consumers' judgment about their patriotism.	Purchasing foreign-made products is un-Portuguese
		It is not right to purchase foreign products
		A real Portuguese should always buy Portuguese-made products
		Foreigners should not be allowed to put their products on our markets
		Portuguese consumers who purchase products made in other countries are responsible for putting their fellow Portuguese out of work
Ethnocentrism 3 | imported products (R)	This variable captures factors related to imported products.	Foreign products should be taxed heavily to reduce their entry into Portugal
		We should buy from foreign countries only those products that we cannot obtain within our own country
		Curbs should be put on all imports

ROO image 1 | natural characteristics (R)	This variable captures the Amazon rainforest attributes related to its natural characteristics.	Amazon rainforest is a region rich in biodiversity
		Amazon rainforest is a region with unique features worldwide
		Amazon rainforest is a region of plants with high benefits for skin
		Amazon rainforest is a region of exotic plants
ROO image 2 | sustainability (R)	This variable captures the Amazon rainforest attributes related to its preservation.	Amazon rainforest is a region ecologically preserved
		Amazon rainforest is a region exploited in a sustainable way
Animosity 1 | relations between Brazil and Portugal (R)	This variable approaches trade relations, business and historical feelings between Portugal and Brazil.	Brazil is not a reliable trade partner
		Brazil wants to gain economic power over Portugal
		Brazil is taking advantage of Portugal
		Brazil has too much economic influence in Portugal
		Brazilians are doing business unfairly with Portugal.
		Brazil does not show gratitude for its colonizer (Portugal)
		Brazilian immigrants in Portugal cause rise in property prices for the Portuguese
Animosity 2 | direct feeling about Brazilians (R)	This variable approaches the direct feelings about Brazilians.	I feel angry toward Brazilians
		I dislike Brazilians
Sustainability concerns 1 | I avoid (R)	This variable approaches what kind of product these consumers avoid.	I avoid products from companies that do not respect the rights of their employees
		I avoid products from companies that profit from the misery of their employees
		I avoid products or brands that make children work even indirectly
Sustainability concerns 2 | I do (R)	This variable approaches the behavior related to conscious consumption.	I restrict my consumption to what I really need
		I contribute to the preservation of the environment through everyday actions
		To reduce my contribution to global warning, I consume differently
Sustainability concerns 3 | I prefer (R)	This variable approaches the consumption habits about the preferences in what and where to buy.	I prefer to buy products with an eco-label
		I prefer to buy in shops that highlight the ecological and organic products
		I prefer to do my shopping in stores that promote fair trade
General product attributes 1 | quality	This variable captures attributes related to characteristics of products quality.	High quality
		Natural products
		Handmade products

(F)		
General product attributes 2 | product innovation (F)	This variable captures attributes related to product innovation.	Innovative products
		High technology
		Prestigious products
General product attributes 3 | product in the market (F)	This variable captures attributes related to the products in the market.	Sold in many countries
		Intensively advertised
		Easily available
General product attributes 4 | differentiator factors (F)	This variable captures extrinsic attributes associated to factors that differentiate the product.	Unreasonably expensive
		Luxury products
		Exotic products
		Less aggressive to the body
		Less chemical ingredients
Perception of quality (F)	This variable captures the general quality perceived about the product.	General quality
Willingness to pay premium prices (F)	Every participant who mentioned a value above 4 euros was considered as having willingness to pay premium price for the product.	How much are you willing to pay for the product, knowing that product I is sold by 4 euros?
Willingness to buy the product (F)	Every participant who mentioned that would buy product II or both products (I and II) was considered as having willingness to buy the hand cream with Amazon rainforest ingredients.	If you purchased one of the products, which one would you buy?

(F) – formative construct; (R) – reflexive construct

The dimension of familiarity with the product was excluded from the research model because any respondent presented familiarity, according to Guina and Giraldi (2012) parameters for this variable.

3.4.2. Partial Least Square procedures on SmartPLS

The model elaborated in subchapter 2.3.2 was transposed to the software SmartPLS using the appropriate dimensions defined in Table VII. For the measurement model, the assessment of Construct Reliability and Validity was done to ensure that indicators of each

construct are consistent in measuring what they are expected to measure (Chen, Su, & Lin, 2011).

Annex B shows that consistence was guaranteed according recommended threshold (Cronbach Alpha > 0.6; Composite reliability> 0.7; AVE > 0.5). The construct "General product attributes 4 | differentiators factors" presented AVE= 0.479, although, it still can be considered acceptable.

After confirming the measurement model, the structural model was assessed to evaluate the correlation between model constructs. To achieve the correlations, Bootstrapping function in SmartPLS, which is a non-parametric resampling procedure applied to test the significance of a structural path using T-Statistic, was run (Wong, 2013).

The aim of this step was to achieve a refined and reduced model presenting just dimensions with statistically significant values. Only correlations which presented p-value lower than 0.1 were considered in the refined model, totalizing 25 correlations in the new version, as highlighted in gray in annex C. In this process, the dimension "Sustainability concerns 1 | I avoid" did not appear in any statistically significant correlation, being the only construct excluded from the full model to the reduced model.

After this, the Construct Reliability and Validity, and Discriminant Validity Assessment were assessed for the refined version, besides, a second Bootstrapping was run considering just the correlations previously selected, which will be presented in the subchapter 4.5. Figure II illustrates all the procedures executed to achieve the final results, which will be described in chapter 4.
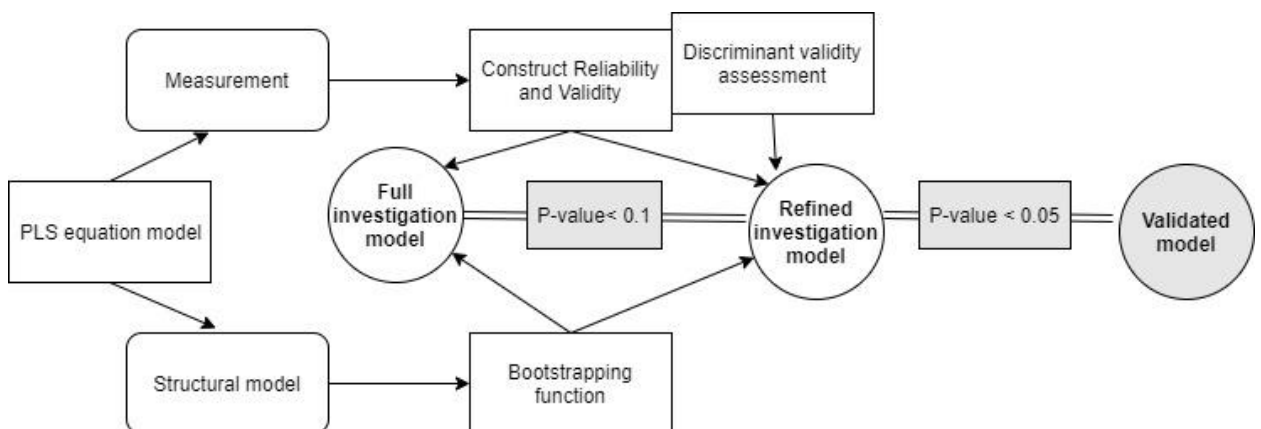
Figure II: Methodological path to achieve the validated model

4. Results

The results achieved in this research were analyzed according to the selected analysis method mentioned before. Analyses and discussions are presented in the following subchapters. The first one presents a descriptive statistical analysis of the sample and the demographic features. The second one focuses on the reliability tests assessment, and the third one on discriminant validity assessment. The fourth subchapter presents experimental test results according paired sample test. The fifth one approaches the structural equation model and the validated hypotheses.

4.1. Descriptive statistical analysis

The total sample was composed of 133 students. In terms of gender, 88 participants (66.17%) were female, 41 participants (30.83%) were male and four students (3%) did not answer this question.

Regarding age, participants were between 18 and 37 years old. From the total sample, 116 students (87.2%) were between 18 and 22 years old. The average for this variable is about 21 years old, being the standard deviation value equal to 2.33.

In terms of education, 88 participants (66.2%) were taking a bachelor course, 2 participants (1.5%) were taking a post-graduation course, and 44 participants (31.6%) were taking a master course.

In relation to their household income, one participant (0.8%) considered it as far below the country average, nine participants (6.8%) considered it as below the country average, 65 participants (48.9%) classified it as on average compared to the country, 54 participants (40.6%) classified it as above the country average and three participants (2.3%) considered it as far above the country's average. The question was not answered by one participant.

About the country of birth, 130 inquires (97.7%) were born in Portugal and three inquires (2.3%) were born in a different country in Europe, all developed countries.

4.2. Product judgment in experimental test

Considering that in the experimental test, students were invited to try out two hand creams, being the first one identified as a common hand cream (product I) and the other one

as a hand cream made with ingredients from Amazon rainforest (product II), but both creams were the same product, T-test for paired samples analysis was performed in SPSS Statistics in order to assess how both products were perceived and judged by respondents in a "pre-post" design - "product1-product2".

Considering the central limit theorem, which states that large enough sample sizes (>30 and 40) tend to present a sampling normal distribution, the T-test for paired samples showed to be suitable for the case in analysis. This test, which requires a sample normally distributed, has the objective of comparing the average of two correlated groups to analyze their differences (Ghasemi & Zahediasl, 2012; Ross & Willson, 2017).

Before the T-test for paired samples, statistical measures (Table VIII) were assessed to compare the answers provided by students for both products. The possible answers for the questions above were measured on a scale from 1 to 7, where 1 was equal to "very little" and 7 was equal to "very much" (as shown in Table IV).

Table VIII: Descriptive statistics measures for product I and product II

Peer	Criteria		Mean	Standard deviation	Standard error from the mean
1	General quality	Product I	5.00	0.941	0.082
		Product II (Amazon rainforest)	5.36	0.893	0.078
2	Texture: thick	Product I	4.80	1.188	0.103
		Product II (Amazon rainforest)	4.95	1.043	0.091
3	Density: fluid	Product I	4.45	1.400	0.122
		Product II (Amazon rainforest)	4.87	1.367	0.119
4	Perfume: pleasant	Product I	5.13	1.411	0.122
		Product II (Amazon rainforest)	5.44	1.208	0.105
5	Moisturizing power	Product I	5.13	1.160	0.101
		Product II (Amazon rainforest)	5.56	1.001	0.087
6	Skin absorption: quickness	Product I	4.69	1.468	0.128
		Product II (Amazon rainforest)	4.39	1.491	0.130

Source: Adapted from SPSS Statistics

Analyzing the mean, which measures the central tendency of the answers, the general quality evaluation, product II (mean= 5.36, SD= 0.893) was better evaluated than product I (mean= 5.00, SD= 0.893), showing that in general, the hand cream produced with Amazon rainforest ingredients was perceived by respondents as having better quality than the other cream.

Considering the assessment for specific categories, except in the category "Skin absorption: quickness" - product I (mean= 4.69, SD= 1.468) and product II (mean= 4.39, SD= 1.491), product II was better evaluated in all the other four specific categories, showing that consumers perceived the product supposedly with ingredients of Amazon rainforest origin as better than product I.

In terms of standard deviation for these data sets, the peer for "Skin absorption: quickness" presents the greater value when compared to the others, indicating a higher level of data dispersion among the provided answers.

Lastly, to evaluate if the means of the variables are significantly different, the inferential T-test statistics was assessed, according to Table IX, presenting the differences between the two products (product I and product II):

Table IX: Paired Samples Test

Peer	Product I - Product II	Mean	Standard deviation	Standard error mean	95% Confidence Interval of the Difference		t	Sig. (2-tailed)
					Lower	Upper		
1	About the general quality	-0.364	0.919	0.080	-0.522	-0.205	-4.548	0.000
2	Texture: thick	-0.144	1.431	0.125	-0.390	0.102	-1.156	0.250
3	Density: fluid	-0.417	1.837	0.160	-0.733	-0.100	-2.606	0.010
4	Perfume: pleasant	-0.308	1.338	0.116	-0.538	-0.079	-2.657	0.009
5	Moisturizing power	-0.435	1.348	0.118	-0.668	-0.202	-3.695	0.000
6	Skin absorption: quickness	0.298	1.912	0.167	-0.033	0.628	1.782	0.077

Source: SPSS Statistics

Considering the mean expressed in table XI, the variable "Skin absorption: quickness" was the only criterion better evaluated for product I than product II. On average, for this category, scores were 0.298 higher for product I when compared to product II. Except for this case, product II was better evaluated for all the others.

Comparing all the criteria, "Moisturizing power" was better evaluated for product II (mean= -0.435), showing that it was the factor where they felt the biggest difference between

the products. The criterion "Density: fluid" was the second one (mean= -0.417) which respondents felt the biggest difference between both products.

Analyzing the t-value, which expresses the difference between scores in both experimental tests, the largest differences, in absolute terms, are observed for "General quality" (t-value= 4.548) and "Moisturizing power" (t-value= 1.782), reflecting in a p-value of 0.00 for both.

Analyzing the p-value (sig. 2-tailed), it is possible to identify if the differences observed in mean are large enough to reach statistical significance, considering an alpha level of 0.05, due to the confidence interval of 95%.

Statistical significance is identified for the peers which p-value < 0.05. It occurs for the following cases: "General quality" (p-value= 0.000), "Density: fluid" (p-value= 0.010), "Perfume: pleasant" (p-value= 0.009) and "Moisturizing power" (p-value= 0.000). That means a statistically significant difference between the mean for product I and product II, indicating that respondents felt real differences between both products.

So, the null hypothesis for these criteria, which considers there is no significant difference between the hand cream scores in product 1 (pretest) and product 2 (posttest) conditions and the results could have occurred by chance, is rejected.

For the peers "Texture: thick" (p-value= 0.250) and "Skin absorption: quickness" (p-value= 0.077), p-value > 0.05 shows there is no significant statistic for these criteria, so the null hypotheses are accepted for both cases. It indicates that these results can have occurred by chance and there is no real difference between the perception of both products by consumers in these categories.

The fact that product II was better evaluated indicates that the stimulus of saying that the product contained ingredients from Amazon rainforest produced a positive effect on respondents' product judgments, so H0, established in subchapter 3.1, is rejected once products received different scores in consumers' evaluation.

4.3. Reliability tests

In order to assess the consistency in measuring the items evaluated by scales and the reduced model as a whole, SmartPLS was used to analyze Cronbach Alpha, Composite Reliability and Average Variance Extracted (AVE) to ensure the measures' quality, as follows in Table X:

Table X: Construct Reliability and Validity assessment for reflective items evaluated by scales

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Animosity 1 | relations between Brazil and Portugal	0.825	0.871	0.539
Animosity 2 | direct feelings toward Brazilians	0.903	0.953	0.911
Ethnocentrism 1 | immediate purchase	0.886	0.904	0.574
Ethnocentrism 2 | purchase judgement	0.848	0.891	0.622
Ethnocentrism 3 | imported products	0.72	0.842	0.64
ROO image 1 | natural characteristics	0.773	0.851	0.589
ROO image 2 | sustainability	0.624	0.842	0.727
Sustainability concerns 2 | I do	0.801	0.881	0.714
Sustainability concerns 3 | I prefer	0.756	0.859	0.671

Source: SmartPLS

Cronbach Alpha is a numerical coefficient of reliability which "determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability". A higher score ensures more reliability in the generated scale. A generally acceptable reliability coefficient is between the range of 0.6 to 0.7, and 0.8 or greater is considered a very good level (Santos, 1999, p. 1; Ursachi, Horodnic, & Zait, 2015).

Considering these parameters, all the constructs ensure acceptable values for Cronbach Alpha above 0.6. Among them, five constructs present a Cronbach Alpha greater than 0.8, guaranteeing a very good level for the following dimensions: Animosity 1 | relations between Brazil and Portugal; Animosity 2 | direct feelings toward Brazilians; Ethnocentrism 1 | immediate purchase; Ethnocentrism 2 | purchase judgment, and Sustainability concerns 2 | I do.

The Composite reliability "represents an index reflecting the impact of error upon the scale". A high validity is a dependent condition for high reliability. A generally acceptable value for composite reliability is 0.7 or greater (Raykov & Grayson, 2003, p. 143; Sridharan, Deng, Kirk, & Corbitt, 2010). All the variables meet the acceptable value, guaranteeing less impact of errors upon the scales.

The AVE quantifies the "level of variance captured by a construct versus the level due to measurement error". A threshold of 0.5 or greater is an acceptable value, whereas, one higher than 0.7 is considered very good (Ghadi, Alwi, Bakar, & Talib, 2012). All the variables fit in the acceptable threshold.

In sum, these analyses ensure the reliability of measures and the within-scale consistency of the answers to the items of the measures, guaranteeing the consistency of the refined model.

4.4. Discriminant validity assessment

Discriminant validity guarantees that a construct is unique and captures aspects not covered by other constructs in the model. The Fornell-Larcker criterion is a method widely used for the prevention of multicollinearity issues through discriminant validity assessment (Ab Hamid, Sami, & Sidek, 2017; Hair Jr, Hult, Ringle, & Sarstedt, 2016).

In this method, the square root of the AVE values is compared to the correlation of latent variables and only reflective constructs are supposed to be assessed using this criterion. Establishing discriminant validity means that the square root of each construct's AVE must be greater than its correlation with other constructs. Aiming to ensure a strong relationship between reflective construct with its own indicators, the discriminant validity assessment was performed (Hair Jr et al., 2016).

As shown in Table XI, the criteria established for discriminant validity is accomplished for all the reflexive variables, once AVE for each construct is greater than the correlations with other constructs, thus Fornell-Larcker criterion can be considered fulfilled for the model.

Table XI: Discriminant validity assessment for reflective constructs

Constructs	A1	A2	E1	E2	E3	ROO1	ROO2	SC1	SC3
Animosity 1 (A1)	**0.734**								
Animosity 2 (A2)	**0.496**	**0.954**							
Ethnocentrism 1 (E1)	0.202	0.152	**0.757**						
Ethnocentrism 2 (E2)	0.318	0.352	**0.642**	**0.789**					
Ethnocentrism 3 (E3)	0.314	0.23	**0.591**	**0.556**	**0.8**				
ROO image 1 (ROO1)	-0.346	-0.226	-0.066	-0.253	-0.049	**0.768**			
ROO image 2 (ROO2)	0.006	0.033	0.134	0.163	0.125	**-0.257**	**0.852**		
Sustainability concerns 2 (SC2)	-0.02	-0.077	0.081	0.001	0.035	0.073	0.017	**0.845**	
Sustainability concerns 3 (SC3)	-0.114	-0.046	0.088	-0.055	0.119	0.224	-0.035	**0.485**	**0.819**

The square roots of AVE are highlighted in gray on diagonal.

4.5. Structural equation model

Statistical data analysis was performed by the approach of the Partial Least Square – Structural Equation Modeling (PLS-SEM) method with SmartPLS software to test the hypothesized model and assess how variables are significantly correlated.

The refined model was run in SmartPLS using Bootstrapping function. The results of the Bootstrapping indicate a statistically significant relationship between variables using $p < 0.05$ as cut off for p-value. Any correlation presenting p-value higher than this parameter needed to be rejected for not being statistically significant (Andrade, 2019).

In the following subchapter was conducted an analysis by dimension considering the Bootstrapping results for correlations and the hypotheses in test. Hypotheses were accepted when $p < 0.05$ and rejected in cases where $p > 0.05$.

4.5.1. Consumer ethnocentrism

The bootstrapping's results, presented in Table XII, indicate the existence of just one relationship with significant p-value, thus validating hypothesis H1.6, and rejecting the hypotheses H1.1, H1.2, H1.3, H1.4, and H1.5.

The hypothesis H1.6 suggests that consumers' ethnocentrism influence on their animosity levels. Through the analysis presented in Table XII, it is identified that the hypothesis is partially validated, since the expected outcome just occurs for some dimensions, as follows: "Ethnocentrism 2 | purchase judgment" impacts positively on both "Animosity 1 | relations between Brazil and Portugal" (O= 0.207; P-value= 0.050), and "Animosity 2 | direct feelings toward Brazilians" (O= 0.352; P-value= 0.003). The dimension "Ethnocentrism 3 | imported products" impacts also positively on Animosity, but only for the dimension "Animosity 1 | relations between Brazil and Portugal" (O= 0.199; P-value= 0.052).

Table XII: SmartPLS Bootstrapping results for Ethnocentrism dimension

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Ethnocentrism 1 | immediate purchase -> Willingness to buy the product	-0.225	-0.232	0.129	1.746	0.081
Ethnocentrism 2 | purchase judgment -> Animosity 1 | relations between Brazil and Portugal	0.207	0.214	0.106	1.962	**0.050**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Ethnocentrism 2 | purchase judgment -> Animosity 2 | direct feelings toward Brazilians	0.352	0.368	0.119	2.966	**0.003**
Ethnocentrism 2 | purchase judgment -> General product attributes 2 | product innovation	0.291	0.303	0.104	2.808	0.005
Ethnocentrism 2 | purchase judgement -> ROO image 1 | natural characteristics	-0.155	-0.158	0.107	1.446	0.149
Ethnocentrism 3 | imported products -> Animosity 1 | relations between Brazil and Portugal	0.199	0.207	0.102	1.947	**0.052**
Ethnocentrism 3 | imported products -> General product attributes 2 | product innovation	-0.207	-0.215	0.122	1.696	0.091

Source: SmartPLS

4.5.2. Consumer animosity

The bootstrapping's results, presented in table XIII, indicate the existence of just one relationship with significant p-value, thus validating hypothesis H2.5, and rejecting the hypotheses H2.1, H2.2, H2.3, and H2.4.

The hypothesis H2.5 suggests that consumer animosity influences on the ROO image perceived by the customer. Through the analysis presented in Table XIII, it is identified that the hypothesis is partially validated, since the expected outcome just occurs for some dimensions, as follows: the dimension "Animosity 1 | relations between Brazil and Portugal" affects negatively the dimension "ROO image 1 | natural characteristics" (O= 0.276; p-value= 0.002).

Table XIII: SmartPLS Bootstrapping results for Animosity dimension

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Animosity 1 | relations between Brazil and Portugal -> General product attributes 1 | quality	-0.102	-0.104	0.086	1.193	0.234
Animosity 1 | relations between Brazil and Portugal -> ROO image 1 | natural characteristics	-0.276	-0.274	0.087	3.164	**0.002**
Animosity 2 | direct feelings toward Brazilians -> Willingness to pay premium prices	-0.062	-0.062	0.081	0.755	0.450

Source: SmartPLS

4.5.3. Consumer sustainability concerns

The bootstrapping's results, presented in table XIV, indicate the existence of some relationships with significant p-value, thus validating hypotheses H3.1 and H3.5, and rejecting the hypotheses H3.2, H3.3, and H3.4.

The hypothesis H3.1 suggests that consumer sustainability concerns influence on the general product attributes perception. Through the analysis presented in Table XIV, it is identified that the hypothesis is partially validated, since the expected outcome just occurs for some correlated dimensions, as follows: the dimension "Sustainability concerns 2 | I do" affects positively the dimensions "General product attributes 1 | quality" (O= 0.281; p-value= 0.000) and "General product attributes 3 | product in the market" (O= 0.181; p-value= 0.041). The dimension "Sustainability concerns 3 | I prefer" affects positively the dimensions "General product attributes 2 | product innovation" (O= 0.212; p-value= 0.012) and "General product attributes 3 | product in the market" (O=0.244; p-value= 0.033)

The hypothesis H3.5 suggests that consumer sustainability concerns influence on the ROO image. Through the analysis presented in Table XIV, it is identified that the hypothesis is partially validated, since the expected outcome just occurs for one correlated dimension, as follows: the dimension "Sustainability concerns 3 | I prefer" affects positively the dimension "ROO image 1 | natural characteristics" (O= 0.184; p-value= 0.004).

Table XIV: SmartPLS Bootstrapping results for consumer sustainability concerns dimension

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Sustainability concerns 2	I do -> General product attributes 1	quality	0.281	0.293	0.075	3.743	**0.000**
Sustainability concerns 2	I do -> General product attributes 3	product in the market	0.181	0.195	0.088	2.052	**0.041**
Sustainability concerns 2	I do -> Perception of quality	0.15	0.146	0.1	1.505	0.133
Sustainability concerns 3	I prefer -> General product attributes 2	product innovation	0.212	0.222	0.084	2.529	**0.012**
Sustainability concerns 3	I prefer -> General product attributes 3	product in the market	0.244	0.224	0.114	2.138	**0.033**
Sustainability concerns 3	I prefer -> ROO image 1	natural characteristics	0.184	0.193	0.064	2.857	**0.004**

Source: SmartPLS

4.5.4. ROO image

The bootstrapping's results, presented in Table XV, indicate the existence of some relationships with significant p-value, thus validating hypotheses H4.1 and H4.4, and rejecting the hypotheses H4.2 and H4.3.

The hypothesis H4.1 suggests that ROO image impacts in the general product attributes. Through the analysis presented in Table XV, it is identified that this hypothesis is partially validated, since the expected outcome just occurs for some correlated dimensions, as follows: the dimension "ROO image 1 | natural characteristics" affects positively the dimensions "General product attributes 1 | quality" (O= 0.297; p-value= 0.000) and "General product attributes 3 | product in the market" (O=0.219; p-value= 0.009). The dimension "ROO image 2 | sustainability" affects positively the dimensions "General product attributes 1 | quality" (O=0.283; p-value= 0.003) and "General product attributes 3 | product in the market" (O=0.249; p-value= 0.021).

The hypothesis H4.4 suggests that ROO image impacts the willingness to pay premium prices. Through the analysis presented in Table XV, it is identified that this hypothesis is partially validated, since the expected outcome just occurs for one correlated dimension, as follows: the dimension "ROO image 1 | natural characteristics" affects positively the dimension "Willingness to pay premium prices" (O= 0.197; p-value= 0.037).

Table XV: SmartPLS Bootstrapping results for ROO image dimension

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
ROO image 1 | natural characteristics -> General product attributes 4 | differentiators factors	0.217	0.236	0.117	1.843	0.066
ROO image 1 | natural characteristics -> General product attributes 1 | quality	0.297	0.299	0.076	3.901	**0.000**
ROO image 1 | natural characteristics -> General product attributes 3 | product in the market	0.219	0.218	0.083	2.636	**0.009**
ROO image 1 | natural characteristics -> Willingness to pay premium prices	0.197	0.197	0.094	2.093	**0.037**
ROO image 2 | sustainability -> General product attributes 1 | quality	0.283	0.283	0.094	3.025	**0.003**
ROO image 2 | sustainability -> General product attributes 3 | product in the market	0.249	0.245	0.107	2.319	**0.021**

Source: SmartPLS

4.5.5. General product attributes

The bootstrapping's results, presented in Table XVI, indicate the existence of some relationships with significant p-value, thus validating hypotheses H5.1 and H5.2, and rejecting the hypotheses H5.3.

The hypothesis H5.1 suggests that the general product attributes influence on the consumers' willingness to buy the product. Through the analysis presented in Table XVI, it is identified that the hypothesis is partially validated, since the expected outcome just occurs for one correlated dimension, as follows: the dimension "General product attributes 3 | product in the market" affects positively the dimension "Willingness to buy the product" (O= 0.174; p-value= 0.013).

The hypothesis H5.2 suggests that the general product attributes influence on the consumers' perception of quality. Through the analysis presented in Table XVI, it is possible to identify that this hypothesis is partially validated, since the expected outcome just occurs for one correlated dimension, as follows: the dimension "General product attributes 1 | quality" affects positively the dimension "Perception of quality" (O= 0.314; p-value= 0.000).

Table XVI: SmartPLS Bootstrapping results for general product attributes dimension

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
General product attributes 1 | quality -> Perception of quality	0.314	0.324	0.076	4.122	**0.000**
General product attributes 3 | product in the market -> Willingness to buy the product	0.174	0.178	0.07	2.481	**0.013**

Source: SmartPLS

4.5.6. Perception of product quality

The bootstrapping's results, presented in Table XVII, indicate the existence of some relationships with significant p-value and Original sample (O), thus validating hypothesis H6.1, and rejecting the hypothesis H6.2.

The hypothesis H6.1 suggests that the perception of product quality influences on the willingness to buy the product. Through the analysis presented in Table XVII, it is identified that the hypothesis is partially validated, since the expected outcome just occurs

for one correlated dimension, as follows: the dimension "Perception of quality" affects positively the dimension "Willingness to buy the product" (O= 0.391; P-value= 0.000).

Table XVII: SmartPLS Bootstrapping results for perception of product quality dimension

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perception of quality -> Willingness to buy the product	0.391	0.38	0.074	5.299	**0.000**

Source: SmartPLS

4.6. Results discussion

In literature, researchers have been widely discussed the exerted role by ethnocentrism in the purchase process of an imported product. Shimp and Sharma (1987) proposed that ethnocentrism could lead to rejection of imported products, once consumers believe that buying these products, they would be adverse to the national economy. Nadiri and Tümer (2010) observed that age impacts ethnocentrism, once older people tend to be more ethnocentric than the young ones.

Based on previous studies, the effect of ethnocentrism was tested to the general product attributes, willingness to buy the product, perception of quality, willingness to pay premium prices, ROO image, and animosity. The results of this research evidenced that despite literature affirmations toward purchase process, the significance of consumer ethnocentrism was expressed positively only for the path to animosity (H1.6).

Hypothesis H1.6 can be just partially validated, once the significant relation of ethnocentrism's dimensions occurred just for some animosity's dimensions. The dimension "Ethnocentrism 2 | purchase judgment", which comprises the feeling of not being a real Portuguese for buying an imported product, exerts positive influence both on the dimensions "Animosity 1 | relations between Brazil and Portugal", which comprises the relations between Brazil and Portugal in business and economy, and "Animosity 2 | direct feelings toward Brazilians", which comprises the direct feelings of Portuguese toward Brazilians. In addition, the dimension "Ethnocentrism 3 | imported products", which includes the agreement with barriers to imported products in Portuguese territory, exerts positive influence on the dimension "Animosity 1 | relations between Brazil and Portugal".

These findings might indicate that the fear of judgment of not being a real patriot for buying imported products reinforces the antipathetic behaviors toward the trade relations between Portugal and Brazil and also toward Brazilians, as if sympathetic behaviors toward Brazilians could be a threat to their patriotic feeling and to their image as patriots. Besides, the repulse for foreign products aiming at protecting Portuguese economy also reinforces antipathetic behaviors toward the trade relations between Portugal and Brazil. It might occur because respondents think that close trade relations between both countries could foster more imports from Brazil with better trade conditions for them, which could be harmful to Portuguese products.

Except for animosity, consumer ethnocentrism was not significantly expressed in the relationships with the other variables such as willingness to buy or perception of quality, as expected.

Consumer animosity has been treated in literature as similar to ethnocentrism on the point of rejection toward imported products, so the proposed correlations to be tested for this dimension were similar to consumer ethnocentrism proposed correlations (Adina et al., 2015; Klein et al., 1998; Ramadania et al., 2014; Torres & Gutiérrez, 2008).

It is relevant to highlight that animosity was measured toward Brazilians, once it was supposed that respondents would not have formed opinion about Amazon rainforest natives due to lack of previous events between the region and Portugal. In addition, although the forest territory spreads by eight countries (Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guyana, Suriname, and French Guiana), when questioned about what countries they would associate the Amazon rainforest to, no respondent listed all these countries, but all of them referred Brazil among others, and 72.9% referred just to Brazil, indicating a large association between the Amazon rainforest and Brazil.

The results evidenced that consumer animosity and ROO image are negatively related concepts (H2.5). Hypothesis H2.5 can be just partially validated, once the significant relation of animosity's dimensions occurred just for some dimensions of ROO image. The dimension "Animosity 1 | relations between Brazil and Portugal" influences negatively on the dimension "ROO image 1 | natural characteristics", which captures the Amazon rainforest attributes related to its natural characteristics that translate its uniqueness.

These findings might indicate that the antipathetic behaviors toward the trade relations between Portugal and Brazil work as a barrier to recognize positive attributes of the region, such as its natural characteristics. Additionally, the animosity to the country reflected

in the image of the region could be expected, since there is a lack of previous relations between the region and Portugal. Besides, it might indicate that the region is highly associated with one country, despite its extension spread across other countries.

The consumer sustainability concerns emerged in this research due to the study object be specifically this region, and also justified by the new concerns of consumers about this topic, turning it into a variable in the purchase process decision. Understanding this topic gains relevance once the environmental perspective has not been studied as a variable involved in the shaping of the POO image (Giraldi, 2016).

The findings showed that sustainability concerns have positive effects on the general product attributes (H3.1) and on the ROO image (H3.5). These hypotheses can be just partially validated, once the significant relation of sustainability concerns' dimensions occurred just for some general product attributes' dimensions and ROO image. The dimension "Sustainability concerns 2 | I do", which approaches the consumer behavior related to conscious consumption, reflects positively in the dimension "General product attributes 1 | quality", which captures the attributes of product quality, such as being natural and handmade, and in the dimension "General product attributes 3 | product in the market", which comprises attributes related to the product in the market in terms of advertising and availability.

The dimension "Sustainability concerns 3 | I prefer", which approaches the consumption habits in terms of preferences in what and where to buy, indicates positive relations with the dimensions "General product attributes 2 | product innovation", which approaches attributes related to product innovation, and "General product attributes 3 | product in the market".

The findings might indicate that attitudes of consuming responsibly reinforce the attention to products handmade and compounded by natural ingredients from biodiversity, consequently, being less chemically industrialized and less aggressive to the environment and to the body. Besides, those who consume consciously are more inclined to give importance to product advertising and its availability in the market.

In addition, the consumption preferences for purchasing eco-label products in specialized stores, and from manufacturers that promote fair trade reaffirm the expectation for innovative and prestigious products, once these goods are sold as differentiated in the market. These consumption preferences also reinforce the inclination to the product advertising and its availability in these specialized stores.

The dimension "Sustainability concerns 3 | I prefer", indicates a positive relation with the dimension "ROO image 1 | natural characteristics". This result might indicate that the preferences for eco-label products and specialized stores reinforce the image of the Amazon rainforest as a geographic origin of natural characteristics, probably because consumers concerned about sustainability are more inclined to value and recognize the forest as an unequaled wealth in the environment. This correlation confirms the assumption proposed by Giraldi (2016) that a path to COO image would be established due to the new concerns of consumers about sustainability, but in this case, the effect occurred to the ROO.

The ROO image has been approached in literature as a driver of consumer's perception about a product and of their purchase intentions (Schooler, 1965). Depending on the effect produced on consumers' attitudes, if positive or negative, an outcome is expected: or it can add, or it can subtract perceived value from the product. When positive, these effects can lead to willingness to buy the product and willingness to pay premium prices for them, and when negative to the opposite (Agrawal & Kamakura, 1999; Anselmsson et al., 2014).

The findings showed that ROO image had positive effects on the general product attributes (H4.1), and on the willingness to pay premium prices for the product. (H4.4). Hypothesis H4.1 and H4.4 can be just partially validated, once did not occur significance between all dimensions of the variables correlated.

The dimension "ROO image 1 | natural characteristics" reflects positively in the dimension "General product attributes 1 | quality", "General product attributes 3 | product in the market" and "Willingness to pay premium prices". The dimension "ROO image 2 | sustainability", which comprises aspects of the sustainable exploitation and preservation of the Amazon rainforest, also affects positively the dimension "General product attributes 1 | quality" and "General product attributes 3 | product in the market".

These results might suggest that the image of the region as rich in biodiversity and exploited sustainably reinforces positively the products attributes, such as being natural and handmade.

It confirms van Ittersum et al. (2003) findings about the creation of value for the product through human expertise, natural environment, and regional image. García Gallego et al. (2015) and van Ittersum et al. (2003) also affirm that the differentiating attributes of some products arise from characteristics of some specific regions.

The knowledge experienced by market players is also confirmed by these validations. They have claimed that the abundance of natural oils, fruits and plant extracts from the

Amazon rainforest makes consumers perceive its originating cosmetics as more natural (BBC Brasil, 2007).

In addition, the image of rich biodiversity and sustainable exploitation for Amazon rainforest also reinforces the attributes related to these products be highly advertised and available in the market. This might suggest those who see Amazon rainforest as a place rich in biodiversity and sustainably exploited believe that this combination creates a consolidated market for cosmetic industry.

Considering these findings, natural cosmetics could somehow also be compared to wine, a product category extensively discussed in marketing literature under the ROO concepts, in terms of origin relevance. For wine, the product is not only associated to a territory and its traditions, but also to the physical characteristics of the land and its human dimensions (Balestrini & Gamble, 2006; Chamorro et al., 2015).

In the case of natural cosmetics, the natural oils, fruits, and plants only found in the Amazon rainforest make the physical characteristics of the forest be unique in the world. Also its human dimensions, which includes handmade work of local residents in the extraction of raw material to produce cosmetics, form the differentiation of the region through specificities that turn into product´s qualification (Santos & Ribeiro, 2005; Sousa, Almeida, Silva, da Silva Albuquerque, & Cordeiro, 2019)

As studied by García Gallego et al. (2015), region characteristics are uniform and consistent, enabling products to transmit an identity based on factors like know-how of its people, climate, agricultural characteristics, and culture. If all these characteristics do not occur for another country or region together simultaneously, the product will be unique and cannot be imitated.

The image of rich biodiversity for the Amazon rainforest region also influenced positively on the willingness to pay premium prices, suggesting that when encountered with a unique product of natural origin, consumers tend to value the origin and to be willing to pay higher prices. In literature, it had already been found that emphasizing the origin of the product enables producers to practice better prices or even premium prices (Dekhili & d'Hauteville, 2009; Latusi et al., 2017).

Finally, considering the results of experimental test as shown in subchapter 4.4, product 2 (produced with Amazon rainforest ingredients) was better evaluated by respondents, indicating that in placebo test, the information about the origin produced a

positive effect on product judgment, which also confirms that ROO image can create value for the product in the market.

Regarding the general product attributes, the findings observed in the results evidenced that the general product attributes had positive effects on the willingness to buy the product (H5.1), and in the perception of quality (H5.2). The dimension "General product attributes 1 | quality" reflects positively in the "Perception of quality" and the dimension "General product attributes 3 | product in the market" affects positively the "Willingness to buy". Finally, the dimension "Perception of quality" influenced positively on the "Willingness to buy the product", confirming hypothesis H6.1.

It might be supposed that product attributes, such as being natural and handmade, made consumers perceive quality in the hand cream, and consequently, the perceived quality resulted in willingness to buy the product. Besides, attributes related to the product advertisement and its availability in the market affected directly the willingness to buy it, possibly indicating that these consumers evaluate that a product established in the market inspires more reliability to be purchased.

Given the validated hypothesis proposed in the investigation model, the following correlations for constructs were achieved as shown in Figure III:
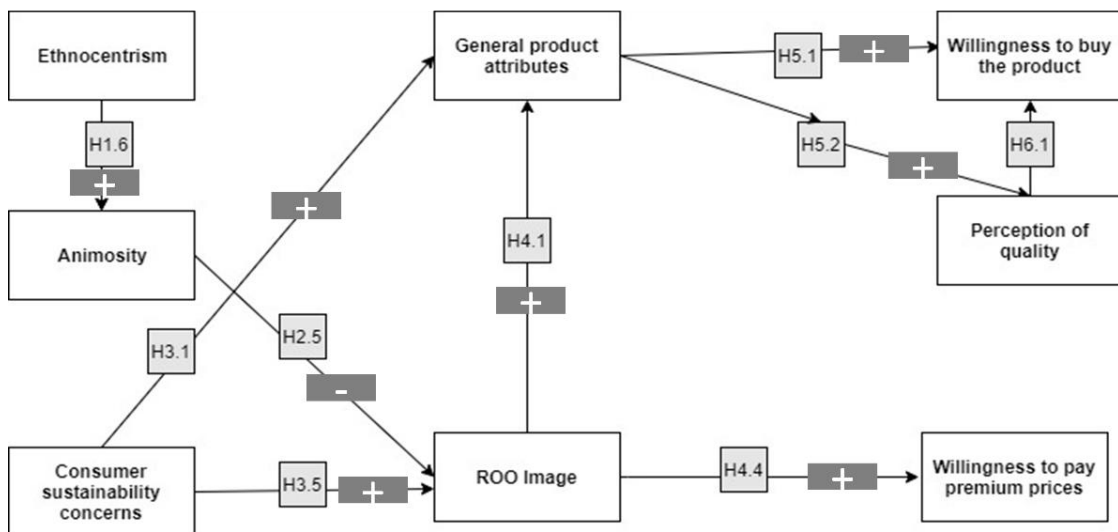

Figure III: Validated correlation model

4.7. Results conclusion

The structural equation model indicates which constructs can influence on the willingness to buy a foreign product, such as cosmetics produced with Amazon rainforest

ingredients, and on the willingness to pay premium prices for them. It was identified an indirect path through the influencing factors until the purchase decision.

Consumer ethnocentrism was only manifested to reinforce consumer animosity, which in turn influenced negatively on the ROO image. The most relevant aspect for this last correlation is that consumer animosity toward Brazil – country level – produced effect on the image at region level, indicating that in some cases, when there are no historical events in the relation between a country and a region, the closest feelings about that region are accessed, suggesting that there is no total decoupling between the country and the region, and negative perceptions and feelings toward the country might fall back on the ROO image.

Consumer sustainability concerns affect positively the ROO image and general product attributes, indicating that consumers trust in a sustainable and fair production chain for the cosmetics with Amazon rainforest ingredients and believe that for being natural cosmetics, they are more aligned with their environmental concerns.

The ROO image does not affect directly the willingness to buy and the perception of quality, as expected due to previous researches approaching this factor, but it influenced the general product attributes, which in turn caused effect on the willingness to buy the product and on the perception of quality.

The ROO image caused direct effect on the willingness to pay premium price, which did not suffer any other influence. This correlation suggests that in the consumer's view, the image of the product origin is a driver of the willingness to pay premium price, but the difference in attributes, or the perception of quality does not justify to pay higher prices. In the experimental test, the sample perceived different product's physical characteristics, being product II perceived as having more quality and evaluated in higher scores.

The direct effect on the willingness to buy was exerted only by the variables general product attributes, and perception of quality. It might indicate that, despite other influencing factors compose the path that leads to the purchase intention, the final consumer decision is driven by variables associated with the evaluation and perceptions of the product itself.

5. Conclusions

Firms' internationalization and the consequent increasing degree of competitiveness in the global market have turned the origin into an attribute for product differentiation. This effect is derived from the consumers' perceptions toward the POO, such as stereotypes and attitudes. For specific regions, the differentiation occurs from their attributes, such as natural characteristics and human factors, which contribute to shape the ROO image.

This dissertation attempted to the issues surrounding the ROO effects, specifically approaching the Amazon rainforest as a study object, by using an experimental test and surveys. The research design was focused on addressing twofold objectives: comprehending the existence of ROO effects on consumer perception regarding products manufactured with Amazon rainforest's ingredients and investigating the ROO effects on consumers' willingness to buy these products and their willingness to pay premium prices for them.

The first objective was accomplished through an experimental test. It was observed that consumers assessed differently and more positively the cosmetics when Amazon rainforest was mentioned as the ROO, endorsing the previous studies conclusion that the information about the product origin produces effect on product judgment.

The second objective was addressed by survey responses, which assessed the consumers' perceptions for eight constructs: ethnocentrism, animosity, consumer sustainability concerns, general product attribute, ROO image, perception of quality, willingness to buy and willingness to pay premium prices. All the correlations were partially validated, once they were not statistically significant for all the dimensions.

About the direct influencing factors surrounding the ROO, statistically significant correlation was observed negatively for animosity, and positively for sustainability concerns. ROO image, in turn, affected positively general product attributes and it was the only correlation with willingness to pay premium prices, sustaining the view that mentioning the name of a region can create added value for product enabling producers to obtain better prices for regional products (Dekhili & d'Hauteville, 2009).

The correlation between ROO image and willingness to buy the product was not statistically significant as a direct influencing attribute in decision-making purchase, as it could be expected, but as an indirect influencing factor through general product attributes. The perception of quality was a factor influenced by the variable general product attributes, and it influenced on the willingness to buy.

Among the findings achieved and discussed, three conclusions must be in the spotlight due to their relevance in contributing to marketing literature, and firms' marketing strategy. First, products manufactured with Amazon rainforest ingredients were better evaluated, indicating that ROO might produce positive effects on consumer behaviors. If on one hand, attributes which characterize Amazon rainforest in terms of physical characteristics and human dimensions make products unique, once there is no other forest in the world which combine all the same characteristics, on the other, the same attributes included sustainability concerns as a new possible variable in the purchase process decision.

Second, sustainability concerns, including environmental and ethical issues, have emerged due to the new consumers' concerns about this topic (Giraldi, 2016). Literature approaching sustainability concerns as an influencing factor of POO, COO or ROO are still rare, indicating the need for more investigations from different perspectives to comprehend the correlation between these variables.

Third, the animosity toward one of the countries where Amazon rainforest is located reflected in the ROO image. It suggests that for consumers there is no total disassociation between their perceptions about the country and the region. In cases which there are no ongoing or past events between the consumers' country and the region, people tend to access in their minds the closest feelings about that region and negative feelings toward the country might fall back on the ROO image.

Thus, from a theoretical point of view, the dissertation advances in linking three poorly studied issues in ROO literature: Amazon rainforest as study object, sustainability concerns as a new variable in the purchase decision, and the feelings toward the country falling back to the ROO image as a correlation in the buying decision-making process of a foreign product. The environmental issue was only brought up due to the region in study, but considering the consumers' concerns about social sustainability, it can be a topic also approached in other contexts enhancing academic dialogue.

From managerial perspectives, the findings showed several implications for managers, especially for firms operating in international market. ROO image might work as a driver of premium prices, so evidencing that origin can create added value or the product. This may allow managers to take decisions in terms of using ROO as a brand for product and focus on communicating it, besides taking advantage of the product specifies to charge higher levels of prices.

Although, when the product is highly linked to the environment, the sustainability issues might emerge as a consumer concern, and firms are required to be positioned as sustainable to access some markets, such as Europe, where it is valued, as highlighted by Sutter et al. (2015). Thus, when firms want to benefit their products from the positive region attributes (e.g.: being natural, handmade), they might be required by consumers to adopt social responsibility practices.

In addition, sustainability concerns as an influencing factor of ROO image also should capture public sector attention, once public politics can strengthen a positive image for regions, which will be reflected in firms' competitive advantage in markets. The opposite might also be true, the lack of public politics can reflect in a negative image to the region.

Besides, marketers sometimes are focused on quality and product attributes to influence purchase decisions. Regardless this study identifies that these are variables that impact directly on the willingness to buy, indirectly there is a path until the purchase decision, which is influenced by several factors that sometimes do not receive so much attention of managers in marketing strategy.

Limitations should be taken into account while assessing the findings. From the methodological point of view, the major limitations reflect in the impossibility of extrapolating these results to a broader perspective.

The first limitation is the small sample sizes (133 respondents), which was not so much representative as intended, due to external factors to research (COVID-19). This condition undermines the study conclusions at full external validity. It shows that in some cases, the pandemic may have reduced the extent of researches affecting the production of higher quality scientific studies, and the reflexes of this situation may be felt in the future in the academy and market.

The second limitation is also associated with the respondent's sample. The research was conducted with university students from only one faculty in Portugal. Besides representing a homogenous sample in terms of profile, the audience did not encompass all the potential markets for the Amazon rainforest products and different findings could be achieved if a representative sample of the market was assessed.

The third limitation is the impossibility of extrapolating these results to different regional areas, due to the uniqueness of the Amazon rainforest. Consumers' behaviors can differ in different contexts under several influencing factors, such as animosity, ethnocentrism, sustainability concerns, and others. Besides, the research exploited cosmetics,

but literature identifies that the results could also vary across different product categories (Wang & Lamb, 1983).

The fourth limitation, related to the model, was the impossibility of including the familiarity with the region as a possible influencing factor in the purchase process decision, once respondents did not present it. The inclusion of familiarity could redesign the results achieved, due to their power to influence the ROO image, as established in literature.

Finally, despite the experimental test stimulated a sensorial experience to consumers, this test and survey were a created situation, which can produce exaggerated stimulus effects. Thus, different consumer behaviors and product judgments, positive or negative, could be expected in a real-life shopping situation.

These limitations open up futures directions for further academic research and market studies for firms. Some examples might be to extend the sample to all the potential market for cosmetics featuring Amazon rainforest ingredients, to analyze the ROO effect for other product categories from the Amazon rainforest, to exploit the sustainability concerns as influencing factor for different product categories and regions, or even to focus on specific influencing factors to better understand their effect on consumers' decisions.

This research brought up to discussion the Amazon rainforest as a region of study and sustainability concerns as influencing factor of ROO image, opening new lines of thoughts and triggering more studies from different perspectives toward this issue in international marketing literature. Further research is recommended to investigate the influence of Amazon rainforest devastation worldwide known in the ROO image, and to deepen the influencing factors for the relationship between countries and regions, such as Amazon rainforest and Brazil, in shaping the ROO image.

In summary, the main findings showed that (i) the product was better rated by consumers when the Amazon rainforest was mentioned as the ROO, (ii) ROO image impacts directly and positively on the willingness to pay premium prices for the product, but (iii) indirectly and positively in the perception of quality, and willingness to buy. Sustainability concerns emerged as a direct influencing factor of ROO image, bringing up an insufficiently researched issue to be discussed indicating new challenges for academy and managers.

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Annex

Annex A - Summarizing the relevant and similar studies regarding to objectives, methods and conclusions

Approaches			Authors	General objective	Methods	Conclusions
COO	Low involvement products	Does country-of-origin matter for low-involvement products?	Ahmed, Johnson, Yang, Kheng Fatt, et al. (2004)	Examine of the influence of COO relative to other product attributes in consumers' evaluation of domestic and foreign food products	Product selected: bread (from France, Singapore, Indonesia and Malaysia) and coffee (Singapore, Switzerland, Colombia and Indonesia). Data collected via a questionnaire in a sample of 236 individuals (students of higher education and coffee shop and supermarkets customers).	If the purchase decision is of minor importance, consumers pay less attention to COO, what means that the COO effect is weak on consumers' evaluation of low-involvement product.
	Consumer animosity	Country of Origin Effect and Animosity on The Attitude and Purchase Intention of Foreign Products	Ramadania et al. (2014)	Examine COO effect and animosity on the attitude and purchase intention of foreign products in ethnic subculture within a country	The evaluated categories of product are foods from Malaysia. 435 respondents (218 from Malaysia and 217 from China). The data collection was through non probability sampling method by combining accidental and snowball sampling.	Consumer behavior about foreign products is impacted by factors of negative emotions and attitudes of consumers such as animosity.

	Image of a country perceived by foreign consumers	The Country of Origin Effect for Brazilian Fresh Fruits: A Study Using Partial Least Squares Procedures	Giraldi and Lopes (2012)	Investigate the influence of the image a group of foreign consumers have about Brazil over the attitudes toward fresh fruits	Data collection was via electronic questionnaires. 331 Dutch students from the School of Economics Haarlem, Netherlands, participated randomly.	Positive COO effect for Brazilian fresh fruits, indicating that the image consumers have about the country positively affects their attitudes such product.
	Level of familiarity/ knowledge about a country's /region´s product	Country Image: Halo or Summary Construct?	Han (1989)	Examine the role of the country image in consumer evaluation of television sets and automobiles.	Television sets and automobiles were examined, because of their popularity. Three countries selected: US, Japan, and Korea. Two brands of car and two brands of television selected for each country. 116 respondents to the questionnaire that was applied by telephone (in order to avoid biases).	If consumers are not familiar with a country's product, country image may serve as a halo. As consumers become more familiar, country image may turn into a construct that summarizes consumers' belief about product attribute.
ROO		The region-of-origin effect on the preferences of financial institution's customers: Analysis	García-Gallego and Chamorro Mera (2016a)	Analyze the importance customers give to the origin of their usual financial institution.	It was used the technique of Conjoint Analysis on responses in a survey of 427 financial institution client's resident in the region of Extremadura. It was analyzed variables such as familiarity with the product category,	Customers give importance to the origin relative to other attributes to select financial institution, since they prefer regional entities to national or foreign.

		of the influence of ethnocentrism			the level of ethnocentrism, and sociodemographic factors.	
		The region-of-origin effect in the purchase of wine: The moderating role of familiarity	García Gallego et al. (2015)	Analyze the ROO effect in the purchase of wine, paying special attention to the moderating role played by familiarity.	Final sample size: 427 individuals. Variables measured in questionnaire regarding country: quality of life, wealth, technological level, education level, attractiveness of the region as a tourist destination, effectiveness of the region's political management, and the region's overall image. The responses were scored on a 7-point Likert scale.	The less wine expert, the stronger the association between the image of the region as a wine producer and the perceived quality.
Communicatio n effectiveness of the ROO		Place-based marketing and regional branding strategy perspectives in the California wine industry	Bruwer and Johnson (2010)	Examine the regional brand image of Sonoma and four of the appellations within Sonoma and their impact on consumers' quality perceptions when included on wine labels.	Highly structured online questionnaire of wine consumers across the USA. Participants: people of 21 years and older, both genders.	Consumer perception of product quality increased with the addition of regional information on a label.

		Wine Marketing: Consumer Persuasion through the Region-of-origin	Latusi et al. (2017)	Examine the effectiveness of the communication of the region-of-origin – through either pictorial or pictorial-textual formats – in print advertising messages for wine bearing a GI label.	An experimental study was conducted, and the presentation of the region-of-origin was manipulated using an actual print advertisement, and three advertisements were created by authors. 300 undergraduate students from a university in Italy were involved in the experiment via questionnaires.	The ROO have a more favorable influence on consumers' purchase decision if it is communicated in pictorial-textual format rather than when there is no reference to it in the promotion.

Annex B – Construct Reliability and Validity assessment for the complete model

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Animosity 1 | relations between Brazil and Portugal	0.825	0.869	0.871	0.538
Animosity 2 | direct feelings toward Brazilians	0.903	0.904	0.954	0.911
Ethnocentrism 1 | immediate purchase	0.886	0.931	0.908	0.586
Ethnocentrism 2 | purchase judgement	0.848	0.852	0.892	0.622
Ethnocentrism 3 | imported products	0.72	0.736	0.842	0.639
ROO image 1 | natural characteristics	0.773	0.782	0.85	0.587
ROO image 2 | sustainability	0.624	0.625	0.842	0.727
Sustainability concerns 1 | I avoid	0.932	0.954	0.956	0.879
Sustainability concerns 2 | I do	0.801	0.877	0.88	0.712
Sustainability concerns 3 | I prefer	0.756	0.783	0.859	0.671

Source: SmartPLS

Annex C – Bootstrapping for the complete model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Perception of quality -> Willingness to buy the product	0.369	0.371	0.089	4.161	**0**
Sustainability concerns 3 | I prefer -> General product attributes 2 | product innovation	0.359	0.364	0.101	3.57	**0**
ROO image 2 | sustainability -> General product attributes 1 | quality	0.265	0.275	0.089	2.988	**0.003**
ROO image 1 | natural characteristics -> General product attributes 1 | quality	0.251	0.251	0.085	2.965	**0.003**
Animosity 1 | relations between Brazil and Portugal -> ROO image 1 | natural characteristics	-0.289	-0.285	0.101	2.854	**0.004**
ROO image 1 | natural characteristics -> General product attributes 3 | product in the market	0.237	0.236	0.092	2.584	**0.01**
Sustainability concerns 2 | I do -> General product attributes 1 | quality	0.246	0.249	0.1	2.47	**0.014**

Ethnocentrism 1 | immediate purchase -> Willingness to buy the product	-0.3	-0.272	0.122	2.456	**0.014**
Ethnocentrism 2 | purchase judgement -> Animosity 2 | direct feelings toward Brazilians	0.381	0.388	0.155	2.45	**0.015**
ROO image 2 | sustainability -> General product attributes 3 | product in the market	0.233	0.231	0.097	2.411	**0.016**
General product attributes 1 | quality -> Perception of quality	0.241	0.242	0.1	2.401	**0.017**
Ethnocentrism 2 | purchase judgement -> ROO image 1 | natural characteristics	-0.282	-0.282	0.127	2.226	**0.026**
Sustainability concerns 2 | I do -> General product attributes 3 | product in the market	0.208	0.209	0.095	2.199	**0.028**
Ethnocentrism 2 | purchase judgement -> Animosity 1 | relations between Brazil and Portugal	0.233	0.237	0.11	2.114	**0.035**
Sustainability concerns 3 | I prefer -> General product attributes 3 | product in the market	0.25	0.231	0.122	2.054	**0.04**
Animosity 1 | relations between Brazil and Portugal -> General product attributes 1 | quality	-0.192	-0.188	0.095	2.023	**0.044**
Ethnocentrism 2 | purchase judgement -> General product attributes 2 | product innovation	0.257	0.242	0.13	1.975	**0.049**
General product attributes 3 | product in the market -> Willingness to buy the product	0.183	0.181	0.095	1.937	**0.053**
ROO image 1 | natural characteristics -> Willingness to pay premium prices	0.215	0.217	0.112	1.931	**0.054**
Ethnocentrism 3 | imported products -> Animosity 1 | relations between Brazil and Portugal	0.225	0.229	0.117	1.917	**0.056**
Animosity 2 | direct feelings toward Brazilians -> Willingness to pay premium prices	-0.196	-0.191	0.103	1.912	**0.056**
Ethnocentrism 3 | imported products -> General product attributes 2 | product innovation	-0.227	-0.22	0.123	1.85	**0.065**
ROO image 1 | natural characteristics -> General product attributes 4 | differentiators factors	0.229	0.199	0.127	1.801	**0.072**
Sustainability concerns 2 | I do -> Perception of quality	0.208	0.207	0.122	1.709	**0.088**

Sustainability concerns 3 | I prefer -> ROO image 1 | natural characteristics	0.155	0.165	0.093	1.672	**0.095**
Animosity 1 | relations between Brazil and Portugal -> Willingness to pay premium prices	0.18	0.187	0.111	1.628	0.104
Sustainability concerns 1 | I avoid -> General product attributes 2 | product innovation	-0.165	-0.158	0.104	1.595	0.111
Ethnocentrism 3 | imported products -> General product attributes 1 | quality	0.178	0.182	0.113	1.572	0.117
General product attributes 4 | differentiators factors -> Willingness to buy the product	0.173	0.151	0.111	1.56	0.119
Ethnocentrism 3 | imported products -> General product attributes 4 | differentiators factors	-0.212	-0.189	0.139	1.53	0.127
Sustainability concerns 2 | I do -> General product attributes 2 | product innovation	-0.156	-0.163	0.102	1.521	0.129
Ethnocentrism 1 | immediate purchase -> Animosity 2 | direct feelings toward Brazilians	-0.167	-0.158	0.12	1.382	0.167
ROO image 2 | sustainability -> General product attributes 2 | product innovation	-0.125	-0.123	0.097	1.29	0.198
Ethnocentrism 3 | imported products -> Willingness to buy the product	0.144	0.119	0.114	1.267	0.206
Animosity 2 | direct feelings toward Brazilians -> General product attributes 1 | quality	0.134	0.12	0.109	1.234	0.218
Ethnocentrism 2 | purchase judgement -> General product attributes 1 | quality	-0.147	-0.145	0.121	1.216	0.224
ROO image 1 | natural characteristics -> Perception of quality	0.109	0.108	0.091	1.197	0.232
Animosity 2 | direct feelings toward Brazilians -> General product attributes 4 | differentiators factors	0.128	0.105	0.109	1.178	0.24
Ethnocentrism 3 | imported products -> Perception of quality	0.125	0.133	0.112	1.112	0.266
Sustainability concerns 3 | I prefer -> Willingness to buy the product	-0.103	-0.097	0.094	1.101	0.272
Ethnocentrism 1 | immediate purchase -> General product attributes 4 | differentiators factors	0.154	0.123	0.142	1.089	0.276

ROO image 2 | sustainability -> Willingness to buy the product	0.103	0.111	0.1	1.031	0.303
Ethnocentrism 3 | imported products -> ROO image 1 | natural characteristics	0.127	0.11	0.124	1.03	0.304
Perception of quality -> Willingness to pay premium prices	0.106	0.092	0.105	1.016	0.31
General product attributes 3 | product in the market -> Perception of quality	0.112	0.1	0.114	0.984	0.325
Ethnocentrism 3 | imported products -> Animosity 2 | direct feelings toward Brazilians	0.134	0.125	0.137	0.973	0.331
Ethnocentrism 3 | imported products -> General product attributes 3 | product in the market	0.107	0.11	0.11	0.972	0.331
Ethnocentrism 2 | purchase judgement -> Willingness to pay premium prices	0.12	0.131	0.132	0.912	0.362
Sustainability concerns 3 | I prefer -> Perception of quality	-0.116	-0.133	0.129	0.898	0.37
Ethnocentrism 1 | immediate purchase -> ROO image 1 | natural characteristics	0.111	0.112	0.125	0.892	0.373
Sustainability concerns 1 | I avoid -> Perception of quality	-0.085	-0.079	0.096	0.886	0.376
General product attributes 2 | product innovation -> Willingness to buy the product	-0.077	-0.069	0.093	0.834	0.405
General product attributes 4 | differentiators factors -> Willingness to pay premium prices	0.105	0.076	0.129	0.813	0.417
Animosity 2 | direct feelings toward Brazilians -> Willingness to buy the product	0.074	0.077	0.097	0.759	0.448
Ethnocentrism 2 | purchase judgement -> ROO image 2 | sustainability	0.12	0.124	0.159	0.752	0.452
Sustainability concerns 1 | I avoid -> General product attributes 3 | product in the market	-0.077	-0.071	0.104	0.743	0.458
Sustainability concerns 2 | I do -> General product attributes 4 | differentiators factors	0.125	0.079	0.169	0.74	0.46
Ethnocentrism 1 | immediate purchase -> Perception of quality	0.087	0.079	0.127	0.685	0.494
Ethnocentrism 2 | purchase judgement -> General product attributes 3 | product in the market	0.079	0.069	0.118	0.669	0.504

Sustainability concerns 3 | I prefer -> ROO image 2 | sustainability	-0.086	-0.075	0.131	0.655	0.513
Ethnocentrism 2 | purchase judgement -> General product attributes 4 | differentiators factors	-0.082	-0.096	0.128	0.641	0.522
Sustainability concerns 2 | I do -> Willingness to pay premium prices	-0.07	-0.075	0.11	0.636	0.525
Animosity 1 | relations between Brazil and Portugal -> General product attributes 4 | differentiators factors	0.069	0.072	0.116	0.593	0.554
Animosity 1 | relations between Brazil and Portugal -> Willingness to buy the product	0.056	0.068	0.1	0.563	0.574
Animosity 1 | relations between Brazil and Portugal -> ROO image 2 | sustainability	-0.07	-0.066	0.126	0.551	0.582
ROO image 1 | natural characteristics -> Willingness to buy the product	-0.061	-0.061	0.111	0.551	0.582
General product attributes 2 | product innovation -> Perception of quality	-0.054	-0.039	0.1	0.543	0.588
Sustainability concerns 3 | I prefer -> General product attributes 4 | differentiators factors	0.076	0.016	0.147	0.52	0.603
Ethnocentrism 1 | immediate purchase -> Animosity 1 | relations between Brazil and Portugal	-0.065	-0.066	0.138	0.468	0.64
Sustainability concerns 2 | I do -> Willingness to buy the product	0.048	0.055	0.104	0.465	0.642
Ethnocentrism 2 | purchase judgement -> Perception of quality	-0.062	-0.061	0.134	0.463	0.644
Sustainability concerns 3 | I prefer -> Willingness to pay premium prices	0.053	0.065	0.118	0.448	0.654
ROO image 2 | sustainability -> General product attributes 4 | differentiators factors	0.049	0.034	0.11	0.445	0.657
General product attributes 2 | product innovation -> Willingness to pay premium prices	-0.043	-0.039	0.1	0.426	0.67
Ethnocentrism 3 | imported products -> ROO image 2 | sustainability	0.057	0.056	0.147	0.39	0.697
Sustainability concerns 3 | I prefer -> General product attributes 1 | quality	0.046	0.054	0.12	0.38	0.704
Sustainability concerns 1 | I avoid -> ROO image 2 | sustainability	0.044	0.03	0.117	0.377	0.706

Ethnocentrism 1 | immediate purchase -> General product attributes 2 | product innovation	0.051	0.065	0.138	0.366	0.715
Sustainability concerns 1 | I avoid -> Willingness to pay premium prices	-0.041	-0.045	0.113	0.363	0.717
Sustainability concerns 1 | I avoid -> General product attributes 1 | quality	0.036	0.029	0.101	0.354	0.724
Ethnocentrism 1 | immediate purchase -> General product attributes 3 | product in the market	-0.047	-0.032	0.137	0.343	0.732
General product attributes 1 | quality -> Willingness to pay premium prices	-0.031	-0.024	0.117	0.264	0.792
Sustainability concerns 2 | I do -> ROO image 2 | sustainability	0.035	0.038	0.137	0.259	0.796
Ethnocentrism 2 | purchase judgement -> Willingness to buy the product	-0.034	-0.049	0.133	0.255	0.799
ROO image 2 | sustainability -> Willingness to pay premium prices	-0.028	-0.024	0.11	0.255	0.799
Sustainability concerns 1 | I avoid -> General product attributes 4 | differentiators factors	-0.043	0.016	0.169	0.252	0.801
Ethnocentrism 1 | immediate purchase -> ROO image 2 | sustainability	0.048	0.044	0.189	0.252	0.801
General product attributes 1 | quality -> Willingness to buy the product	-0.026	-0.009	0.105	0.246	0.805
Animosity 2 | direct feelings toward Brazilians -> ROO image 1 | natural characteristics	-0.029	-0.02	0.118	0.243	0.808
Ethnocentrism 1 | immediate purchase -> Willingness to pay premium prices	-0.035	-0.056	0.148	0.24	0.811
Ethnocentrism 1 | immediate purchase -> General product attributes 1 | quality	0.027	0.026	0.119	0.228	0.82
Animosity 1 | relations between Brazil and Portugal -> General product attributes 2 | product innovation	0.031	0.02	0.144	0.212	0.832
ROO image 1 | natural characteristics -> General product attributes 2 | product innovation	-0.024	-0.027	0.116	0.211	0.833
Sustainability concerns 2 | I do -> ROO image 1 | natural characteristics	-0.02	-0.026	0.097	0.209	0.835

Animosity 1 | relations between Brazil and Portugal -> General product attributes 3 | product in the market	-0.023	-0.027	0.122	0.191	0.848
Animosity 1 | relations between Brazil and Portugal -> Perception of quality	0.018	0.013	0.106	0.174	0.862
Animosity 2 | direct feelings toward Brazilians -> General product attributes 3 | product in the market	0.014	0.012	0.103	0.137	0.891
Animosity 2 | direct feelings toward Brazilians -> ROO image 2 | sustainability	0.013	0.008	0.101	0.126	0.9
Animosity 2 | direct feelings toward Brazilians -> Perception of quality	0.011	0.008	0.107	0.099	0.921
General product attributes 3 | product in the market -> Willingness to pay premium prices	0.01	0.027	0.115	0.085	0.932
General product attributes 4 | differentiators factors -> Perception of quality	0.009	0.016	0.115	0.081	0.936
Sustainability concerns 1 | I avoid -> Willingness to buy the product	0.006	0.013	0.096	0.066	0.948
Animosity 2 | direct feelings toward Brazilians -> General product attributes 2 | product innovation	-0.007	-0.003	0.11	0.061	0.951
Sustainability concerns 1 | I avoid -> ROO image 1 | natural characteristics	0.004	0.005	0.092	0.04	0.968
ROO image 2 | sustainability -> Perception of quality	0.003	0.003	0.095	0.032	0.975

Source: SmartPLS