Narrowing the gap between consumer purchasing intention and behaviour through eco-labelling: a challenge for eco-entrepreneurism.

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Abstract

Purpose. The gap between the self-declarations of buyers as responsible consumers and the purchase of sustainable products means that consumer knowledge needs to be examined in depth, in order to guide the initiatives of eco-entrepreneurs towards sectors and demands that will make them viable, and to advance responsible production and consumption -Objective 12: Sustainable Development 2030. ~~In this study, the proposal is to analyse consumer behaviour in decision-making processes over whether to purchase sustainable products and to relate that behaviour with their self-declarations as consumers committed to sustainability~~. Our purpose, in this study, is to analyse the profile of consumers in relation to the purchase of ecolabelled products and to establish relations between purchasing decisions with environmental, social and ethical factors.

Design/methodology/approach. Multiple Correspondence Analysis (MCA) is applied to the results of a questionnaire administered to a sample of 407 consumers resident in Spain. Information is gathered on environmental, social and economic concerns and the importance consumers attach to certain product attributes such as ecolabels, price, and quality.

Findings. Consumers concerned over environmental, social, and economic questions attached greater importance to information on ecolabels, principally within the textile, and drugstore sectors, followed by electrical and electronic appliances, and the food sector. These consumers selected eco-labelled products with a good quality-price relationship.

Originality. The academic and business value of this research is its focus on the attributes of sustainable products, so that eco-entrepreneurs may advance initiatives that are at once viable and sustainable, motivating consumers with concerns over environmental, social, and economic issues.

Keywords: eco-entrepreneurship, ecolabel, eco-business, environmental, ODS, responsible consumption.

Article Classification: research paper

1.- Introduction

The introduction of ecolabels is taking place to facilitate the choice of products and to inform the consumer about those products that least damage the environment and show most respect to social and economic issues, thereby promoting responsible consumerism. Ecolabels are also becoming a way to show the transparency of eco-firms and firms that have a commitment to the environment and to both social and economic issues, underlining the reality of environmental and social damage. Information, for example, on consumption-based carbon accounting (Beattie *et al*., 2010; Leire and Thidell, 2005) at a store can prompt a degree of behavioural change and can even inform the decisions of less knowledgeable consumers.

However, the excessive number of ecolabels and a generalized lack of awareness of both the overall concept of sustainability and specific ecolabels complicates their use and may confuse consumers (Comas and Seifert, 2012, Grunert, 2011, Horne, 2009). The excessive number of ecolabels means that it is not feasible for consumers to analyse all of them and certificates, because there is no source of information in which they are all compiled. One of the most complete directories, 'Ecolabel Index', covers a total of 457 labels present in 199 countries, and 25 industries; while it was estimated in another study

British Food Journal

that there were around 200 labels of environmental and social significance in Europe (Carrero and Valor, 2015).

Various reasons may explain the limited understanding of ecolabels among consumers: (1) each ecolabel is focused on a dimension of sustainability, -environmental, social, or economic-, with a predominance of environmental ecolabels, although there is no one ecolabel that covers all three dimensions. Thus, over 20 different carbon-related labels are in use throughout the world, and many of them can be found within the same markets (Tan, 2009); (2) the confusing design of some ecolabels can provoke mistrust among consumers and risks reducing purchase decisions to a choice between visually attractive ecolabels, regardless of greater or lesser compliance with sustainability criteria. As an example, consumer purchases may be motivated by the symbol of a green leaf and the 'eco'2 prefix, rather than the higher environmental standards of the ISO 140013 environmental certification; (3) ecolabels have a higher presence in certain sectors. Sectors such as fishing, agriculture, foodstuffs, and electronic products display specific labels. Accreditation bodies and firms also provide information on ecolabelling, so that consumers may become familiar with the ecolabels that reflect their interests and tastes, despite having no familiarity with the language of other ecolabels that may remain unknown to them (Carrero and Valor, 2015); and, finally, (4) the absence of a complete list of ecolabels circulating within a country or a sector and the absence of a single law regulating the ecolabels of obligatory compliance for firms complicates consumer awareness of their information. Consumers may, for all of the above reasons, be deterred from consulting ecolabelling information, overlooking less well-known ecolabels in favour of other better_known ones. Evidence may be found in this situation of the ineffectiveness of ecolabelling/certification, because a less well-known ecolabel might reflect a higher level of environmental, social and economic responsibility. Nevertheless, that same label might be undervalued alongside others with which the consumer is more familiar.

In previous studies, it has been suggested that some consumers feel motivated to behave in responsible ways, yet converting that motivation into the purchase of sustainable products remains difficult (Bray *et al*., 2011; Chatzidakis *et al*., 2007; De Boer *et al*., 2009; Dutra de Barcellos *et al*., 2011; Krystallis *et al*., 2009). In Spain, 73% of consumers described themselves as responsible consumers, in so far as they shopped with environmental, social, and economic criteria in mind (OCU, 2018). However, the intentions of those consumers are not materializing in higher percentage sales of sustainable products, leaving a significant gap between the willingness of consumers to consume sustainable products -intention to purchase- and the real level of product sales - actual shopping behaviour - (Carrero *et al*., 2010; Carrero and Valor, 2015). Product attributes such as price, brand, quantity, expiry date, and nutritional information compete with ecological labels to capture the attention of consumers, to be perceived as relevant, and to influence consumer product-selection behaviour. Consumer assessments of those attributes and the relative importance that consumers assign to environmental, social, and economic issues have to date been evaluated in very few investigations. This gap represents a problem for eco-entrepreneurs, because no incentive is available for their eco-business initiatives.

In accordance with the above, the object of this research is to analyse is to analyse the profile of consumers in relation to the purchase of ecolabelled products and to establish relations between_purchasing decisions with environmental, social and ethical factors. Our_study_therefore contributes to the literature on consumer commitment to sustainability. ~~behaviour of consumers in the purchase-decision process of sustainable products and to relate it with their self-declarations as responsible consumers or~~

British Food Journal

~~committed to sustainability~~**.** Knowing the profile of a consumer who demands sustainable products can contribute to the success of the eco-entrepreneur model and will advance the idea of responsible consumption -Sustainable Development Objective 12-. The results obtained through a Multiple Correspondence Analysis (MCA) applied to a sample of 407 consumers resident in Spain revealed that consumers who expressed concern over environmental, social, and economic questions were those who attached higher levels of importance to ecolabels, mainly in the context of textiles, and drugstore products, followed by electrical and electronic appliances, and food-sector products. These consumers seek a price/quality relationship when purchasing eco-labelled products.

This study will be structured in six sections. ~~**as follows.**~~ After this introduction, in section 2, we will identify the determining factors that may explain the purchase of sustainable products, through a review of the literature. In section 3, we will outline the methodology in use and, in sector 4, we will describe and discuss the results. In section 5, we will present the conclusions and possible business implications and finally, in section 6, the limitations of the study and a future line of research.

2.- Determining factors in the purchase of sustainable products.

The factors that interact in the decision-making processes of consumers who purchase sustainable products can be grouped under three headings: consumer, product, and eco-labelling.

Consumer

Consumer demand for sustainable products depends on certain influences within the social environment of the consumers, in particular, their concern for the natural environmental and, in general, their concern for sustainability, the time they dedicate to shopping, and their awareness of labels/certificates, as well as their age, economic status, and educational level.

The social environment of the consumer will influence the purchase of sustainable products, because the other consumers with whom they relate can in either a positive or a negative way influence the purchase of those products. In accordance with the theory of reasoned action/planned behaviour (Azjen, 1991), consumers will reinforce their purchasing and consumption behaviour towards eco-labelled products when those products are also purchased or consumed within their social environment. Along the same lines, Honkanen and Young (2015) affirmed that the consumption of sustainable products is to a great extent influenced by the recommendations within their social environment. Bhattacharyya *et al*., 2020 considered the social environment from three perspectives: consumer, investor, and employee. The individual as a consumer seeks to consume those products that reflect a commitment towards environmental and/or social causes of greater interest. The individual as an investor seeks firms with highly developed levels of corporate responsibility that are untarnished and free from scandal, because they represent long-term value. Finally, the individual as an employee seeks out firms with good employment and quality working conditions. These three social agents all share higher levels of offer and demand in relation to eco-labelled products.

Consumer concerns for the environment increase the probability of purchasing eco-labelled products (Carri *et al*., 2018; Grankvist and Bielb, 2007). In their study of food products, Grankvist and Bielb (2007) found that, on the one hand, consumers who never chose a product with an ecolabel, but affirmed as a general and important rule that they were environmentally friendly consumers, had after six months a greater probability of trying products with ecolabels than consumers with fewer environmental concerns. On the other hand, consumers with some previous experience with ecolabelled products were

British Food Journal

more influenced by trust in product qualities, such as taste and health-related consequences. Greater consumer sensitivity towards environmental and/or social aspects implies greater purchasing motivation towards products that reflect environmental and/or social commitment, because consumers will seek to align their values with the products that they purchase (Carrero and Valor, 2015; Eldesouky *et al*., 2020).

Consumers with *little time to dedicate to shopping* will neither stop to compare products nor to examine sustainability-related labels/certificates, because their decision-making over the purchase is done within a short period of time (Song *et al*., 2019). Therefore, with less time to dedicate to purchasing, their capability to differentiate between products with labels/ certificates is likewise reduced, and their adoption of responsible consumer behaviour is of greater difficulty (Carrero and Valor, 2015). Grankvist and Bielb (2007) found that the habit of purchasing a product, in other words, repetitive and frequent purchasing, had a negative influence on consumer attitudes towards eco-labelled products. In fact, it disincentivized the purchase of such products, in so far as the purchase of such products required greater cognitive evaluation than when purchasing their habitual products.

Awareness of labelling and certification among consumers is essential to identify the characteristics of sustainable products. The consumer can have a general awareness of product sustainability (Lawley *et al*., 2019). However, if the environmental, social, and economic attributes are to be decisive in the purchasing decision when faced with the excessive and varied number of labels/certificates, then a specific awareness of the sustainability of a product is necessary. Many ecolabel formats have been criticized because consumers find them difficult to understand (Quack *et al*., 2010). It has been pointed out in most studies that information is not always available for consumers, that labels/certificates are difficult to recognize, and that consumers mistrust them. Understanding ecolabels depends on the clarity of their information, as well as the awareness that consumers may have of ecolabels and their capability to interpret the information that ecolabels contain (D'Souza *et al*., 2006).

The ecolabel and its communicative potential are converted into a critical factor in relation to the speed with which the consumer makes a purchase (Song *et al*., 2019). However, extra information on product packaging, such as the carbon footprint (*i.e*., low carbon), might in itself be insufficient to capture the attention of the consumer in such a way that the consumer perceives the ecolabel as a new branding option and an additional purchasing criterion. Awareness of labels and certificates has to precede the purchase of an eco-labelled product, because there is usually neither information at the store (Carrero and Valor, 2015; Estrada-Dominguez, 2020), nor time to understand the information, as has previously been mentioned.

It is known that most product category brands may easily be perceived as substitutes for each other. Nevertheless, ecolabelled products are not very common (Sharp and Newstead, 2010) and can attract the attention of the consumer, so that the product is given greater consideration. However, the assumption that consumers will be knowledgeable of the ecolabel information and will be sufficiently concerned to understand it has yet to be empirically established. There is still little marketing research on the ecolabel-related literacy of consumers and their perceptions of eco-logos (Upham *et al*., 2011).

The *age of the consumer* also influences the purchasing behaviour of eco-labelled products. Young consumers with a greater tendency towards responsible consumerism and this purchasing intention will be conveyed to new generations. Estrada-Dominguez (2020) considered younger groups of consumers as the generation that would mark a change in purchase intention.

British Food Journal

The *socioeconomic status of consumers* conditions their willingness to pay a higher price for products that are of similar quality yet more sustainable. Those consumers will spend higher amounts and will therefore tend to pay extra for an eco-labelled product (Van Dorn and Verhoef, 2011; Zander and Hamm, 2011). Nevertheless, the perception that eco-labelled products are highly priced is, in general, one of the principal barriers to the purchase of eco-labelled products (Grunert, 2011) and, in particular, to products that label carbon emissions (Röös and Tjärnemo, 2011).

The *educational levels of consumers* increase their critical awareness of product attributes. In terms of purchase intention towards eco-labelled products, there appears to be no direct relation between educational levels and higher consumption of eco-labelled products. Nevertheless, Carrero *et al*. (2010) found that ecolabels issued by official bodies had broader levels of recognition and their perceived credibility was higher among consumers with higher levels of education. When analysing the motives behind fair-trade purchases, Kimura *et al*. (2012) found that purchases of fair-trade labels were not only driven by intrinsic motives related to economic issues, but they were also affected by extrinsic social factors, such as concern over the reputation of the peer-groups responsible for issuing the certificate (Brecard *et al*., 2009).

Product

The product and, above all, its attributes represent another of the factors that determine the purchase process of eco-labelled products. Price, quality, brand, availability, and origin are some of the attributes that the consumer will consider when selecting between conventional and eco-labelled products within the same category.

The *price of the products* and the assumption that eco-labelled products are more expensive are two factors that counteract the choice of eco-labelled products among first-time buyers. However, the price factor is of less importance in subsequent phases when explaining why consumers decide not to choose alternatives with ecolabels. Carrero and Valor (2015) pointed to an inverse relation between the price and the purchase intention of eco-labelled products, but the consumers who attributed less importance to price showed greater willingness towards responsible purchases. Thus, if the product satisfies the needs of the consumer and the consumer identifies with its values, then less attention will be attached to the price (Estrada-Dominguez, 2020). Willingness to pay can be influenced by consumer awareness of ecolabels, concerns over environmental and social issues, and security in the case of food products (Grankvist and Biel, 2007; Liu *et al*., 2017; Mceachern and Warnaby, 2008; Shen, 2012).

Product quality is another dimension of their functionality. It is not in itself sufficient for the product to be ecolabelled, it must also comply with certain minimum standards for the consumer to make a purchase (Estrada-Domínguez, 2020). In addition, the eco-labelled product must not be inferior in quality to other non-eco-labelled options, as if they are of equal economic value, then the consumer will tend to look for signs of higher quality. In the case of food products, it has been demonstrated that there are other factors that affect the purchase intention such as “a good taste”, “healthy” and “a long shelf-life” (Magnusson *et al*., 2001).

Brand image is another of the key factors for the consumption of eco-labelled products, as the positioning and reputation of the brand will condition the reaction of the consumer. A good brand image in relation to environmental and social issues implies an essential competitive advantage, in order to offer eco-labelled products and to win credibility among consumers (Eldesouky *et al*., 2020). The product ranges of firms tarnished in the past by environmental scandals and lacking proactive attitudes towards sustainability will

British Food Journal

appear less credible to responsible consumers who will tend to dismiss such products at first glance, without examining their ecolabelling or certificates. In Spain, 10.2% of consumers declared that they would not buy eco-labelled products, due to scepticism towards the brand that offers such products (Forética, 2018). In the same study, it was pointed out that a large number of consumers expressed reluctance to change their brand -11.8%-. In other words, loyalty towards certain brands is another important factor.

The *accessibility of eco-labelled products*, in view of their limited availability, is non-symmetric with regard to non-ecolabelled products. Eco-labelled products can be found in large shopping centres alongside a wide range of other products and in specialized shops that exclusively distribute such products. Consumers therefore encounter a barrier when shopping every day from their normal supplier, which might imply that a change towards responsible consumerism could likewise imply changing the place of purchase. It is a somewhat controversial factor, because a high degree of awareness is needed, before the consumer will go so far as to change the place of purchase.

Product origin is another relevant factor in consumer decision-making. The majority of consumers express a preference for manufactured products of local origin (Eldesouky *et al*., 2020), because they contaminate less and, at the same time, contribute to the place of manufacture through economic growth and social development. This factor, therefore, suggests a positive association between local origin and sustainability.

Ecolabelling

Ecolabelling is the most useful and effective marketing sign to inform consumers, to stimulate demand for eco-labelled products, and to promote consumer choice (Eldesouky *et al*., 2020). However, the effectiveness of ecolabels at driving the purchase of eco-labelled products is determined by such factors as peer endorsement, product visibility, consumer awareness of the ecolabels/certificates, and ecolabel content (values and information displayed).

Consumers favour peer-endorsed labels and certificates that incite trust. Peer endorsement is an effective way of signalling to consumers that the product responds to environmental and social demands (Thøgersen, 2000). In consequence, a peer-endorsed ecolabel signals sufficiently high levels of confidence for the consumer to choose it. Likewise, consumers instinctively mistrust self-declarations with no third party endorsement on labels, because they suspect that the manufacturing firm is acting out of self-interest, which will disincentivize any purchase intent, regardless of whether it is an ecolabelled product (Carrero *et al*., 2010).

The *visibility of the ecolabel* is another fundamental factor. If the consumer cannot easily see the certified ecolabel and must stop to take a careful look at it, the decision-making process will be prolonged, which will have a negative impact on product choice. Visibility will also be diminished by an excessive number of labels, making it difficult to find the information that the consumer is seeking (Thøgersen, 2000). Visibility is therefore a key factor in the direct provision of relevant product information to the responsible consumer with no for exhaustive searches (Estrada-Domínguez, 2020). Beattie (2009) affirmed that carbon labels are visible on some but not on other product categories and are therefore not used by the consumer in their purchase decisions. Further research is necessary to achieve forms of ecolabelling that are more visible for shoppers.

Ecolabelling information influences the purchase of eco-labelled products at the store in an intense and positive manner (Carrero and Valor, 2015). The effectiveness of the ecolabel/certificate depends on the awareness that the consumer may have of it, given that it stimulates a positive attitude towards the product and drives its purchase. However, a

British Food Journal

large proportion of consumers are still unaware of ecolabel logos and the meaning of carbon footprints, and fair-trade (Eldesouky *et al*., 2020), information that might prompt decisions at the sales point. Greater awareness of ecolabels is necessary, because only the most well-known ecolabels motivate consumer purchase decisions. In addition to awareness of ecolabelling, the consumer should be able to recognize and to identify the sustainable attributes that the label certifies (Carrero and Valor, 2015).

It might appear that ecolabelling information and the specific awareness of the consumer overlap. However, this overlap is necessary to understand the relevance of both factors from their different perspectives: one implies that consumer awareness has formed prior to the purchase and the other is the information contributed by the label at the time of the purchase. Both factors must complement each other, so that the relation is positive, and the purchase of the eco-labelled product is completed. Ecolabelling is the means through which information asymmetries should be corrected, so that firms committed to environmental, social, and economic aspects may obtain a competitive advantage (Carrero and Valor, 2015). However, scant information on an ecolabel and limitations or difficulty over its access means that this factor is not at present effective. The information contributed by the ecolabel/certificate should be clear, precise, and relevant, so that it positively influences higher levels of motivation towards responsible purchasing.

Finally, the *product values* that are certified on an ecolabel have a positive influence on the consumer. The higher the number of values to which the eco-labelled product is committed, the greater the propensity for their consumption. Nevertheless, if there was a specific ecolabel for each value, information overload might deter the consumer and diminish interest (Thøgersen, 2000). In consequence, a balance between the sustainable attributes of the product and the number of ecolabels is necessary.

3. Methodology

Sample

The data were obtained through convenience sampling conducted in Spain, with the aim of obtaining the information necessary for the analysis. The population under study consisted of consumers in Spain. To that end, a structured questionnaire was designed. The questionnaire was distributed online through social networks during the period between 15 and 23 Abril, 2020. In total, 407 valid questionnaires were collected.

Instrument

A structured questionnaire was designed to collect the data. The aim of the study and the instructions for its completion were indicated in the questionnaire. The items and the scales were adapted from the literature on labels (Bhattacharyya *et al.,* 2020; Carrero *et al*., 2010; Carrero and Valor, 2015; Eldesouky *et al.,* 2020; Estrada-Dominguez, 2020; Galil *et al.,* 2013; Sharma and Kushwaha, 2019). The questionnaire contained questions on both environmental concerns and the importance of certain factors when acquiring a product, such as the price, the quality, the brand, the local origin, animal welfare, and the social conditions of the workers. Consumers were also asked to rate the importance of environmental, social, and economic factors when acquiring food products, clothes, electrical and electronic appliances, and drugstore products. Another question referred to the importance that the consumer assigned to ecolabels when acquiring a product. Finally, the questionnaire included a block of sociodemographic questions. Table 1 shows a description of the variables used in this work, together with the scale that was employed.

[Table 1 here]

British Food Journal

The data underwent an analysis of multiple correspondences. SPSS software was used, with the aim of identifying the profiles of consumers who purchased eco-labelled products from existing or future eco-firms. MCA is an extension of the analysis of simple correspondences. The idea is to analyse the homogeneity of a set of *n* individuals described by three or more categorical variables. It is a method for inter-comparison of rows, columns, and both rows and columns, breaking down the measure of association, $\chi 2$, into variable components. The objective is therefore to describe the relations that exist between two nominal variables, collected in a table of correspondences, within a space of few dimensions, while the relations between the categories of each variable are at the same time described.

4. Analysis and discussion of the results

In the first place, some descriptive statistics of the sample are shown -see Table II-. The majority of the interviewees attached little or a lot of importance to the environment. Price and quality were important aspects for the majority of consumers purchasing a product, brand was seen of moderate importance. The majority of interviewees attached more than moderate importance to local origin, animal welfare, and the social conditions of workers. They usually attached little importance to environmental, social, and economic factors when purchasing a non-food product and greater importance to those factors when purchasing a food product. In contrast, the majority of interviewees usually showed little interest in ecolabels. With regard to the sociodemographic data, the sample was mainly composed of people aged between 18 and 55 years old, with further or higher educational qualifications, 39.1% of whom were men and 60.9% women**.**

[Table II here]

The iterative MCA procedure ended at stage 30, due to the increment in the explained variance that was no longer significative following further iterations. Table III shows a summary of the model in which Cronbach's Alpha and the percentage of explained variance is shown for each of the two dimensions that were specified. Cronbach's Alpha indicated a correlation between each dimension and the observable variables. Both dimensions presented high correlations -above 0.3-, the first dimension presenting a higher correlation.

Total inertia refers to the average of the squared distances to each point at the centre of gravity of the point cloud. It may be observed that the first dimension explained more inertia -23.29%- than the second one -16.07%-, which may be expected, given that the dimensions were obtained through a factor analysis, in which the first eigenvector was the one that explained a higher proportion of information. Therefore, the first dimension was of greater importance than the second. In total, both dimensions explained 40.36% of the total inertia of the point cloud, which is acceptable from a statistical point of view.

[Table III here]

Table IV shows the discriminatory power of each variable within each dimension. These measures therefore point to the importance of each variable within each dimension. In the above table, it may be seen that Dimension 1 is principally explained by the importance attached to the purchase of food products, drugstore products, the importance of ecolabels when purchasing, and the purchase of electrical appliances. In turn, Dimension 2 is fundamentally explained by the price and the brand of the products, and age. This information may be more clearly observed in Figure 1. The variables animal welfare and the social conditions of workers are important in each of the two dimensions. Moreover, the further a variable is from the local origin, the greater its explanatory power. Likewise, its proximity to one or another dimension informs us of the variable interrelations.

British Food Journal

[Table IV here].
[Figure 1. Discriminatory Measures here]

Different individual profiles may be identified in Figure 2, as a function of the variables under analysis. SPSS software was also used to generate scattergrams for each category of variable -omitted for reasons of length- to help analyse the graph. The scattergram of all categories with all the variables, shows the proper map of correspondences. We can look for patterns and groups within categories, analysing the furthest from and the closest to the origin, project the distribution along each axis and analyse the quadrant in which each point is found.

The individuals who attached little importance to ecolabels are found in the positive part of Dimension 1, while those who attached a lot of importance to ecolabels appear in the negative part. Analysing all the earlier information, together with the scattergram of the set of categories, we ~~may assume~~ can agree with Eldesouky *et al*., (2020) and Carri *et al*., (2018), that the consumers who attached greater importance to ecolabels ~~are people between 35 and 55 years who~~ attached great importance to environmental, social, and economic factors when purchasing clothes, drugstore products, food, and electrical and electronic products. ~~They~~ These consumers, between 35 and 55 years, attached a lot of importance to a local product origin, animal welfare, and the social conditions of workers when purchasing products.

There is also a profile of consumers under 18 years old, for whom price and quality were not important factors when purchasing a product. They showed no concern for environmental issues and the social conditions of workers, nor for environmental, social, and economic factors when purchasing food products. Neither was animal welfare important to them when purchasing a product. It should be noted here that the explanatory importance of this dimension was less than dimension 1.

[Figure 2. Scattergram of categories here]

5. Conclusions and entrepreneurial implications

Eco-entrepreneurship needs to identify the sectors in which it can advantageously develop its business plans and the consumer profile of willing to purchase eco-labelled products will help it do so. With the aim of promoting eco-entrepreneurship, consumer behaviour in decision-making processes have been analysed in this paper when purchasing sustainable products and to relate that behaviour with their own self-declarations as consumers committed to sustainability. Understanding the heterogeneity in consumer perceptions toward ecolabels has high importance in the marketing theory (Teisl et al., 2008).

~~Among the conclusions that may be drawn from the analysis is the importance of product ecolabelling among consumers who express more concern for environmental, social, and economic issues. These consumers will not only have a greater willingness to purchase eco-labelled products including those of local origin~~ The following conclusions can be drawn from the analysis: first, we agree with Eldesouky *et al.* (2020) and Carri *et al.* (2018) that eco-labels are more important for those consumers who express more concern for environmental, social, and economic issues. These results are consistent with those of Darnall *et al*. (2018) which stated that individuals whose intention is to use ecolabels reflect high levels of trust in environmental factors.

These consumers show a greater predisposition to buy ecolabelled products including products of local origin and are more attentive to local products with ecolabels. This result is consistent with the study of Jadudovà *et al*. (2020). This conclusion has an important

British Food Journal

business implication: present-day and future entrepreneurs have not only to develop an eco-business, but they also have to ensure that their products or services have an ecolabel that endorses their environmental, social, and economic responsibility.

~~These consumers consider ecolabelling to be very important in the textile and food sectors, and on electrical and electronic appliances, and chemist's shop/cosmetic products.~~ Second, these consumers consider ecolabelling to be the most important in the textile sector, followed by the drugstore sector, the electrical appliances and electronics sector and finally, the food sector. This conclusion is supported by Alvés *et al*. (2020), who stated that ecolabels are necessary in the textile sector and that the ecological footprint indicator is due to the high environmental impact of that sector. In addition, eco-labels are applied more in food products than in the textile sector because, according to Atkinson and Rosenthal (2014), consumers express higher confidence in ecolabelled products that have consequences for health and food safety. ~~This conclusion is logical, if we take into account that the food sector has a higher number of ecolabels that inform in such a way that the responsible consumer can choose, while there are hardly as many ecolabels in the textile sector to orient the consumer.~~This conclusion, first of all, guides eco-entrepreneurs to direct their entrepreneurial initiatives towards the textile sector and drugstore products and, subsequently to gain the corresponding ecolabels for their products.

The results also showed that gender and age influence the perception on ecolabels. Consumers who attach more importance to ecolabels are usually female adults (from 35 to 55 years old). It may be through their general sociability that women extend help to others. On the other hand, consumers who attach less importance to ecolabels are young people with basic/elementary studies. These results are consistent with the findings of several previous studies (Jadudovà *et al*., 2020; Rice, 2006; Teisl *et al*., 2008).

Finally, a third conclusion refers to the quality-price relationship of eco-labelled products. In accordance with Aguiar *et al*. (2018), consumers who express concern over environmental, social, and economic issues~~,~~ in relation to drugstore products, and food seek this sort of relationship. ~~seek a quality-price relationship for eco-labelled products.~~ This conclusion is of great interest for those eco-entrepreneurs who believe that the price disincentivizes the purchase of eco-labelled products. Eco-entrepreneurs should manufacture eco-labelled products of higher quality than non-ecolabelled products and should set a higher price, if necessary, to attract consumers who are willing to accept a particular quality-price relationship for a product that reflects their concerns over product-related environmental, social, and economic issues.

6. Limitations and future lines of investigation

Among the principal limitations of this study is that other variables, such as the extent of consumer awareness of different ecolabels from different sectors, have not been considered, which might otherwise have shed light on whether responsible consumers who attach importance to ecolabels betray a cognitive bias. In other words, whether consumers consider that they know about sustainability, but then neither recognize, nor are aware of ecolabel logos. Were that so, this cognitive bias would convert the demand of consumers concerned about environmental, social, and economic issues into a demand that is vulnerable to deceptive advertising and greenwashing. In that sense, ecolabels might function as a protective barrier for the consumers of all that confused. This limitation is also proposed as a future line of research.

Bibliography

British Food Journal

Aguiar, F., Barrichello, A., Morano, R., Amadeu, M., Pontes, T., Gatto, T., and Melo, W (2018), 'Comportamento de compra sustentável: qual o grau de inluência de seus antecedentes?', *South American Devevelopment Society Journal*, Vol. 4, No.10, pp. 18-37, 10.24325/10.24325/issn.2446-5763.v4i10p18-37

Alves, J., Petrere Jr., M., Butturi-Gomes, D., and Barrella, W. (2020), 'Textile sustainability: A Brazilian etiquette issue', *Enviromental Science and Policy*, Vol. 109, pp. 125-º30.

Atkinson, L., and Rosenthal, S. (2014) 'Signaling the green sell: The influence of eco-label source, argument specificity, and product involvement on consumer trust', *Journal of Advertising*, Vol. 43, No. 1, pp. 33-45. DOI: 10.1037/t48423-000

Azjen I. (1991), 'The theory of planned behaviour', *Organizational Behaviour and Human, Decision Processes*, Vol. 50, pp.179-211.

Beattie, G., McGuire, L., and Sale, L. (2010), 'Do we actually look at the carbon footprint of a product in the initial few seconds? an experimental analysis of unconscious eye movements', *International Journal of Environmental Cultural Economic and Social Sustainability*. Vol. 6, pp. 47-66.

Bhattacharyya, S. S., Jha, S., and Sharma, D. (2020), 'Development of a scale on individual perspectives on corporate social responsibility constructs: based on Microfoundation Theory', *Vision*, Vol. 24, No. 1, pp. 47–59. https://doi.org/10.1177/0972262919862411

Bray, J., Johns, N., and Kilburn, D. (2011), 'An exploratory study into the factors impeding ethical consumption', *Journal of Business Ethics*, Vol. 98, No. 4, pp. 597–608.

Brécard D., Hlaimi B., Lucas S., Perraudeaua, Y., and Salladarré, F. (2009), 'Determinants of demand for green products: an application to eco-label demand for fish in Europe', *Ecological Economics*, Vol. 69, No. 1, pp. 115-125. DOI: 10.1016/j.ecolecon.2009.07.017

Carrero, I., Valor, C., and Rosa, J. M. (2010), 'La relación del consumidor con las etiquetas sociales y medioambientales. Estudio diagnóstico para orientar la definición de políticas públicas y la acción empresarial', Ministerio de Trabajo e Inmigración, Spain, pp. 1–101. http://www.compromisorse.com/upload/estudios/000/89/EstudioEtiquetado.pdf (accessed 2 May 2020)

Carrero, I., and Valor, C. (2015), 'Los determinantes de la compra de productos con etiquetas de contenido social y ambiental', *CIRIEC-España, Revista de Economía Pública, Social y Cooperativa*, Vol. 83, pp. 235–250. https://doi.org/0.7203/CIRIEC-E.83.13425.

Cerri, J., Testa, Fr., and Rizzi, Fr. (2018), 'The more I care, the less I will listen to you: How information, environmental concern and ethical production influence consumers' attitudes and the purchasing of sustainable products', *Journal of Cleaner Production,* Vol. 175, pp.343-353.

Chatzidakis A., Hibbert S., and Smith A. P. (2007), 'Why people don't take their concerns about fair trade to the supermarket: the role of neutralisation', *Journal of Business Ethics,* Vol. 74, No. 1, pp. 89-100. DOI: 10.1007/s10551-006-9222-2

Comas, J. M., and Seifert, R. W. (2012), 'Reviewing the Adoption of Ecolabels by Firms', Survey Report. http://www.imd.org/news/Ecolabels-study.cfm (accessed 18 May 2020).

Darnall, N., Ji, H., and Vázquez-Brust, D. A. (2018) 'Third-Party Certification, Sponsorship, and Consumers' Ecolabel Use', *Journal of Business Ethics,* Vol. 150, pp. 953–969. https://doi.org/10.1007/s10551-016-3138-2

British Food Journal

D'Souza, C. (2004), 'Ecolabel programmes: a stakeholder (consumer) perspective', *Corporate Commun International Journal*. Vol. 9, No. 3, pp. 179-188. https://doi.org/10.1108/13563280410551105

De Boer, J., Boersema, J. J., and Aiking, H. (2009), 'Consumers' motivational associations favouring free-range meat or less meat', *Ecological Economics,* Vol. 68, No. 3, pp. 850–860.

Dutra de Barcellos, M., Krystallis, A., De Melo Sabb, M.S., Kügler, J.O., Klaus G., and Grunert, K. G. (2011), 'Investigating the gap between citizens' sustainability attitudes and food purchasing behaviour: empirical evidence from Brazilian pork consumers', *International Journal of Consumer Studies,* Vol. 35, No. 4, pp. 391-402. https://doi.org/10.1111/j.1470-6431.2010.00978.x

Eldesouky, A., Mesias, F. J., and Escribano, M. (2020), 'Perception of Spanish consumers towards environmentally friendly labelling in food', *International Journal of Consumer Studies*, Vol. 44, No. 1, pp. 64–76. https://doi.org/10.1111/ijcs.12546

Estrada-Domìnguez, J. J. (2020), 'Factors influencing consumer's purchase intention of ecologic products', *In Interciencia*, Vol. 45, No. 1, pp. 36–41.

FORETICA (2018), 'Informe sobre la evolución de la RSE y Sostenibilidad: la recompensa del optimista', available at: https://www.foretica.org/informe_foretica_2018.pdf (accessed 21 February 2020)

Galil, B. S., Genovesi, P., Ojaveer, H., Quílez-Badia, G., and Occhipinti, A. (2013), 'Mislabeled: eco-labeling an invasive alien shellfish fishery', *Biological Invasions*, Vol. 15, No. 11, pp. 2363–2365. https://doi.org/10.1007/s10530-013-0460-9

Grankvist, G. and Biel, A. (2007), 'Predictors of purchase of eco-labelled food products: a panel study', *Food Quality and Preference,* Vol. 18, No. 4, pp. 701–708. https://doi.org/10.1016/j.foodqual.2006.11.002

Grunert, K. G. (2011), 'Sustainability in the food sector: a consumer behaviour perspective', *International Journal Food System Dynamics*, Vol. 2, pp. 207-218. https://doi.org/https://doi.org/10.18461/ijfsd.v2i3.232

Horne, R. E. (2009), 'Limits to labels: the role of eco-labels in the assessment of product sustainability and routes to sustainable consumption', *International. Journal Consumer Studies*, Vol. 33, No. 2, pp. 175-182.

Jadudová, J., Badida, M., Badidová, A., Marková, I., Ťahúňová, M., and Hroncová, E. (2020) 'Consumer Behavior towards Regional Eco-Labels in Slovakia', *Sustainability*, Vol. 12, No. 5146. https://doi.org/10.3390/su12125146

Grunert, K. G., Hieke, S., and Wills, J. (2014), 'Sustainability labels on food products: Consumer motivation, understanding and use', *Food Policy*, Vol. 44, pp. 177-189.

Honkanen, P., and Young, J. A. (2015), 'What determines British consumers' motivation to buy sustainable seafood?', *British food Journal*, Vol. 117, No. 4, pp. 1289-1302. ttps://doi.org/10.1108/BFJ-06-2014-0199

Kimura, A., Mukawa, N., Yamamoto, M., Masuda, T., Yuasa, M., Goto, S., Oka, T., and Wada, Y., (2012), 'The influence of reputational concerns on purchase intention of fair-trade foods among young Japanese adults', *Food Quality Preference,* Vol. 26, No. 2, pp. 204-210. https://doi.org/10.1016/j.foodqual.2012.05.002.

Krystallis, A., and Chryssohoidis, G. (2005), 'Consumers' willingness to pay for organic food: factors that affect it and variation per organic product type', *British Food Journal,* Vol. 107, No. 4-5, pp. 320–343. DOI: 10.1108/00070700510596901

Lawley, M., Craig, J. F., Dean, D., and Birch, D. (2019), 'The role of seafood sustainability knowledge in seafood purchase decisions', *British Food Journal,* Vol.121, No. 10, pp. 2337-2350.

British Food Journal

Leire, C. and Thidell, A. (2005), 'Product related environmental information to guide consumer purchases – a review and analysis of research on perceptions, understanding and use among Nordic consumers', *Journal Cleaner Production*, Vol. 13, No. 10-11, pp. 1061-1070.

Liu, Q., Yan, Z., and Zhou, J. (2017), 'Consumer choices and motives for eco-labeled products in China: an empirical analysis based on the choice experiment', *Sustainability* Vol. 9, No. 3, pp. 1-12. https://doi.org/10.3390/su9030331.

Mceachern, M. G., and Warnaby, G., (2008), 'Exploring the relationship between consumer knowledge and purchase behaviour of value-based labels', *International Journal Consumer Studies*, Vol. 32, No. 35, pp. 414-426. https://doi.org/10.1111/j.1470-6431.2008.00712.x.

Magnusson, M. K., Arvola, A., Kpivisto Hursti, U-K., Åberg, L. and Sjödén, P. O. (2001). 'Attitudes towards organic foods among Swedish consumers', *British Food Journal*, Vol. 103, No. 3, pp. 209-227.

OCU (2018). 'Otro consumo para un futuro mejor: nuevas economías al servicio de las personas', available at: https://www.ocu.org/consumo-familia/consumo-colaborativo/informe/moda-sostenible# (accessed 23 March 2020)

Quack, D., Griebhammer, R., and Teufel, J. (2010), *Requirements on consumer information about product carbon footprint,* Oeko-Institut e.V., Brussels, Belgium

Rice, G. (2006), 'Pro-environmental behavior in Egypt: Is there a role for Islamic environmental ethics?', *Journal of Business Ethics,* Vol. 65, pp. 373-390. https://doi.org/10.1007/s10551-006-0010-9

Röös, E. and Tjärnemo, H. (2011), 'Challenges of carbon labeling of food products: a consumer research perspective', *British Food Journal*, Vol. 113, No. 8, pp. 982-996. DOI 10.1108/00070701111153742

Sharma, N. K., and Kushwaha, G. S. (2019), 'Eco-labels: a tool for green marketing or just a blind mirror for consumers', *Electronic Green Journal,* Vol. 1, No. 42. Available at: https://www.scopus.com/inward/record.uri?eid=2-s2.0-85062678816&partnerID=40&md5=8bbb32e0ddd11b64be0b6ddc54b03ce5 (accessed 20 May 2020)

Sharp, A., and Newstead, K. (2010), 'Green brand fatigue', *Admap*, April, pp. 36-17

Shen, J. (2012), 'Understanding the determinants of consumers' willingness to pay for eco-labeled products: an empirical analysis of the China environmental label', *Journal Service Science and Management,* Vol. 5, pp. 87-94. https://doi.org/10.4236/jssm.2012.51011.

Song, L., Lim, Y., Chang, P., Guo, Y., Zhang, M., Wang, X., Yu, X., Lehto, M. R., and Cai, H. (2019), 'Ecolabel's role in informing sustainable consumption: a naturalistic decision making study using eye tracking glasses', *Journal of Cleaner Production*, Vol. 218, pp. 685–695. https://doi.org/https://doi.org/10.1016/j.jclepro.2019.01.283

Tan, K. C. (2009), 'Stimulating carbon efficient supply chains: carbon labels and voluntary public private partnerships', Massachusetts Institute of Technology. Available at: http://dspace.mit.edu/handle/1721.1/7582 (accessed 30 May 2020)

Teisl, M. F., Rubin, J., and Noblet, C.L. (2008), 'Non-dirty dancing? Interactions between eco-labels and consumers', *Journal of Economic Psychology*, Vol. 29, No. 2, pp. 140-159. https://doi.org/10.1016/j.joep.2007.04.002.

Thøgersen. J. (2000), 'Psychological determinants of paying attention to eco-labels in purchase decisions: model development and multinational validation', *Journal of Consumer Policy*, Vol. 23, No. 3, pp. 285–313.

British Food Journal

Torjusen, H., Lieblein, G., Wandel, M., and Francis, C. A. (2001), 'Food system orientation and quality perception among consumers and producers of organic food in Hedmark county, Norway', *Food Quality and Preference*, Vol. 12, No. 3, pp. 207-216

Upham, P., Dendler, L., and Bleda, M. (2011), 'Carbon labelling of grocery products: public perceptions and potential emissions reductions', *Journal of Cleaner Production*, Vol. 19, No. 4, pp. 348-355.

Van Doorn, J., and Verhoef, P. C. (2011), 'Willingness to pay for organic products: differences between virtue and vice foods', *International Journal of Research in Marketing,* Vol. 28, No. 3, pp. 167–180. https://doi.org/10.1016/j.ijresmar.2011.02.005

Zander, K., and Hamm, U. (2011), 'Information search behaviour and its determinants: the case of ethical attributes of organic food', *International Journal of Consumer Studies*, Vol. 36, No. 3, pp. 307–316. https://doi.org/10.1111/j.1470-6431.2011.00998.x

British Food Journal

Table I. Description of the variables.

Name	Description	Scale
Environmental concerns.	Environmental concerns.	1=none; 2=a little; 3=a lot.
Price.	Importance of price when purchasing a product.	1=not important; 2=moderate importance; 3=very important.
Quality.	Importance of quality when purchasing a product.	1=not important; 2=moderate importance; 3=very important.
Brand.	Importance of brand when purchasing a product.	1=not important; 2=moderate importance; 3=very important.
Local origin.	Importance of local origin when purchasing a product.	1=not important; 2=moderate importance; 3=very important.
Animal welfare.	Importance of animal welfare when purchasing a product.	1=not important; 2=moderate importance; 3=very important.
Social conditions of workers.	Importance of the social conditions of workers when purchasing a product.	1=not important; 2=moderate importance; 3=very important.
Food.	Importance of environmental, social and ethical factors when purchasing food products.	1=none; 2=a little; 3=a lot.
Clothes.	Importance of environmental, social, and economic factors when purchasing clothing.	1=none; 2=a little; 3=a lot.
Electrical and electronic appliances.	Importance of environmental, social, and economic factors when purchasing electrical and electronic appliances.	1=none; 2=a little; 3=a lot.
Drugstore products.	Importance of environmental, social, and economic factors when purchasing drugstore products.	1=none; 2=a little; 3=a lot.
Importance of ecolabels.	Importance of ecolabels when purchasing a product.	1=none; 2=a little; 3=a lot.
Age.	Age of interviewee.	1=under 18 years old; 2=from 18 to 34 years old; 3=from 35 to 55 years old; 4=over 55 years old.
Sex.	Sex of interviewee.	1=male; 2=female
Level of studies.	Level of studies of interviewee.	1=primary/basic studies; 2=secondary studies; 3=higher education.

British Food Journal

Table II. Descriptive statistics of the sample.

Variable	Categories	Percentage
Environmental concern.	None. A little. A lot.	2.7% 61.4% 35.9%
Price.	Not important. Moderate Importance. Very important.	4.4% 53.8% 41.8%
Quality.	Not important. Moderate importance. Very important.	3.2% 20.6% 76.2%
Brand.	Not important. Moderate Importance. Very important.	39.1% 49.6% 11.3%
Local origin.	Not important. Moderate Importance. Very important.	16.2% 42.8% 41.0%
Animal welfare.	Not important. Moderate Importance. Very important.	16.0% 51.1% 32.9%
Social conditions of workers.	Not important. Moderate Importance. Very important.	7.4% 48.2% 44.5%
Food.	None. A little. A lot.	7.1% 48.4% 44.5%
Clothes.	None. A little. A lot.	25.8% 60.2% 14.0%
Electrical and Electronic appliances.	None. A little. A lot.	29.2% 49.1% 21.6%
Drugstore products.	None. A little. A lot.	22.9% 52.8% 24.3%
Importance of ecolabels.	None. A little. A lot.	17.7% 76.7% 5.7%
Age.	Under 18 years old. 18 to 34 years old. 35 to 55 years old. Over 55 years old.	1.0% 34.6% 39.3% 25.1%
Sex.	Men. Women.	39.1% 60.9%
Level of studies.	Primary/basic studies. Secondary studies. Higher education.	9.6% 23.6% 66.8%

British Food Journal

Table III. Summary of the model.

Dimension	Cronbach's Alpha	Variance accounted for		
		Total (eigenvalue)	Inertia	% Variance
1	.765	3.494	.233	23.293
2	.627	2.410	.161	16.067
Total		5.904	.394	
Average	.708[a]	2.952	.197	19.680

a. The average of Cronbach's Alpha is based on the average eigenvector.

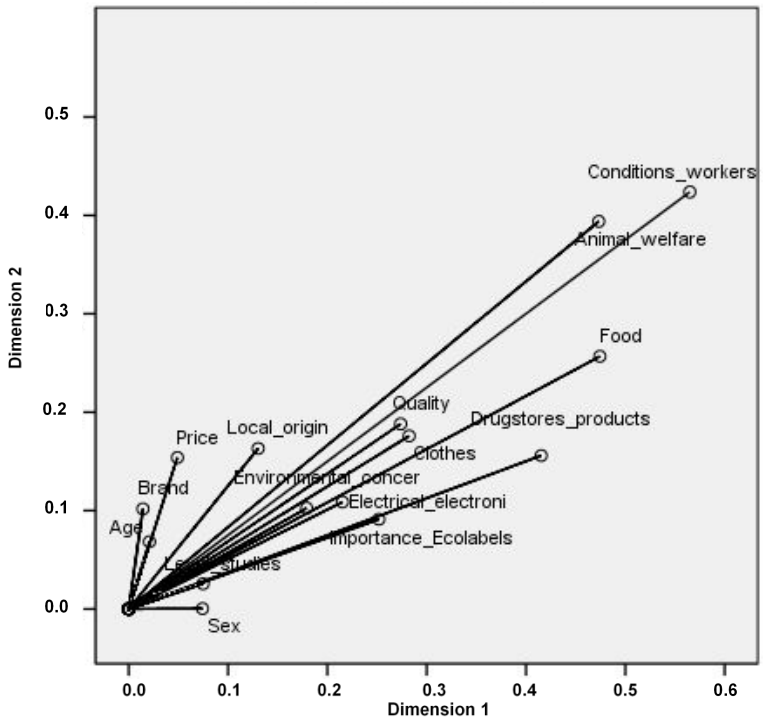
British Food Journal

Table IV. Discriminatory measures

	Dimension		
	1	2	Average
Environmental concerns.	.179	.102	.141
Price.	.049	.154	.101
Quality.	.274	.188	.231
Brand.	.014	.102	.058
Food.	.474	.257	.366
Clothes.	.282	.176	.229
Electrical and electronic appliances.	.215	.109	.162
Drugstore products.	.415	.156	.286
Importance ecolabels.	.252	.091	.171
Age.	.021	.068	.045
Sex.	.074	.000	.037
Level of studies.	.075	.026	.050
Local origin.	.130	.163	.147
Animal welfare.	.473	.394	.434
Social conditions of workers.	.565	.424	.494
Active Total:	3.494	2.410	2.952
% de variance:	23.293	16.067	19.680

Journal

Figure 1. Discriminatory measures.



ood Journal

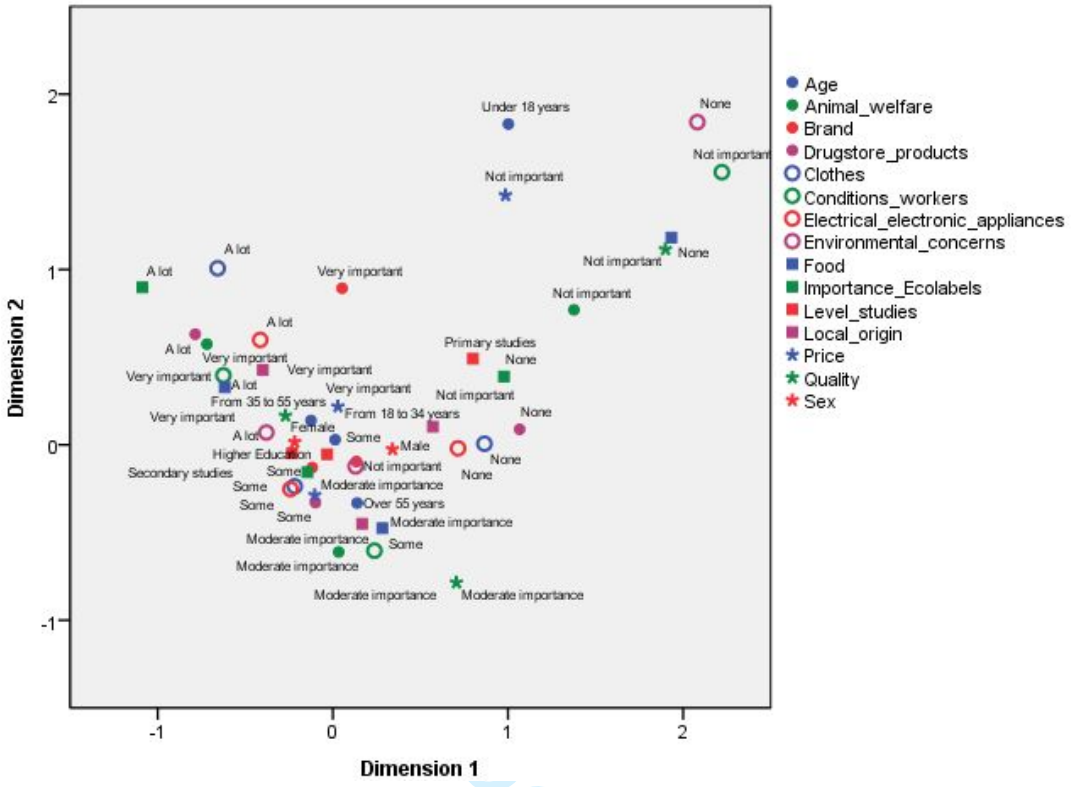



Figure 2. Scattergram of categories