Food Research International 108 (2018) 440–454

Contents lists available at ScienceDirect

Food Research International

journal homepage: www.elsevier.com/locate/foodres

In search of a consumer-focused food classification system. An experimental heuristic approach to differentiate degrees of quality

Francisco J. Torres-Ruiz[a], Carla Marano-Marcolini[b,*], Esther Lopez-Zafra[c]

[a] Department of Business, Marketing and Sociology, University of Jaén, Campus Las Lagunillas s/n, 23071 Jaén, Spain
[b] Department of Business, Marketing and Sociology, University of Jaén, Campus Las Lagunillas s/n, 23071 Jaén, Spain
[c] Department of Psychology, University of Jaén, Campus Las Lagunillas s/n, 23071 Jaén, Spain

ARTICLE INFO

Keywords:
Food classification
Consumer behaviour
Grading
Experimental design
Recall
Recognition

ABSTRACT

The present paper focuses on the problems that arise in food classification systems (FCSs), especially when the food product type has different levels or grades of quality. Despite the principal function of these systems being to assist the consumer (to inform, clarify and facilitate choice and purchase), they frequently have the opposite effect. Thus, the main aim of the present research involves providing orientations for the design of effective food classification systems. To address this objective, considering the context of food product consumption (related to heuristic processing), we conducted an experimental study with 720 participants. We analysed the usefulness of heuristic elements by a factorial 2 (category length: short and long) × 3 (visual signs: colours, numbers and images) design in relation to recall and recognition activities. The results showed that the elements used to make the classification more effective for consumers vary depending on whether the user seeks to prioritize the recall or the recognition of product categories. Thus, long categories with images significantly improve recognition, and short categories with colours improve recall. A series of recommendations are provided that can help to enhance FCSs and to make them more intuitive and easier to understand for consumers. Implications with regard to theory and practice are discussed.

1. Introduction

As a consequence of globalization, consumers are now offered a wide range of food products, with different varieties and quality levels. This produces an informative overload in the market which hinders purchase decisions (Eppler & Mengis, 2004). Food classification systems (FCSs) are a reference to assist the consumer. FCSs comprise denominations of the different categories and information associated with each product[1]; their basic function is to inform the market about the different types, qualities and characteristics of each food product. However, problems often arise from the use of terms that are ambiguous, similar, and technical or complex, which, in short, provoke confusion or false beliefs among consumers (Walsh & Yamin, 2005).

FCSs are usually designed by technical committees' proposals, which consult experts or members of the involved sector.[2] As a consequence, there can be a gap between the theoretical objective of the system (to inform, clarify, help with choice, eliminate confusion, enhance nutrition, etc.) and how these classifications are really interpreted by consumers.

The problem stems from not taking consumers into account in the design. Moreover, when rules are established to set up or modify an FCS, they are not tested on consumers to determine their usefulness. As Morse (1966, p. 53) noted more than 50 years ago: *"The chaotic systems currently in use have been carefully and conscientiously developed –but not from the viewpoint of the consumer"*.

The Danish market constitutes an unequivocal example of the magnitude of the problem. Smith et al. (2013) found that 27% of 821 administrative cases reviewed reflected allegations of confusing names on foodstuffs. A special problem arises when a product type has different levels or grades of quality. This is the case in Spain, which is the

* Corresponding author.
E-mail addresses: ftorres@ujaen.es (F.J. Torres-Ruiz), cmarano@ujaen.es (C. Marano-Marcolini), elopez@ujaen.es (E. Lopez-Zafra).

[1] For example, the classification system for olive oils composed of three categories: (1) Extra virgin olive oil: higher category oil obtained directly from olives and only by mechanical procedures; (2) Virgin olive oil: olive oil obtained directly from olives and only by mechanical procedures. (3) Olive oil contains exclusively refined olive oils and virgin olive oils: oil that exclusively contains olive oils that have been subjected to a refining treatment and oils directly obtained from olives.

[2] In the European context, the European Commission drafts reports modifying or changing classifications that may finally be discarded when the final Regulations are approved (for an example, in the case of olive oil, see: the proposal for a Council regulation amending Regulations No 136/66/EEC and (EC) No 1638/98 as regards the extension of the period of validity of the aid scheme and the quality strategy for olive oil (COM(2000) 855 – C5–0026/2001–2000/0358(CNS)).

https://doi.org/10.1016/j.foodres.2018.03.067
Received 1 December 2017; Received in revised form 25 March 2018; Accepted 25 March 2018
Available online 29 March 2018
0963-9969/ © 2018 Elsevier Ltd. All rights reserved.

world's biggest producer of olive oil. However, among the majority of Spanish consumers there is confusion and erroneous beliefs regarding the qualitative and sensory differences of the different categories of olive oils (Cabrera, Arriaza, & Rodríguez-Entrena, 2015; Marano-Marcolini, Parras-Rosa, & Lopez-Zafra, 2015; Navarro et al., 2010; Parras, 2000). In fact, despite price differences are insignificant, the lowest quality category (olive oil contains only refined olive oils and virgin olive oils) is the most demanded, in detriment to the extra-virgin olive oil category, which is the highest quality (Marano-Marcolini & Torres-Ruiz, 2017). This problem not only affects the consumer, but also damages companies interested in differentiating their production through quality and in the implementation of policies aimed at improving the quality of food.

There are two ways to solve these problems. The first is increasing the level of consumer knowledge.However, this is a utopian vision due to the large quantity of food products on the market and the complexity of their characteristics (chemical composition, effects on disease and health, manufacturing mode, etc.). A second option is to develop a general system as general as possible, for products that have different grades of quality among their categories, that are tested on consumers and easy to learn and remember. Furthermore, it is important to determine its usefulness when applied to a large quantity of food products.

In the literature, the term FCS indicates not only the empirical way in which consumers classify food products in their day-to-day lives (snacks, full meals, homemade or pre-cooked food, occasional consumption …) but also proposals or technical documents related to nutrition, marketing and international harmonisation (Ireland & Møller, 2000; Pennington, 1995). Food classifications are relevant for the organization and communication of information within different areas of food science, such as nutrition, marketing, unit operations and microbiology (Costa, Dekker, Beumer, Rombouts, & Jongen, 2001). In this context, we consider FCSs to be restricted to official food classifications, of compulsory establishment in the market in order to provide information to consumers, and to the elements of the agro-food chain, homogenising and harmonising production and marketing, varieties and/or qualities.

To facilitate consumer buying processes, Morse (1966) discussed the need to establish product “grades”, providing a basis to compare products of a similar type and quality with a standard. This author emphasizes the importance of grades to inform consumers adequately, protect them against deception and assure them the free choice of products in the market.

However, the application of grades or categories is not exempt from problems. For example, types (private, industry and government), level of enforcement (voluntary, permissive and mandatory) or terminology to grade the products (adjectives, numbers and letters) should be determined. In this context, Morse suggests using systematic, uniform and standardized consumer grades.

Despite the underlying logic of Morse's proposals, the existing grades have been mainly developed from a technical point of view (Costa et al., 2001), without considering the impact of the recommendations on consumers. Thus, little progress in the development of consumer-oriented FCSs has been made. Moreover, we note that there is no proposal about the method for objectively analysing their usefulness for consumers. Usefulness of any system depends on its ease of use, that is, if it is easy to learn, remember, and use in comparing products with different characteristics.

In recent decades, there have been notable contributions related to the context of buying and using information in the food sector, where elements such as implication, the processing of superficial information or the use of heuristics are highlighted. Heuristics are simple mental shortcuts that people often use to make rapid decisions. They imply focusing on one aspect and ignoring others, which is useful to save time but in some cases may produce systematic deviations (Gigerenzer & Gaissmaier, 2011; Gigerenzer & Goldstein, 1996). In the context of food products, purchasing decisions tend to be routine with a low level of involvement (Tanner & Raymond, 2016), characterised by a lack of cognitive processing of information,[3] which leads consumers to simplify their decision and to misuse heuristics (i.e. Hamlin, 2010; Scheibehenne, Miesler, & Todd, 2007). Additionally, consumers are exposed to a great amount of information (i.e. Dunbar, 2010; Hall & Osses, 2013), which they must process and use to make decisions in crowded places, such as supermarkets or hypermarkets, where it is difficult to reflect upon the information the product offers. Furthermore, consumers are also pressured by time limits to process all this information (i.e. Loebnitz, Mueller Loose, & Grunert, 2015; Reutskaja, Nagel, Camerer, & Rangel, 2011). Thus, this environment encourages consumers to use simplification mechanisms that, rather than reflecting upon the information provided, resort to visual elements that act as heuristics to associate certain attributes with the product. That is, images or symbols are used to simplify the decision-making process, provided that these signs have previously been learned (Hoek, Roling, & Holdsworth, 2013; Miklavec, Pravst, Raats, & Pohar, 2016; Sütterlin & Siegrist, 2015).

Under these assumptions, it is important to consider that the FCS must contain not only information that can be analytically analysed but also the terms and elements (in general) that possess connotations and are “interpreted” or that can even act as cognitive heuristics, according to the suggestions proposed by the heuristic models (Chaiken, 1980; Chaiken, 1987; Kahneman & Frederick, 2005; Zuckerman & Chaiken, 1998). A clear example of the use of these elements are the Michelin stars rank for restaurants or, in the agri-food sector, the numerical code to inform on the method of breeding eggs (0 = ecological production, 1 = chicken coat, 2 = raised on the floor, or 3 = raised in a cage).[4] According to these models, when consumers are not motivated, have no knowledge or do not know how to make a judgment or decision, they take mental shortcuts to make a simpler and faster decision. Heuristic processing seems to be predominant in the purchase of food products due to the usefulness of the heuristic models in the food purchasing decisions made by consumers. Thus, in the literature, the effects of different signs used as heuristics by consumers, such as colours, logos, emoticons and signs, have been studied mainly in nutrition labelling studies (Becker, Bello, Sundar, Peltier, & Bix, 2015; Emrich, Mendoza, & L'Abbé, 2012; Feldman, Harwell, & Brusca, 2013; Olstad, Vermeer, McCargar, Prowse, & Raine, 2015; Sharf et al., 2012; Van Herpen & Van Trijp, 2011).

1.1. Heuristic elements

As mentioned, there are elements or terms that may provoke the activation of cognitive heuristics. In the case of food products, several indicators may be considered: colours, images and alphanumeric clues. All these indicators are easily learned in childhood using experience-based knowledge (Strough, Karns, & Schlosnagle, 2011). Colours are widely used to classify products or services (i.e., underground lines and level of danger) and are frequently used in nutritional food labelling, such as traffic light logos developed in the United Kingdom by the Food Standards Agency (Becker et al., 2015; Méjean, Macouillard, Péneau, Hercberg, & Castetbon, 2013). Furthermore, they have a symbolic meaning, making the product easily recognized (Ares et al., 2011; Díaz Rojo, Morant, & Westall Pixton, 2006; Hine, 1995; Vidales Giovannetti, 1995). Images are simple elements widely used in the touristic and gastronomic sectors but not so frequently in food choice. For example, hotels use the star system to reduce consumer information asymmetry (Martin-Fuentes, 2016). Images improve recall and recovery of information, they are pleasant, and they enhance comprehension when

[3] With the exception of wine (Hamlin, 2010).

[4] Directive 2002/4/CE, January 30, 2002, on the registration of establishments of laying hens.

Download English Version:

https://daneshyari.com/en/article/8889121

Download Persian Version:

https://daneshyari.com/article/8889121

Daneshyari.com