

Elderly People and Food Packaging: Ergonomic Evaluation of Design Information

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Keywords: Packaging. Information Design. Elderly People.

1 Introduction

Packaging for food products are essential to satisfy the distribution and conservation needs of food and have become a fundamental communication mean between product and user.

The growing concern in making products more appealing, drove brands to gamble in packaging by means of text, colour, texture or illustrations. By this, the need to stay truthful to the brand identity led to cases where similar aspects were adopted to the terms “light”, “unsalted” and “sugar free” versions of their products.

Also the incorrect or absent application of ergonomic requirements in the information design project of some packages may jeopardize the communication between product and consumer/user, which may lay to difficulties that could make vulnerable certain groups of users with limitations due to their age.

It is important to analyse usage situations of some of these products by elderly people, because this group has some problems that do not affect the majority of the population and are often forgotten and disregarded in the information design of packaging.

Therefore, the information design of packaging should take into consideration the limitations of elderly people, keeping in mind the ergonomic requisites of legibility, readability and visibility, relevant aspects to interaction between product and user.

The objective of the current study was to verify and evaluate if a determined group of elderly people (65 years or older) with high cholesterol problems and arterial hypertension, would be able to distinguish by the visual packaging language, which of the five food products they could consume.

2 Materials and Methods

The following food products were analysed: “Mimosa” butter; “Daníssimo” yoghurt; and “Colussi” Cracker *integrali* and *salati*. These products were chosen because they were not supermarket shelved in a specific category such as “light”, “unsalted” or “sugar free”. This situation could induce elderly people into error.

The participation process occurred by an intentional, non-probabilistic sampling method, because the sample was of a chosen criteria, more specifically, the elderly aged over 65 years, with high cholesterol and hypertension.

Participants were eight seniors, aged from 65 to 73. Of these, only two are male (aged 66 and 69), and five females. All of these reside in the city of Odiveelas, in the Lisbon Metropolitan Area.

The questionnaires were used as the data collection technique, which were filled according to the answers of the 30 questions. The approach took place at their homes, in a date previously agreed.

All of the data collection procedures were made individually. There was applied a confidentiality agreement and the objectives of the study were clarified.

3 Results and Discussions

Relating to health problems, all have answered to have high cholesterol and high blood pressure, also an elderly woman has tendency to diabetes due to her family history and another enquired has vision problems as cataracts.

As for the fact of knowing what to avoid eating or NOT eating at all, seniors indicated: fats, fried foods, salt, high sugar foods, alcohol, cheese, sweets.

As for the fact of presenting problems due to consumption (intake) of these foods, 62.5% responded positively and the remainder 37.5% said no. In this matter, the people who answered yes, specified saying heart problems (3), fainting and dizziness due to hypertension (2).

When questioned about the products that were subject of this study, all knew the butter and yoghurt, but only four knew the crackers.

As for the consumption of these products, the salted butter was the most consumed by 75.0% of participants, followed by unsalted butter, yoghurt and crackers, and 37.5%, among other products. In this response, only 3 people differentiated the butters, and

even one woman said that she had consumed both butters. The crackers were not differentiated.

When questioned about which of the products defined (in this study) could be consumed, it was found that in the case of the butter with salt, there was no mistake. They also made distinction between the crackers, but two still indicated the crackers with salt, a sign that they did not realize that the crackers contained salt. In the yoghurt case is verifiable that they failed to realize that it is sugary, because only one did not indicate that she could eat the yoghurt, and at the time of the survey, she read aloud "yoghurt sweetened".

Regarding the perception of what kind of foods are, the answers were: Natural Yoghurt - 7 people; Natural sweetened yoghurt - 1 person; salted butter - 8 people; unsalted butter - 8 people; crackers without salt for crackers with salt - 1 person (this old lady even said: "I can eat this because *salati* means that it doesn't have salt"); equal crackers - 1 person (said all crackers were equal).

The only one who answered "sweetened yoghurt" is the one that has a history of diabetes in the family, and that may (hypothetically) have been a factor that led her to pay more attention. It should be noted that the yoghurt is usually sold unsweetened.

When questioned about whether they had ever been mistaken in purchasing some of these products, 62.5% said yes. From the confirmation of "the mistake", they also responded which were the products they make more mistakes purchasing.

The reason why they wrongly purchased was also questioned, and the main responses were: Butter - "Little colour difference between the butters"; "Because I was not paying attention"; Yoghurt - "Because I didn't noticed the letters on the label"; Crackers - "Because the differences are not visible."

Regarding the perception that the packaging of butter has good readability in the "salt" and "unsalted", 100% responded positively. As for the contrast letters / background, the majority indicated that the contrast was not good.

When asked about the differentiation of the two products (salted butter and unsalted), within the same brand, the majority (75%) said that they were not easily differentiated. In the case of perception difficulty of differences between packages, various situations were identified.

As for the opinion if the packaging should be visually improved, the majority (75%) said yes. And for suggestions for this improvement, they highlighted: red packaging for butter with salt; opposite colours to each package; the use of a more visible colour in the letters "no salt"; letters with different colours, and larger letters.

Particularly regarding the packaging of yoghurt, as for the good legibility of the

sweetened yoghurt, 100.0% of seniors reported NO. As for the reason for not presenting legibility, the responses were diverse.

As for the contrast in the packaging of yoghurt, between letters and background, all subjects (100.0%) indicated that there was not a good contrast, and all subjects recommended changes to improve the visual packaging.

The recommendations to improve the visual packaging of yoghurt include: use of larger letters; greater contrast between letters and background; greater impact; letters more "bold", red letters, letters in the centre of the package.

Particularly for the crackers packaging, it was questioned if the packaging was easily readable at the "*integrali* and *salati*." The majority (62.5%) indicated that they were not.

As for the legibility problems, they reported the foreign language; difficulty reading the letters; small letters. As for the contrast between text and background, the answers were varied. 87.5% of the seniors think the two products (within the same brand) are NOT easily differentiated.

The reason why there were problems in indicating differentiation between the crackers packagings were: similarities between packaging, colours, images and others.

From the total of subjects enquired, 87.5% think that the packaging should be improved visually, and among the suggestions for improvement stood out: packaging in Portuguese; differentiation in colours "*salati*" and "*integrali*", use of different letters, larger letters, among others. As for the negative perception of packaging, Danone yoghurt has a higher index.

Although elderly people were more times mistaken in the purchase of "Mimosa" butter on the supermarket, the yoghurt packaging was considered the worst. Possibly due to the fact that they answered normal yoghurt to the question "can you tell which type of food they are?" and then found out that it had sugar. During the inquiry, many of them were surprised when they found out.

Due to the fact that 7 in 8 seniors pointed out the sweetened yoghurt, unaware that it had sugar to the question "which one of this products you can consume, having into account your health problems?", indicates that this product does not correspond to the ergonomic requirements which makes eminent a reformulation of the visual packaging language.

In this study was verified that the yoghurt packaging did not corresponded/meet to the ergonomic requirements, because all of the elderly people except one, did not realize that this product contained sugar. In addition, all seniors said that the letters size were too small, that the letter should be enlarged; this is essential, apart from the packaging

colour or a symbol, was verified if in doubt the elderly people ultimately seek to carefully read what is on the packaging, failing this, there is a big communication failure.

The ergonomic and informational design are essential tools in the evaluation, analysis and project of packaging, whose users have specific interactivity capabilities.

4 Acknowledgments

Acknowledgements to CIAUD – Research Centre for Architecture, Urban Planning and Design; to Faculty of Architecture - Technical University of Lisbon; to volunteers.