

2nd World Conference On Business, Economics And Management - WCBEM 2013

Perceptions of healthy food packaging information: do men and women perceive differently?

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Abstract

A healthy lifestyle is an important trend shaping business actions today, while packaging on the other hand influences the purchase behavior of consumers. The aim of this research was to explore and understand consumer perceptions of healthy food packaging information. Beside qualitative research, a quantitative research was conducted with a non-probability convenient sample. Data were analyzed using exploratory methods – principal component analysis and linear regression. The influence of advertisements and influence perception of the credibility of packaging information were observed. The research results show that there are gender differences in the importance of different attributes of healthy food packaging information perception. Women are influenced only by advertisements, while men are influenced both by advertisements and the credibility of packaging information.

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Selection and peer review under responsibility of Organizing Committee of BEM 2013.

Keywords: packaging, nutrition, healthy food information, advertising, credibility;

1. Introduction

Following trends is imperative in today's competitive business environment. One trend that companies are increasingly interested in is a healthy lifestyle. Although it looks like a niche primary related to medical needs and actions, this trend covers a wide variety of fields, from social networks (sports tracker is a growing network and at the same time one of the most popular smart phone applications), to clothes, food and other fast moving consumer goods.

This paper is interested in the healthy lifestyle trend but from the perspective of products – primarily food. Food is an everyday necessity, very often purchased instinctively, without too much thought and processing. The purchase decision is made directly, in front of the shelf, when the customer is in contact with the product. Marketing literature (Kotler & Keller, 2006) recognizes packaging and the information available on the packaging as an important element of products. The aim of our paper is to explore the influence of healthy information available on food product packaging and its relationship to advertising messages and opinions about the trustworthiness of packaging as a source of information. We explore different groups of consumers and set foundations for further discussion of this increasingly important issue.

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In the first part of the paper we provide a literature review, which is followed by a description of the methods used in the research. The next part of the paper presents the results of the research and discussion, which leads to the final conclusion.

2. Literature Review

The relationships between packaging and buying decisions are well explored in the literature (Nickels & Jolson, 1976; Masten, 1988; Stewart, 1996; Young, 2004; Clement, 2007).

Packaging influences the purchasing behavior through: communication, functionality and environment, where the communication aspect refers to graphic design, information and brand promotion (Hansen, 1986). Packaging design and its importance as a communication tool is growing (Rettie & Brewer, 2000) and packaging has a role similar to other marketing communications elements (Silayoi & Speece, 2007). In achieving this communication role, food product brands use different packaging attributes such as color, design, shape, symbols, and messages (Nancarrow et al., 1998).

Packaging communicates to consumers at the time they are actually deciding in the store, and therefore it is important in the decision making process (Underwood, 2003). However, the manner of evaluation of packaging is not the same for all consumers (Silayoi & Speece, 2007; Ampuero & Vila, 2007).

Silayoi and Speece (2007) argue that food product expectations can be generated from packaging, labeling, product information, and stereotypes. Trends toward healthier living lead to higher importance for food labeling in the decision making process (Coulson, 2000). Nutrition labeling aims to lead toward healthy choices by providing information about the nutrient content of a food (Cowburn & Stockley, 2005). According to Paine and Paine (1992), customer lifestyle could have influence on the packaging of food. Improved packaging can promote a marketing response to customer demands or change lifestyles. In the food sector consumers are sensitive to green issues and health lobbies (low fat and sugar diets, elimination of artificial coloring, etc). Due to the increase in consumer interests in health and diet issues, nutrition labeling and the effects of nutrient and health claims have received considerable attention and have been extensively researched (Andrews, Netemeyer, and Burton 1998; Levy, Fein & Schucker, 1996; Ford et al., 1996; Keller et al., 1997; Kozup, Creyer & Burton, 2003; Borgmeier and Westenhoefer, 2009). It can be concluded that label use is affected by education, gender, age and time pressure (Drichoutis, Lazaridis & Nayga, 2006).

Nutrition labeling in Europe is compulsory if a nutrition claim is made. If it is made, two types of nutrition label content are permitted:

- group 1 – energy value, amounts of protein, carbohydrate and fat (the “Big 4”) and
- Group 2 – energy value, amounts of protein, carbohydrate, sugars, fats, saturates, fibre and sodium (the “Big 8”).

The EU directives define the measurement units and format that must be used. There are no binding agreements and therefore there is no European standard guideline on front-of-pack or signpost labeling regulations (Cowburn & Stockley, 2005; Borgmeier & Westenhoefer, 2009). Besides these back-of-pack labeling formats, some food manufactures use signposts on the front of the packages to help consumers interpret the nutritional information. The effectiveness of such labeling depends on the organization and presentation of the information, implying the importance of regulatory issues (Baltas, 2001).

In the USA, thanks to the Nutrition Labeling and Education Act, there is mandatory labeling of all packaged products (except for some products) sold in the USA and intended for purchase by consumers. There is also mandatory nutrition labeling in Canada, Australia and New Zealand, although the format and content of nutrition labels are different in these countries. Voluntary labeling is mostly the case in other countries, except for special categories of food (Cowburn & Stockley, 2005).

3. Methodology

In order to explore the importance and function of packaging and healthy packaging we conducted a qualitative and quantitative survey. The qualitative survey was conducted in the form of a focus group with the main aim of understanding what is important to customers when it comes to the issues observed (Malhotra & Birks, 2007). The

questionnaire was then created based on a literature review and insights from the focus group. The questionnaire was then refined based on the comments and suggestions of three marketing academics.

The research results provided in this paper are part of broader research which collected different types of information on attitudes, as well as different demographic information. Items in the questionnaire were assessed on a 7 point Likert scale, where 1 = completely disagree and 7 = completely agree.

The following constructs were used for analysis: the influence of advertisements on the selection of food (ADS), the credibility of information available on the packaging (CRE) and healthy food packaging information (HFI). As we formulated this research primarily as an exploratory research, we did not pose a concrete hypothesis (Allen & Rao, 2000). We wanted to explore the relationships between the selected constructs and to see whether there are any gender differences within the sample.

The survey was conducted through an online questionnaire in August 2012 using a convenience-sampling method. We received a total of 129 responses, and 8 responses were discarded due to missing data (Hair, Black, Babin, Anderson and Tatham, 2009). Exploratory factor analysis and regression analysis were used for the quantitative processing of the data.

A description of the sample is provided in Table 1, which shows that our sample is predominantly composed of young female students and this is a consequence of the sampling method selected. However, as this research is an initial stage of the exploration of the constructs selected, the sample is considered relevant for the research aim, with no robustness.

Table 1. Sample description

Demographic characteristics	Percentage
<i>Gender</i>	
Male	21
Female	79
<i>Age</i>	
16-30	87
31-45	12
45-60	1
<i>Occupation</i>	
pupils	3
students	66
unemployed	8
occasionally employed	2
employed	21

Source: Authors'

4. Results and discussion

In order to explore the results, principal component factor analysis and linear regression were used. The following constructs were used for analysis: the influence of advertisements on the selection of food (ADS), the credibility of information available on the packaging (CRE) and healthy food packaging information (HFI).

The first two constructs (ADS and CRE) were measured as one-item constructs and were regarded as independent variables in the regression model. When it comes to healthy food packaging information (HFI) this is a construct newly developed and based on the exploratory research that we used. Only one component was extracted (Table 2). The average variance extracted is over 50%, which shows good reliability among the constructs. The Cronbach's Alpha indicator is 0,5 which is not in line with most of the proposal, but still acceptable when it comes to exploratory research (Hair et al., 2009). This leads us to the conclusion that the extracted factor, which represents our construct of interest, has good indicators of reliability and validity. Therefore, we proceeded with this construct as our main variable of interest and as the dependent variable in the analysis.

Table 2: Principal component factor analysis results

Factor	Items	Loadings	AVE	α
HFI	HFI1. I always choose healthy food.	0,782	0,52	0,52
	HFI2. I always read ingredients available on packaging of food products before I buy them.	0,809		
	HFI3. I always check expiry date of food products before I buy them.	0,722		

Source: Authors', Notes: AVE = Average variance extracted; α = Cronbach's Alpha

We then tested our model by grouping the sample according to the gender of the participants and then analyzed the results. This enabled us to explore the behavior of customers based on gender differences and still take into account the influence of the selected independent variables. The model is presented in Table 3.

Table 3: Regression scores

Independent Variable	Model 1	Model 2
ADS: Influence of advertisements on the selection of food	0,142* (0,076)	0,454* (0,169)
CRE: Credibility of information available on the packing	0,247* (0,084)	0,096 (0,169)
R ²	0,064	0,269
Adjusted R ²	0,045	0,196

Notes: Healthy food packaging information (HFI); Model 1 observes male respondents; Model 2 observes female respondents; Std. errors are shown in brackets; *Significant at the 0.05 level; n=121

Source: Authors'

This model provides us with interesting information about the interrelationships between the selected constructs and the influence of gender differences on the sample. We may say that in the case of men, both advertisements and their trust in packaging information significantly and positively influence their perception about healthy food packaging information. However, when it comes to women, the credibility of the information source does not play a significant role in their perception of healthy food packaging information. We may say that women are only influenced by advertisements when forming their perceptions about healthy food packaging information.

In both observed models the coefficient of determination (R²) is low – in the model for men, 6% of the total variance is explained, while for the model for women 27% of total variance is explained. Since the main goal of this research was not testing theory or model development, but rather the exploration and seeing whether there are differences between the sample groups, we may conditionally accept these indicators. Another explanation for such low values is that the perception of healthy packaging information represents just one element of importance in the purchasing process, and with price, quality, brand and other influencers excluded, it is understandable that the determination coefficient will be low. The higher coefficient (which indicates a more stable model) in the female sample group could also be explained by the fact that females are a predominant part of the overall sample.

5. Conclusion

The main aim of this paper was to gain deeper understanding into the phenomenon of healthy food consumption through the analysis of customer perceptions of healthy food packaging. We also looked into the underlying characteristics of healthy food packaging information perceptions, and we developed a proposal for the measurement scale for this construct.

The managerial contributions of the paper are evident in several conclusions. First, in this paper we pointed out the importance of a healthy lifestyle in the food consumption segment and the role that product packaging has in terms of this issue. Second, we prove that men and women differ in their perceptions of healthy food packaging, so they need to be targeted separately. Third, we see that the influence of advertisements is significant in both cases (male and female) and that it is the most significant element when it comes to women. Companies which target men should also worry about creating trustworthy and credible information available on packaging.

We also need to mention the limitations of this study. The sampling procedure and size of the sample represent the main limitations that affected the generalizability of the research results. One recommendation for further research would be to include other variables such as price, quality, brand etc. as control variables in order to improve the quality of the results.

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