

INFORMATIVE VALUE OF PACKAGING AS A DETERMINANT OF FOOD PURCHASE

WARTOŚĆ INFORMACYJNA OPAKOWAŃ JAKO DETERMINANTA ZAKUPU ŻYWNOŚCI

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DOI: 10.2478/minib-2020-0015

ABSTRACT

The purpose of the article is to present the concept of information value of food packaging, characterize determinants of information value and present the results of own research on the identification of key information on packaging affecting purchasing decisions of food consumers. Unit packaging constituting an inherent element of food products equipment should fulfill numerous, overlapping functions, which include: protection, transport and information — functional, as well as ecological and promotional. One of the priority functions of product packaging (not just food) is the informative function. It is assumed that the proper selection of information encoded on the packaging should inform the consumer exhaustively, reliably and comprehensively about the packed product, its composition, nutritional values or storage conditions. Analyzing the information included on food packaging, it can be stated that entities introducing these products onto the market still show a tendency to "excessively" label the packaging (as part of optional labeling). It is therefore reasonable to specify what information is analyzed by consumers in the purchasing process and what information constitutes the information value of unit packets from the point of view of individual consumers. The above will allow identifying key determinants of the information value of packaging and may constitute valuable information for entities introducing products to trade in the field of proper selection of characters and codes of unit packets on the food market.

Key words: packaging informative value, food, purchasing decisions

ABSTRAKT

Celem artykułu jest zaprezentowanie pojęcia wartości informacyjnej opakowań żywności, scharakteryzowanie wyznaczników wartości informacyjnej oraz przedstawienie wyników badania własnego dotyczącego identyfikacji kluczowych informacji umieszczonych na opakowaniach wpływających na decyzje nabywcze konsumentów żywności. Opakowania jednostkowe, stanowiące inherentny element wyposażenia produktów żywnościowych, powinny spełniać rozliczne, zążębiające się funkcje, do których należą: ochronna, transportowa, informacyjna oraz użytkowa, ekologiczna i marketingowa. Jedną z priorytetowych funkcji opakowań produktów (nie tylko żywności) jest funkcja informacyjna. Zakłada się, iż odpowiedni dobór informacji zakodowanych na opakowaniach powinien wyczerpująco, rzetelnie i zrozumiale informować konsumenta o opakowanym produkcie, jego składzie, wartościach odżywczych czy też warunkach przechowywania. Analizując informacje zawarte na opakowaniach żywności, można stwierdzić, iż podmioty wprowadzające te produkty do obrotu towarowego nadal wykazują tendencje do nadmiernego znakowania opakowań (w ramach znakowania fakultatywnego). Zasadne jest więc określenie, jakie informacje są analizowane przez konsumentów w procesie nabywczym oraz jakie informacje stanowią o wartości informacyjnej opakowań jednostkowych z punktu widzenia konsumentów indywidualnych. Pozwoli to na zidentyfikowanie kluczowych wyznaczników wartości informacyjnej opakowań i może stanowić cenną informację dla podmiotów wprowadzających produkty do obrotu towarowego — w zakresie właściwego doboru znaków i kodów opakowań jednostkowych na rynku żywności.

Słowa kluczowe: wartość informacyjna opakowań, żywność, decyzje nabywcze

JEL: D12, D91, J14, O39

Introduction

Individual packaging is an integral element of food products — a vast majority of goods cannot be introduced into the merchandise trade without proper packaging (Jamal, Khan, Tsesmetzi, 2012). Packaging fulfills many functions — protective, transport, informative (basic functions) but also marketing, utilitarian, ecological or economic (secondary functions)

(Soroka, 2002; Robertson, 2013; Shah, Ahmed, Ahmad, 2013). An enormous potential of food products packaging (resulting from such elements as a design and construction, shape, fabric, colours and graphics, label) results in the fact that they become an effective tool in marketing activities: they are distinctive elements of product/brand value, a tool to build up a competitive advantage, a creator of brand's image (Silayoi, Speece, 2004; 2007; Grundey, 2010; Hota, Charry, 2014; Fenko, Kersten, Bialkova, 2016; Ankiel, Sojkin, 2018; Nura, 2018). It should be also stressed that from the perspective of a consumer, individual packaging is a source of numerous vital pieces of information about the food product and one of significant purchasing determinants (Butkeviciene, Stavinskiene, Rutelione, 2008; Wang, Chou, Wen Lan, 2010; Wang, 2013, Manijeh, Azadeh, 2017; Bigoin-Gagnan, Lacoste-Badie, 2017). A dynamically developing food products sector is inseparably connected with the branch of food packaging producers — their products have to comply with the still growing demands of the market (directed to producers, commercial dealers as well as final purchasers). They should be characterized by maximum security for the products inside, modern design, innovative designer — graphic solutions, high degree of utility for customers, environmental friendliness and high communicative value (Lee, Yam, Piergiovanni, 2008; Grundey, 2010; Ankiel-Homa, Czaja-Jagielska, Korzeniowski, 2011, Auttarapong, 2012; Jamal, Khan, Tsesmetzi, 2012; Casillas, 2013; Barska, Wyrwa, 2018).

While analyzing food distribution channels in Poland it can be noticed that self-service stores (hyper and supermarkets, convenience stores) have become a core distribution channel; it should be also noticed that internet food sales develops dynamically (www.wiadomościhandlowe, 2020.01.15). The aforementioned distribution channels require food packaging to be thoroughly informative (apart from having a protective, logistic or marketing function) due to the fact that in self-service stores packaging is the main source of information about the product and plays the role of a 'silent shop assistant' in the customer — product relationship (Ankiel, Walenciak, 2016; Magnier, Crie, 2015; Bininnger, 2017). In this context an informative function (generated by the informative value of packaging) gains a special meaning both in the process of purchasing and consuming food products. The essence of food products unit packaging

informative function refers to the relationship in the following scheme: packaging — product — consumer — environment (Ankiel-Homa, 2012). In this structure the aim of the informative function is to provide a customer with reliable, professional and comprehensible information about the product (its features, properties, attributes and options of using) (Dörnyei, Gyulavári, 2015; Fenko, Kersten, Bialkova, 2016). The information placed on food packaging (or the labels being an integral part of them) may be coded in form of language (words, expressions and ideographic such as numbers, combinations of letters and digits) and/or iconographic (pictures, drawings and other graphic signs) (Ankiel-Homa 2012, p. 178).

The rules of branding food packaging in the European Union are included in regulations of the European Parliament and Council (UE) no. 1169/2011. The regulation in question specifies the list of obligatory information placed on food packaging, among which the following are included:

- information about the origin and contents, properties and other feature of a given food product,
- information about customers' health protection, application of the product, its durability, storing and safety measures in use,
- information about characteristic features, which enables the consumers to make informed choices about purchases and consumption,
- information about allergens (regardless of their amount),
- information about nutritive value of the product (energy and fat contents, saturated fatty acids, carbohydrates, sugar, protein and salt) (European Parliament and the Council of Europe regulation No 1169/2011, 25 October 2011).

Apart from compulsory information a producer/trader introducing the product onto the market may place some additional information, particularly of educational and marketing nature, among which there are the following:

- emphasizing particular, distinguishing features and attributes of the product (e.g. product certificates, market institutes' recommendations);

- creating a demanded image of the product and its brand (e.g. decorations, ornaments and other graphic-linguistic signs);
- informing about promotion activities connected with the food product (e.g. QR code redirecting to the product advertisement, fan page).

Depending on the category of food, brand and urgency of needs or a place where the product is sold, particular informative elements of packaging are perceived and analyzed by a consumer to various extent. By the means of perceived and analyzed information coded in form of signs on packaging, a customer identifies features and attributes of products and estimates its value, what influences the selection and purchasing decision for a particular food product.

Aim, scope and methodology of the research

The main aim of this research was to identify purchasing behaviours of customers with reference to selected categories of food products in Poland. One of the key research aspects was to analyze the perception of consumers regarding information included on food packaging, both obligatory and optional, which are studied during the purchasing process. Moreover, the conducted research allowed to single out and evaluate the core information included on the packaging and determining purchasing decisions in relation to these products. The subject of the research was food products packaging and to be more precise information on the packaging or labels which are their integral parts. The research method was personal interview conducted all over the territory of Poland between April and May 2019. The research tool was a questionnaire prepared and verified in the pre-research stage. The research group were housewives declaring shopping for food systematically. The selection of research sample (N = 900) was conducted by the quota method (the criteria of the selection: age and dwelling place), which complied with the condition of keeping a 'relatively' representative research sample.¹

Identification of information on the packaging which influences food purchasing decisions

As it has already been mentioned, one of essential aims of the conducted research was to identify and evaluate information placed on unit packaging in the context of its influence on food products purchase decisions. Unit packaging is a source of numerous (compulsory and additional) pieces of information and it seems obvious that purchasing conditions result in the fact that not all contents are analyzed during the food products selection and not all of them influence purchasing decisions of customers, mainly due to time pressure. It is therefore legitimate to identify the information which is vital for consumer — it is noticed and analyzed during the food purchasing process. This seems particularly important in the context of 'abundance' of additional information on the packaging, hence establishing which information important for the customer is crucial. At the same time it will become an important hint for producers and entities introducing the goods into merchandise trade, which may result in levelling the flow of information between producers and customers. During the research 26 categories of information presented on the food packaging were evaluated, the measurement was conducted by the means of Likert scale.² The results of evaluating the meaning of each piece of information for the purchasing process of a customer has been presented in Table 1.

As it can be seen from the data presented in Table 1, the most important details placed on food packaging from the consumer's perspective (a housewife), influencing the purchasing process refer to the durability of a product (minimum sell-by date, expiry date) with average 4.49 and a product ingredients — average 4.34. These kinds of information belong to the category of compulsory and are crucial in the process of food consumption mostly due to minimizing health hazards (connected with e.g. consuming a product past the sell-by date or consuming a product which contains particularly strong allergen for the consumer). An interesting thing is — besides the categories of information mentioned above, no other analyzed category scored over 4.0 average. The group of analyzed housewives pointed out that a vital element in the process of selection and purchase of food products is also information referring to: the storage conditions of a product — average 3.98, nutritive value of product —

Table 1. Information on packaging considered in purchasing process of food

No.	Information on food packaging	Number of responses	Average
1.	Name of the product	893	3.75
2.	Product ingredients	896	4.34
3.	Producer/dealer	892	3.31
4.	Brand	892	3.48
5.	Minimum sell-by/durability date	900	4.49
6.	Storage recommendations	894	3.98
7.	Net contents/number of pieces	891	3.63
8.	Nutrition value	879	3.93
9.	Fat contents	894	3.75
10.	Carbohydrates contents	895	3.70
11.	Protein contents	895	3.66
12.	Salt contents	896	3.69
13.	Energy	895	3.67
14.	% of daily consumption which the product covers	894	3.27
15.	Daily consumption recommendations	892	3.26
16.	Suggested price	892	3.92
17.	Declarations/health and nutrition statements	892	3.42
18.	Information about production	892	3.29
19.	Infographics	883	3.11
20.	Certificates	897	3.10
21.	Information identifying packaging material	896	3.15
22.	Guarantee of quality	895	3.24
23.	WWW of the producer	893	2.64
24.	QR codes	894	2.47
25.	Bar codes	896	2.59
26.	Drawings/decorations	895	2.55

Source: own research.

average 3.93 and suggested price of a product — average 3.92. After the analysis of the above it can be noticed that both storage conditions of a product and nutritive values of it are also vital pieces of information in the process of product consumption and — similarly to the information with the highest score — they influence minimizing health hazard. However, the suggested price of the product (if it is printed on the packaging) is the key economic determinant of purchase. As for the least influential in the process of food purchasing decision making the respondents pointed out: QR codes — average 2.47, drawings and

ornaments — average 2.55, bar codes — average 2.59 and producers website — average 2.64. All the aforementioned categories of packaging tagging belong to the category of non-compulsory and placing them is an arbitrary decision of the entity introducing the product into the merchandise trade.

It is also worth noticing that whereas QR codes and the producer's website as the information of typically marketing nature are of no particular meaning in the selection process and food products purchase, they may play a part in the process of consumption e.g. in a situation when a customer is interested in participating in an advertising campaign involving the customer (redirecting by the means of QR code to the promotion rules or onto the producer's website). Therefore, in the context of tags and codes mass presence on the food products packaging it is vital to select the additional information thoughtfully so that the one which is present on packaging is important for the customer, does not hinder communicative clarity and value of an outer cover or a label on food product.

Identifying the key indices of food packaging informative value

In order to reduce a multi-element collection of the analyzed categories of information placed on food packaging (measurable variables) and to distinguish the core information in packaging informative value, the method of principal component analysis (method of factor analysis) was used. In order to verify the accuracy of the principal component analysis application, Bartlett's sphericity test was conducted and Kaiser-Meyer-Olkin indicator (KMO) was calculated (Gatnar, Walesiak, 2007). The value of KMO over 0.9 confirmed legitimacy of the research (Table 2).

Table 2. KMO indicator and Bartlett's test

The measure of Kaiser-Meyer-Olkin factor adequacy		0.928
Bartlett's sphericity test	Estimated value of Chi-square	12319.343
	Number of the degrees of freedom (df)	351
	Validity	0.000

Source: own research.

For the benefit of the research there was applied the method of principal components with Varimax factor rotation. In the research there were distinguished principal factors referring to the information influencing purchasing decisions coded on food products packaging (using Kaiser criterion). Then by the method of principal components with the abovementioned rotation the factors impact was calculated. Finally, in order to interpret common factors, variables correlated with particular factors were singled out.

Table 3. Key information presented on food packaging (factor impact calculated by principal components analysis)

Information on packaging	Components				
	1	2	3	4	5
Name of the product	.707				
Product ingredients					
Producer/dealer	.707				
Brand	.775				
Minimum sell-by/durability date			.686		
Storage recommendations			.774		
Net contents/number of pieces					
Nutrition value				.763	
Fat contents				.854	
Carbohydrates contents				.894	
Protein contents				.891	
Salt contents				.856	
Energy				.830	
% of daily consumption which the product covers				.716	
Daily consumption recommendations					
Suggested price					.885
Declarations/ health and nutrition statements					
Information about production		.560			
Infographics		.646			
Certificates		.674			
Information identifying packaging material		.673			
Guarantee of quality		.656			
WWW of the producer		.735			
QR codes		.762			
Bar codes		.705			
Drawings/decorations					

Source: own research.

As can be seen from the analysis, the core information for housewives placed on unit packaging which influences the purchase is this referring to product and brand — important details characterizing the product, producer and informing about the storage recommendations and expiry date. The second in row was information which characterizes nutritive value of the product in detail (energy value, fat contents, saturated fatty acids, carbohydrates, sugar, protein and salt contents) — since January 2016 these are also compulsory. Other crucial information present on food packaging is also data of marketing nature — e.g. quality certificates of the product/producer and other material certifying quality of the product and suggested retail price.

It can therefore be assumed that the key indices for individual packaging informative value which determine consumers purchasing process are the following:

- factor 1 — identification of a product (name, brand, producer);
- factor 2 — qualitative and marketing differentiating traits of the product (certificates and quality declarations, information about production process, information about the producer's website);
- factor 3 — product storage (recommended storing conditions, durability period of the product);
- factor 4 — nutritive value of the product (including fat, saturated fats, carbohydrates, sugar, protein and salt contents);
- factor 5 — suggested price.

Having evaluated the selected indices of food packaging informative value it can be stated that the information which is crucial for the consumers belongs to the category of compulsory signs and codes. The results of the research confirm the legitimacy of placing them on food products packaging. The components of food products informative value, due to their communicative nature, should allow the identification of the product, point out how long to store it and which conditions are suitable for this and make a customer aware of its nutritive value as well as of particular nutrients contents. The aforementioned information is crucial in the purchasing process and minimizes health hazard during the

process of food consumption. As it has already been mentioned, apart from the obligatory information, food packaging includes also selective information among which quality and marketing distinguishing features and suggested price of products turned out to be crucial for the informative value.

Summary

Summarizing the results of the research, which aimed to identify crucial information placed on food products unit packaging (in other words indices of informative value) it can be stated that during the purchasing process a consumer is mainly interested in the information, which is placed there due to the EU legal regulations demands. These include: name of the product, name of the producer and brand (meaning basic information identifying a cosmetic); expiry date of the product and storage requirements, detailed information about nutritive values and single nutrients contents in the product (proteins, carbohydrates, saturated fatty acids and salt). Moreover, during the purchasing process also information on promotions, showing additional benefits to be obtained by the customer selecting the product is important (certificates and quality declarations, specific, distinguishing methods of production e.g. traditional methods). Worth noticing is the fact that while examining food products packaging it can still be noticed that producers place too much (possibly irrelevant) information or iconographies (although the trend of 'blank label' starts to be noticed -product has not complicated composition and the label contains only the information required by the law). Furthermore, considering limited amount of time that the consumer has while purchasing a product, the abundance of information (optional) may discourage from selecting a brand instead of being the encouraging stimulus. Hence it seems reasonable to verify crucial information placed on food products packaging from the consumers/purchasers point of view and to design informative value of packaging in a way which allows to balance the information flow in the producer — consumer relationship.

Footnotes

¹ The research included women/housewives in 8 cities in Poland: Warsaw, Wrocław, Poznań, Szczecin, Kraków, Katowice, Olsztyn and Zielona Góra. The age structure of the research sample in each city was respectively corresponding — the age range 20-60+ years.

² Values on Likert scale: (1) definitely unimportant, (2) quite unimportant, (3) neither yes nor no, (4) quite important and (5) definitely important.

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