

RECENT PRODUCT INNOVATION TRENDS IN GLOBAL FOOD MARKETS

Szczepan FIGIEL¹

¹Dr. hab., Professor, Institute of Agricultural and Food Economics, National Research Institute, Warsaw, Poland

Abstract

Food sectors all over the world are strongly driven by development of brands and innovations as companies want to distinguish their products from the ones offered by competitors. In general, introducing new products into the markets they try respond to the wants and wishes of consumers whose behaviours form observable trends. However, marketing strategies of the companies should not be uniform and supposed to differ depending on the region of the world at least because of cultural differences. The goal of this paper is to analyze recent product innovation trends shaping globalized food markets in the world regions. The analysis was based on data regarding recent trends in food product innovations provided by XTC World Innovation Panorama. The data was used to compare intensity of occurrence and relative importance of the 15 distinguished trends in such world regions as Asia, Europe, Latin America, Middle East & North Africa, and North America. Although intensity of occurrence of the food product innovation trends was quite similar, interesting differences were found in terms of relative importance of particular trends across the world regions.

Keywords:

Innovation trends, food products, global markets

Introduction

Competitiveness of economic entities is undoubtedly related to their innovativeness. This especially so, when market competition is mainly of the monopolistic nature, like in the case of food industry. Food companies all over the world constantly attempt to differentiate their products trying to successfully attract consumer attention. One of the most effective way to achieve this goal is to develop product innovations. Tirole [1988] considers product innovations as new kinds of goods and services introduced into a market thanks to technological advancements. From the consumer utility standpoint this type of innovations is much more persuasive, and therefore often of greater market importance for companies than process innovations concentrated on reducing costs of goods and services already produced. Development of food product innovations is supposed to be in line with consumer preferences, which are changing over time being influenced by various factors. One them is globalization of food markets increasingly influenced by international companies offering products of similar nature no matter where particular marketplaces are geographically located. But, behavior of consumers is also determined by their needs and expectations rooted in social and cultural environments differing across countries and the world regions. Consequently, marketing strategies of the food companies are likely to differ depending on the region of the world. So, it seems obvious that diversity of the food consumption patterns should be reflected by specific responses of food producers including product innovations introduced into the markets.

Following this assumption, the paper goal is to analyze recent product innovation trends shaping globalized food markets in the world regions. The analysis is based on data regarding recent trends in food product innovations provided by XTC World Innovation Panorama (2015). The data describes segmentation of each food product launched in 2014 and 2013. Each new product is precisely depicted regarding innovative features and then

positioned on the XTC trends tree. Applying index of percentage similarity this dataset was used firstly to compare intensity of occurrence of the 15 distinguished trends in such world regions as Asia, Europe, Latin America, Middle East & North Africa, and North America. Next, the dataset was transformed in order to show relative importance of the trends in the particular regions. Results of the carried out analysis allow not only to highlight regional differences in occurrence and importance of the recently observed food product innovation trends, but also to contribute to better understanding of the nature of the contemporary monopolistic competition in global food markets as being driven by consumer trends.

1. Literature review

Emergence of a new breed of consumer in the first decade of this century influencing a spectrum of business and economic decisions becomes a key factor driving the consumer demand. New consumers, more educated, affluent and well informed, are creating a more diverse and fragmented society (Shaw, 2002). The changing consumer preferences are embedded in consumer trends reflecting aggregated dominant consumer wants and wishes. The trends themselves can be viewed as changes in style and taste, which have been going for a long time (Vejlgaard, 2008). The underlying sources of consumer trends are significant social, economic, political and technological changes, which are coming slowly, but they make profound impacts on our lives. Most of the presently observed trends is associated with the change from the industrial to the post-industrial era characterized with an increasing role of knowledge and creativity as well as with an empowerment of employees.

The so-called megatrends shaping nowadays consumer behavior are as follows: gerontologization of society, rejuvenating society, luxurisation of consumption, lifestyle design, distanced (conscious) consumption, lazy (convenient) consumption, increasing mobility of people, centralization of consumption, information society or cybernetic consumerism (resulting from social media, virtual consumption and multitasking), experience marketing, and avatarization of consumption. Megatrends are connected most of all with changes regarding life expectancy, level and distribution of income, value systems of consumers, structure of employment, environmental concerns, as well as with rapid development of information technologies [Figiel & Kufel, 2015].

One of the most significant event recently influencing consumer trends was the 2007-08 financial crisis. Since then, buying things hasn't been so strongly placed in the center of human activity any more. Households had to limit their consumption whilst becoming more conscious that capitalism and mass production may rely also on overexploitation of workers, animals, and natural environment. Consequently, purchasing decisions started to be made in a more responsible way, whereas before the crisis consumers were more individualistic and egocentric. They enjoyed buying and owning tailor-made products, through what they built their ego, and believed that an idyllic world of consumption should have ensured a good mood.

There is a vast body of literature addressing the issue of current consumer trends. A comprehensive synthesis regarding this topic can be found in work of Zalega (2013). The following eight main post-crisis consumer trends are discussed: anti-consumption, conscious (ethical, responsible) consumption, collaborative consumption (mesh, sharing economy), freeganizm, intelligent (innovative) consumption, smart shopping, cocooning (home centralization), and non-stop. Of course, these trends have profound impact on food consumption. Changing attitudes toward food consumption are a part of this new consumer perspective as well. There are two key dimensions of this phenomenon, namely:

- the way we eat (increased number of smaller and richer households implies consumption away from home and convenience);

- and what we eat (better educated societies are more concerned about nutrition and health implications of food. i.e. low calories, slow food, ego food, etc.).

Consequently, food demand can no longer be viewed as dependant only on prices, income and population of consumers. Therefore, a stylized food product demand function, as pointed out by Antle (1999), should take the following form:

$$F_D = f(P, I, N, C, NP)$$

where: F_D – a food product demand; P – product and other relevant output prices; I – income; N – population; C – characteristics of the consumer population; and NP – nonprice attributes of a product.

The nonprice attributes of a product, from which consumers derive utility or disutility, may include nutritional content, safety and convenience characteristics. Also, they may represent how the product was produced, the environmental impact of production, and production processes and inputs like pesticides, irradiation and genetically modified organisms.

Food producers are supposed to respond to global consumer trends by offering products consistent with the consumer expectations increasingly related to consumer population characteristics and nonprice product attributes. One of the ways to meet this challenge is introducing innovative products. Variety of such products reflecting producer trends can be noticed in the contemporary food markets. Gaps between the consumer and recent food product innovation trends in the context of potential business opportunities have been examined on the worldwide basis by Figiel and Kufel (2016) who found that certain demands for food products have not been fulfilled yet. Both types of trends are sort globally intertwined but probably neither consumer's behaviors, or producer responses are identical in every geographic location. Thus, how the occurrence of the recent food product innovation trends differ across the world regions seems to be an interesting follow-up question.

2. Framework and results of the analysis

The performed analysis stems from the methodological approach to classifying food product innovations adopted by the XTC World Innovation. Each new product is precisely described regarding innovative features and then positioned on the XTC trends tree. The tree includes 5 axes within which 15 innovation trends in food products are extracted. The discerned axes are:

- pleasure – induced by enticing quality, often emotionally charged;
- health – expressed by health benefits and risk prevention;
- physical – driven by attention to appearance, body shape or state of mind;
- convenience – based on efficiency of use and adaptation to new lifestyles, and;
- ethics – focused on solidarity, concern for others and the environment.

The axes are meant as major domains of general consumers' expectations, which are supposed be to addressed by innovative food producers, directing their market efforts eventually reflected in the formation of visible trends concerning food product attributes and features. Innovative products developed in various countries are assigned to different trends within each axis according to their attributes and prevailing utilities.

The pleasure axis includes four trends, such as:

- sophistication (products of high-quality, exclusive, rare, also attaching details regarding recipes, ingredients, production processes, packaging, design);
- variety of senses (new taste, shape, color, texture, seasonal and occasional products, breaking conventions, new experiences);
- exoticism (new, different tastes and recipes from abroad), and;
- fun (surprising, entertaining, interacting products).

The health axis comprises three trends, namely:

- natural (products improving and not harming health);
- medical (ingredients benefiting health, additional or naturally present/absent), and;
- vegetal (products with a positive influence on health because of basing on plants).

The physical axis is composed of another three trends, such as:

- slimness (ingredients supporting a weight loss or a lack of ingredients causing a weight gain);
- energy, well-being (products perceived as relaxing, stimulating body), and;
- cosmetic (making consumers more beautiful).

Also, the convenience axis consists of three trends, namely:

- easy to handle (easier carrying, eating, discarding);
- time saving (reducing time spent on a product preparation or cooking meals), and;
- nomadism (easiness of eating regardless conditions).

Finally, the ethics axis is composed of two following trends:

- solidarity (supporting disadvantaged people, not harming human rights) and;
- ecology (claiming to respect animals and nature).

The data used in the analysis reflected percentage shares of each food product innovation trend (FPIT) in the total number of food product innovations observed in various world regions in 2013 and 2014. In order to make results more robust to some irregular fluctuations, averages for these two years were computed. The obtained numbers served as measures of intensity of the FPITs occurrence in Asia, Europe, Latin America, Middle East & North Africa, and North America.

2.1 Occurrence of the food product innovation trends in world regions

The focus of this part of the analysis is to identify differences in the intensity of the FPITs' occurrence across the considered world regions. Table 1 contains percentage values representing shares of each FPIT in the overall number of food product innovations, which appeared in a particular region. The variety of senses trend dominated in all regions. Its intensity of occurrence was in the range of 28.20-41.75%. The second most intensively occurring trend was sophistication (between 10.6-21.3%). Relatively often observed were also food product innovations representing the medical, the easy to handle, and the natural trends. On the contrary, the least intensively occurring trends were the solidarity, the ecology, and the nomadism.

At first glance, comparing regional patterns of the intensity of the FPITs' occurrence, there seem to be considerable differences between regions. However, indices of the percentage similarity (PSI) calculated for the pairs of the regions appeared rather high, ranging from 0.76 to 0.89. This means, that in general the observed patterns of the intensity of the FPITs' occurrence can be considered similar (PSI from 0.6 to 0.8), or very similar (PSI from 0.8 to 1). The least similar in that respect are Europe and Asia, whereas the most similar are Europe and the Middle East & North Africa. Second highest value of the PSI (0.88) was found for Latin America and North America. So, it can be stated that geographic proximity clearly matters as a factor determining differences in the intensity of occurrence the FPITs across the world regions.

Table 1 Intensity of occurrence of the food product innovation trends in the analyzed world regions (%)

Trend	Asia	Europe	Latin America	Middle East & North Africa	North America
Variety of senses	41.75	29.80	32.40	28.20	30.30
Natural	4.10	9.60	11.50	4.50	16.80
Sophistication	13.60	19.25	10.60	21.30	12.20
Easy to handle	7.40	12.10	7.60	12.40	6.55
Fun	2.00	4.50	3.10	2.00	1.85
Time saving	2.20	4.40	5.80	5.00	2.60
Medical	14.85	7.40	13.85	12.90	15.40
Exoticism	1.40	3.15	0.60	2.50	2.20
Energy, Well-being	2.35	1.40	2.05	4.50	2.15
Nomadism	1.30	1.65	1.75	1.50	1.00
Slimness	5.55	4.35	7.60	4.00	4.50
Vegetal	0.85	0.90	1.25	1.00	2.45
Solidarity	0.10	0.55	0.15	0.00	0.55
Cosmetic	2.35	0.15	0.55	0.00	0.15
Ecology	0.25	0.65	1.25	0.50	1.30

Source: Own elaboration based on XTC World Innovation, 2015

Table 2 provides an insight into differences between the world regions regarding intensity of occurrence of the food product innovation trends grouped into the general axes.

Table 2 Intensity of occurrence of the food product innovation trends grouped into the general axes in the analyzed world regions (%)

Axis	Asia	Europe	Latin America	Middle East & North Africa	North America
Health	19.75	17.95	26.60	18.30	34.60
Physical	10.30	5.90	10.10	8.40	6.80
Pleasure	58.75	56.70	46.70	54.00	46.60
Convenience	10.90	18.25	15.15	18.80	10.15
Ethics	0.35	1.20	1.40	0.50	1.80

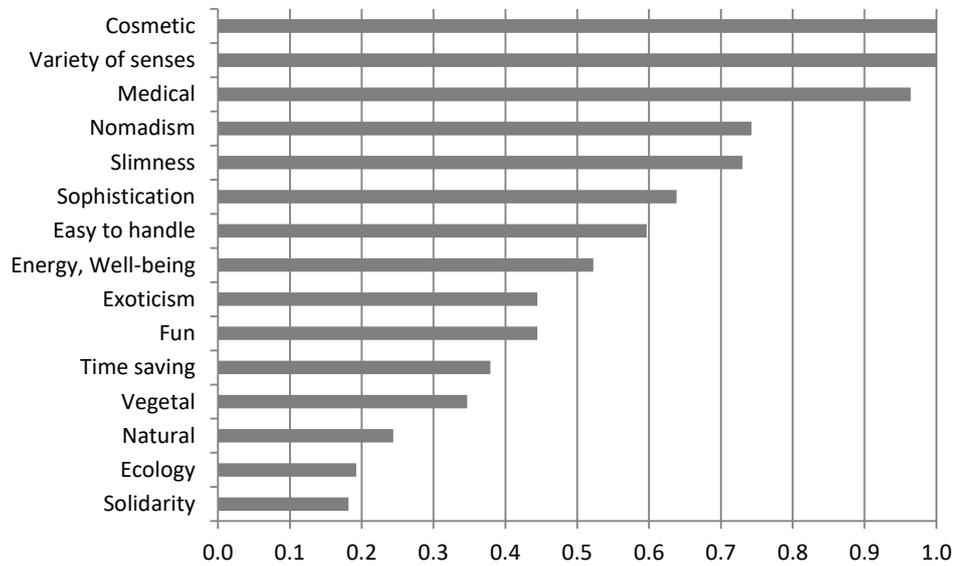
Source: Own elaboration based on XTC World Innovation, 2015

As it can be noticed, in all world regions food product innovations representing trends belonging to pleasure axis were by far the most numerous. Fairly intensive was also occurrence of the FPITs included in the health axis. Next, in terms of occurrence were the FPITs constituting the convenience and physical axes. The FPITs belonging to the ethics axis were hardly noticed, what may mean that food companies have paid little attention to the development of that type product innovations so far.

2.2 Relative importance of the food product innovation trends in regions

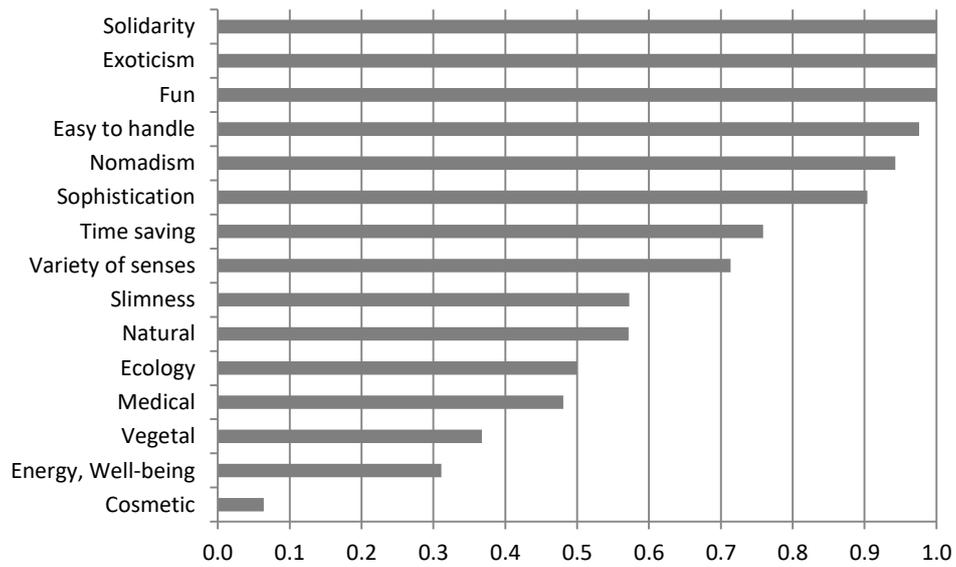
A high similarity of the intensity of the FPITs occurrence in world regions does not necessarily mean that in relative terms they were equally important in every region. In order to find this out the percentage shares, representing intensity of the FPITs' occurrence in a

particular region, have been normalized with reference to their maximum values in the regions compared (i.e. the highest share in all regions takes the value 1 and the other lower shares take the values proportionally smaller). The results of these calculations for each region are presented in figures 1-5.



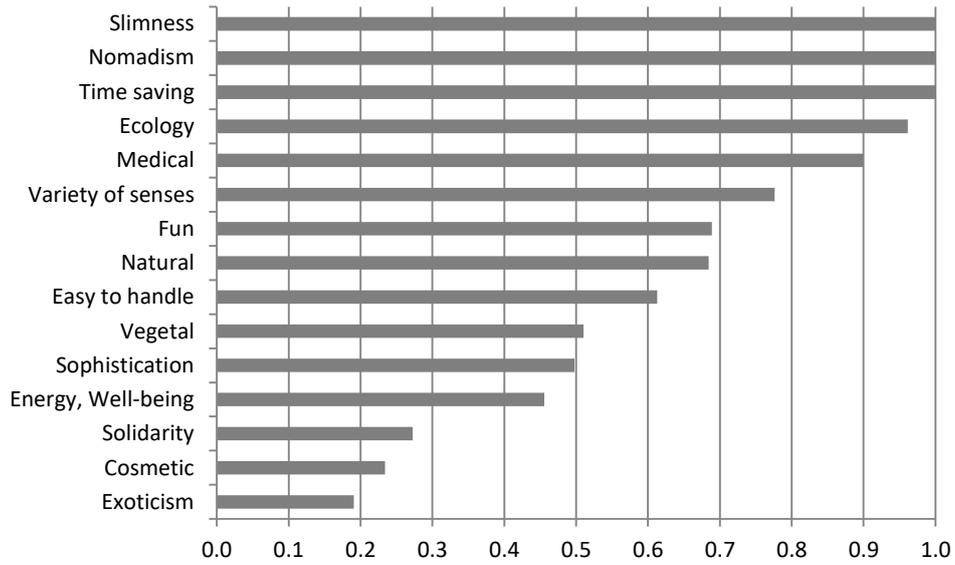
Source: Own elaboration based on XTC World Innovation, 2015

Fig. 1 Importance of the FPIT categories in Asia relative to other regions



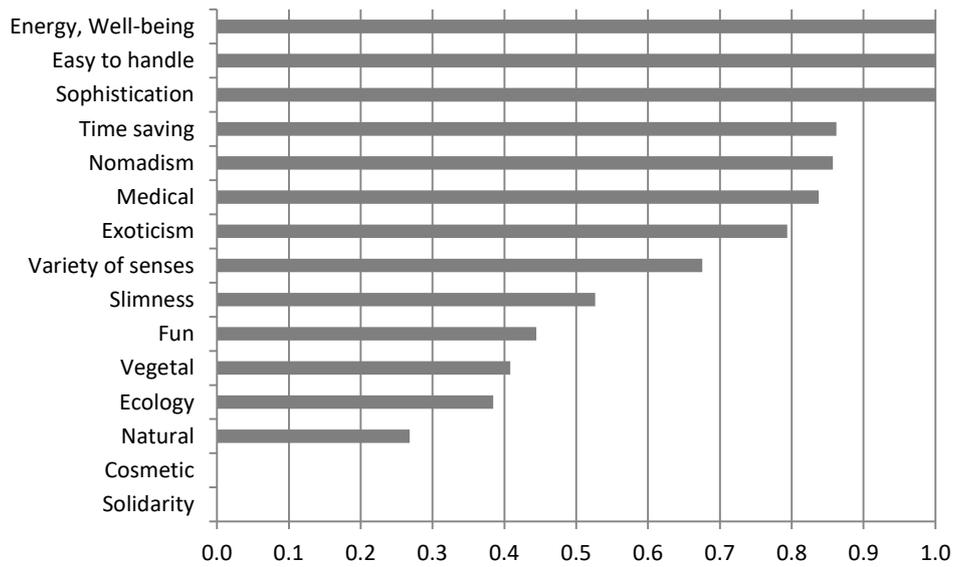
Source: Own elaboration based on XTC World Innovation, 2015

Fig. 2 Importance of the FPIT categories in Europe relative to other regions



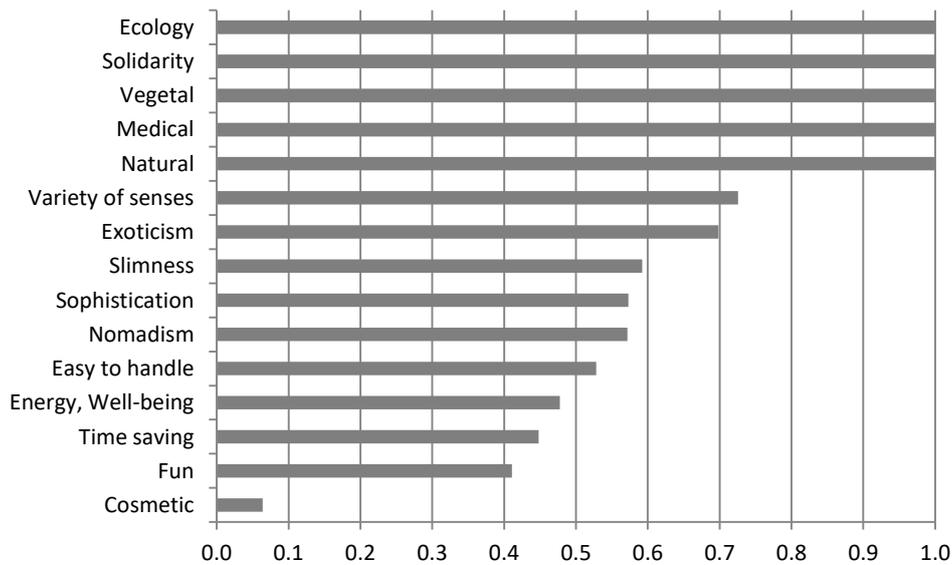
Source: Own elaboration based on XTC World Innovation, 2015

Fig. 3 Importance of the FPIT categories in Latin America relative to other regions



Source: Own elaboration based on XTC World Innovation, 2015

Fig. 4 Importance of the FPIT categories in the Middle East and North Africa relative to other regions



Source: Own elaboration based on XTC World Innovation, 2015

Fig. 5 Importance of the FPIT categories in North America relative to other regions

It can be hypothesized that there are world region specific factors, which should have a noticeable impact on relative importance of each FPIT considered on the regional basis. This appeared to be truth when comparing the normalized values of the intensity of FPITs occurrence across the regions. The cosmetic and the variety of senses trends occurred the most frequently in Asia. Food product innovations representing the solidarity, the exoticism, and the fun trends were observed the most in Europe. In Latin America this refers to the slimness, the nomadism, and the time saving trends. The Middle East and North Africa is the region on the top place with such FPITs as the energy, well-being, the easy to handle, and the sophistication. North America was ahead of the other regions in the case of the ecology, the solidarity (the same value as for Europe), the vegetal, the medical, and the natural trends. In general, the observed differences suggest that the relative importance of the FPIT categories in global food markets is to a certain extent determined by the world region specific factors influencing orientation and priorities of food producers regarding characteristics of food product innovations.

Conclusions

Global food markets are driven by consumer behaviours, which evolve over time and form observable trends. Food producers in order to stay competitive need to look for new business solutions including introduction of product innovations, which are supposed to meet to consumer expectations. The research question addressed in this paper was to whether the recent product innovation trends shaping globalized food markets differ between the world regions. Comparing the intensity of occurrence of the food product innovation trends (FPITs) in Asia, Europe, Latin America, Middle East & North Africa, and North America it was found out that the observed patterns are similar. The variety of senses trend dominated in all regions. The second most intensively occurring trend was sophistication. This leads to a conclusion that the process of development and diffusion of

food product innovations is globally driven, and hence its outcomes are quite uniform in the all world regions considered. A degree of similarity is especially high for the regions in closer geographic locations, like Europe and the Middle East & North Africa and Latin America and North America.

Another finding refers to potential consumer adoption of food product innovations as relative importance of the analyzed FPITs differed across the regions. Simply some of the FPITs were much more noticeable in one region than in the other. For instance, food product innovations representing the solidarity, the exoticism, and the ecology trends were much more visible in Europe and North America than in the rest of the regions. This may mean that in spite of a strong impact of globalization forces there are world region specific factors influencing food producers responses in terms of product innovations. Further research regarding this issue could be directed toward the role of consumer incomes and cultural environments in shaping product innovation trends in global food markets.

References

1. Antle J.M. (1999). The new economics of agriculture. *American Journal of Agricultural Economics*, 81(5), 993-1010.
2. Figiel S., & Kufel, J. (2016). Food product innovation trends and the main consumer trends. *Acta Scientiarum Polonorum, Oeconomica*, 15(3), 5-14.
3. Shaw, F. (2002). Uncertainty and the new consumer. *Foresight*, 4(6), 4-13.
4. Tirole, J. (1988). *The theory of industrial organization*. Cambridge, MA: MIT press.
5. XTC World Innovation Panorama. (2015). XTC World Innovation.
6. Vejlggaard, H., (2008). *Anatomy of a trend*. NY: McGraw-Hill.
7. Zalega T., (2013). Nowe trendy i makrotrendy w zachowaniach konsumenckich gospodarstw domowych w XXI wieku. *Konsumpcja i Rozwój*, 2(5), 3-21.