ANALYSIS OF THE FACTORS INCREASING THE COMPETITIVENESS OF THE FOOD INDUSTRY ENTERPRISES RESULTS[1]

Firlej Krzysztof
Cracow University of Economics
krzysztof.firlej@uek.krakow.pl

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Abstract

The article presents a synthetic analysis of key factors influencing the competitiveness of enterprises of the food industry in Poland. Conclusions are the result of the study based on the analysis of 267 enterprises functioning in the food industry in Poland. It was found that in the period 2006-2011 the most important process influencing business was growing competitiveness in the market, followed by implementation of innovation and Poland membership in the European Union.

1. Introduction

The purpose of this article was to present the research results aimed at identification and analysis of factors determining the formation of innovation in the food industry as an instrument to assist not only the competitiveness of firms, but also - in a broader sense - economic development of Poland. Food industry is one of the most important departments of business in our country, due to the fact that it supports nutrition and for international markets is a major exporter of drinks and foods [3]. The author wanted to examine the role of knowledge and innovation diffusion, as main factors influencing the development of small enterprises. The essence of so-posed thesis was to present the results of research on the market conditions and according to the development of food industry companies in terms of innovation-driven processes. The observations included analysis of businesses strategies for supporting the development of innovation in the years 2007 - 2012. The analysis was aimed at evaluation which innovations are random and how often they are implemented. Considering the strategic objectives of the enterprises of the food industry it should be noted that they are live, it is not the mission of the organization, but they are concretised and intentional kind of actions, undertaken objectively, functionally and including efficiency, taking into account the external and internal conditions [1]. Each company, as a market participant must evaluate known factors affecting its competitiveness and monitor their own activities and innovation

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with respect to the firms achieving the best results [2]. For this reason, the test also included the influence of external factors and the company environment on innovation generation.

2. Facts, area and research methodology

Polish food industry after ten years of membership in European Union is counted among the major producers of food in the Europe Union, and its share in the production of the food sector of the EU-27 is 5% in the current prices, and in comparable prices 8,3%. Studies conducted by Institute of Agricultural and Food Economics, National Research Institute in Warsaw, have shown that in terms of value of production sold, we are in the 6th place, behind France, Italy, Great Britain and Spain, and far ahead of EU-12[2]. Food industry, as a part of broadly defined agribusiness sector, is one of the most important elements of the economy, from the food security of population point of view, because the food in each country must be meant as a strategic commodity. According to EUROSTAT data from 2010, the share of food industry, calculated as foods and drinks turnover of the EU economy was 14.9%, the value added of different sectors in the EU's GDP 12.9% share, and in the employment 15%. The food industry as one of the most important sectors of the EU economy is characterized by fragmentation (99.1% are small and medium corporations) and the declining share of world exports. Of particular note is the value of the Polish agrifood trade that in export in 2012 was 22 082.1 million $ and in import 16 781.1 million $, which contributed to the balance 5 301, 0 million $[3]. It should be emphasized that during the crisis the food industry was characterized by exceptional durability and competitiveness, which definitely distinguished it from other branches of the economy.

Sampling research included general food industry companies in Poland. In turn, the random research, which is a complete list of test units, included companies registered in REGON [CRO-Companies Registration Office number] on 30.10.2012, the day which, according to the Polish Classification of Economic Activities) (PKD 2007) were assigned to the Section C. Manufacturing, Chapter 10. Manufacture of food, Division 11. Manufacture of beverages and Chapter 12. Manufacture of tobacco products. In order to obtain representative sample, a probabilistic (random) sample selection technique was applied with questionnaires

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[2] M. Bułkowska, M. Tereszczuk, R. Mroczek, *Miejsce polskiego przemysłu spożywczego w Unii* Europejskiej [Place of the Polish food industry in the European Union], Instytut Ekonomiki Rolnictwa i Gospodarki Żywnościowej Państwowy Instytut Badawczy, Uniwersytet Ekonomiczny w Krakowie, Kraków 2013, s. 111-117.

[3] R. Grochowska, *Unijna polityka wsparcia sektora żywnościowego po 2013 roku [*EU food sector support policy after 2013*]*; J. Rowiński, *Strefa wolnego handlu UE-USA - potencjalny wpływ na polski handel produktami rolno - spożywczymi* [The free trade area of the EU-USA - the potential impact on the Polish trade in agricultural products - food] [w:] *Przemysł spożywczy...*, s 47-48, 55-56.

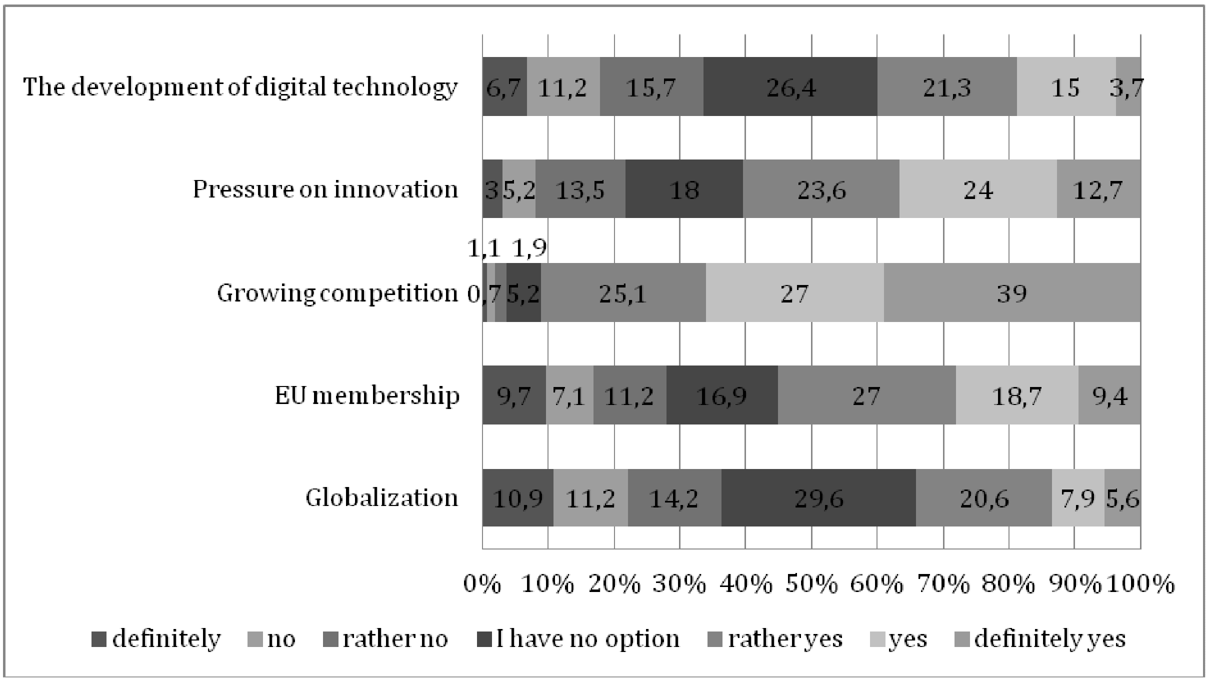
as a research tool. In the context of random sampling techniques, simple individual sampling (taken with feedback) was performed. The used sampling scheme and a sufficiently large sample size were to assure representativeness. In view of the conclusions drawn, the results can be applied to the entire population. Applying the formula for minimal sample size it was agreed that test must be performed on 267 companies (in a group of 33 662 companies).

3. Test results

Based on the calculations made, examinations covered 330 enterprises of the food industry that were selected using probability sampling techniques. In the course of tests 267 correctly completed questionnaires were obtained, hence the results are based on 267 forms. The survey was done in the five month period from 1 November 2012 to 31 March 2013. At the outset examined the duration of life of the surveyed enterprises of the food industry, most of which (30.7%) reported that they already are in the market at least 20 years or more, and the least of them determined the duration of the operation of the market for 5 years. 20.22% of the respondents reported that the duration of the operation of their businesses in the market is between 11 - 15 years. Same number of traders pointed to the range of 16 - 20 years and 16.1% of the companies were operating in the market in the range of 6 to 10 years. The structure of the study group was also examined, according to the period of the companies on the market and found that for slightly more than 65% of the companies' place of business is the city, and for almost 35% of the country. According to the criterion of the population most companies (40.1%) operate in towns of less than 5 thousand people. And the least (3.0%) in towns with more than 50 thousand people and less than 100 thousand people. Area of activity is usually province (29%) or the whole Poland (22.1%). For more than 35% of the surveyed enterprises market is a municipality and district, and 13.9% of them indicated that they sell their products on international markets. Interesting was also the ownership structure of the companies investigated, which prevailed among companies belonging to the private sector (95.13%), among which can be distinguished belonging to the domestic private sector - 87.64% and the foreign private sector - 7.49%. Least companies belonged to the Treasury (0.75%). From the point of view of the organizational – legal aspects, the most numerous group consisted of companies registered as civil companies (22.47%) or a limited liability company (22.47%). The least popular form of organizational - legal person is a limited partnership - in this form of a function operated only 0.75% of the surveyed companies. The form of a joint stock company peeled 14.98% of companies, and 13.11% indicated a general partnership. Only 5.62% of respondents conduct its activities in the form of cooperatives, and over 20% of them in another form. The study involved companies included in many industries the food industry (Fig. 1). Most of them (23.97%) come from the fruit and vegetable industry, then confectionary (20.22%), meat (19.10%), dairy (9.74%), pastries (5.99%) and bakery (4.12%). In contrast, respondents pointed to a single industry such as tobacco, fish, coffee and tea processing, a spirit, cloth and feed. 13.86% of respondents did not provide the industry in which the company operates by selecting the answer "other".

Food industry companies operate in an environment that more or less impact their activities, including their effectiveness. Surrounding companies can be divided into: the further environment (macro-environment) and closer environment (microenvironment). Macro-environment of the company is an important element that affects both the current business situation and the situation of the future. The study attempts to identify the processes taking place in the economy that affect the food industry (Fig. 1).

Figure 1. The degree of the impact of economic processes on the investigated enterprises of the food industry.



Source: own research

According to respondents, a process that was most frequently indicated as affecting the activities of the company was the increasing competition in the market, which indicated 91.1% of respondents. Subsequently, the company pointed emphasis on the implementation of innovations (60.3%) and Polish membership in the European Union (55.1%). In contrast, most respondents indicated that globalization (36.3%) and the progressive development of information technology, telecommunications (33.6%) does not affect or have rather any effect on their business.

Knowledge management is the collection of processes that enable the creation, dissemination and use of knowledge to achieve the objectives of the company. Among the surveyed companies less than 27% during the period have introduced considered modern management systems, and 38.2% have a business development strategy in the form of a document.

In the years 2006 - 2011 the majority of the surveyed companies did not have food-related activities with elements of the implementation of knowledge management. Of those companies, which, however, pursue this type of project most (33.30%) indicated assumption that organized training in knowledge management, and 21% have joined knowledge management system to motivate employees. In addition, 19.90% of the respondents declared that they benefited from advisory help / consulting with the implementation of knowledge management and 13.10% indicated that their company has established a unit or created a job for the person responsible for the management of knowledge.

For calculations related to innovation activities of the food industry model developed by the OECD and Eurostat (the so-called Oslo Manual) can be successfully applied, according to which innovative activity is focused on scientific, technical, organizational, financial and commercial aspects, which have a direct impact on the introduction of new or significantly improved products to the market, as well as the use of new or improved processes. In this classification there are technological innovations in the nature and classified as a product and the process. The research found that during the analysed period the enterprises of the food industry implemented a total of 247 product innovations. The predominant majority of these innovations were implemented at the company level - 137 (i.e. 55.47%). Then companies implement innovation at the local or regional level (31 companies, i.e. 12.55%), 26 innovations have been implemented in the country, and 11 internationally. Among the surveyed companies, only 6 product innovations have national and international character. Product innovations were mostly purchasing machinery (73) and the purchase of transport (50). A small amount related to the modernization of buildings, land purchase and modernization of the equipment. In several cases, it included the purchase of licenses, new equipment, the construction or purchase of a building, and others. Total expenditures for product innovation in the surveyed enterprises in the years 2006 - 2011 amounted to 109 637 000 PLN. From these calculations it can be shown that for the innovation at the firm level was allocated 60 675 800

PLN, for innovation in national and international scale, respectively 7 447 500 PLN and 7 610 000 PLN. Product innovation at national and international level cost a total of 3 520 000 PLN. Despite the relatively large number of innovations at local or regional level the cost did not exceed 2 293 700 PLN. Taking into account the type of expenditures incurred the greatest amount of funds was allocated for the purchase of equipment and construction of buildings - respectively 59 207 700 PLN 16 130 000 PLN. Third, the company expended money for the purchase of transport equipment (9 030 500 PLN), and a relatively high position accounted for the purchase of new equipment (6 572 000 PLN). The second form of innovation activity innovations are of an organizational nature, which 65 companies implemented, and they concerned in most of the activities at the firm level. Their reach in about 30% was local and regional, and only 11 of them included national coverage. Unfortunately, neither one of the implemented innovations did not include coverage of the international market. Regarding the nature of the implemented process innovation, they were the most common new procedures for changing the organization of work, introducing new techniques and methods in the area of production, or the functioning of the company. New methods of cooperation with customers or suppliers were very popular. Often the procedures took care about the reorganization of work, and above all, their modernization. There have also been changes in the system of salaries and schedules performed. The overall amount for the period considered by companies in investing activities amounted to 2 117 380 PLN. The results confirmed that the majority of funds were allocated to innovation nationwide, followed by innovation at local or regional level, while the least innovation representing the new solution at the company level.

4. Summary and conclusions

The study and collected data and their analysis, allowed for the implementation of the objective in this study and to draw the following conclusions:

1. In the surveyed enterprises of the food industry the role of knowledge and the diffusion of innovation as the main factors influencing the development of enterprises do not always plays a leading role;
2. The most important process of the reacting on businesses was increasing competition in the market and only later focus on innovation and implementation and Polish membership in the European Union;
3. The study and analysis have shown that innovation processes are often random in nature and have the significant impact on the internal factors of the enterprise and do not affect its environment.

4. Among the implemented actions innovations were proved to be dominant in terms of both numerical and basket -adjusted innovation at the firm level, with the expansion of their range which magnified expenditures.

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Prof. nadzw. dr hab. Krzysztof Firlej
Cracow University of Economics;
Department of Strategy Management and Organization Development
31-510 Kraków, ul. Rakowicka 27