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THE COMPETITIVE STRATEGIES OF POLISH FRUIT AND VEGETABLE PRODUCERS IN THE CONDITION OF DOMESTIC AND INTERNATIONAL MARKETS CONVERGENCE

STRATEGIE KONKURENCYJNOŚCI POLSKICH PRZEDSIĘBIORSTW OWOCOWO-WARZYWNYCH W WARUNKACH KONWERGENCJI RYNKU KRAJOWEGO I MIĘDZYNARODOWEGO

Key words: fruit and vegetable producer, competitiveness, competitive advantages, competitive strategies

Słowa kluczowe: przedsiębiorstwo owocowo – warzywne, konkurencyjność, przewagi konkurencyjne, strategie konkurencji

Abstract. This paper analyses the competitive advantages and strategies of fruit and vegetable producers. The convergence of domestic and international markets and equalization of competitive conditions reduce the competitive potential of Polish fruit and vegetable producers and force them to make qualitative and innovative improvements. Quantitative and qualitative research was undertaken to prove this thesis statement. Research was carried out as an attempt to identify the variables that determine companies' ability to achieve competitive advantage. It aimed at recognizing pursued competitive strategies that had been adjusted to new circumstances. The results of qualitative research are presented in the paper. Interdependence of entrepreneurs' opinions for both domestic and foreign markets was examined by means of ordinal correlation measures. The authoress applied triangulation of methods, i.e. a combination of a quantitative analysis of official statistics and her own qualitative studies.

Introduction

The qualitative research, whose results are presented underneath, is based on Porter's [1980] conception of industries and company's competitiveness. Both the concept of competitiveness and investigation of official statistics had a crucial influence on the scope of the carried out research. It is based on an inquiry and quantitative and qualitative analysis of the gathered data [Yip 2002]. Its aim is to compare different competitive strategies of producers who operate in fruit and vegetable processing industry. The aims of the study are of exploratory, diagnostic and explanatory nature. The industry in question is one out of four most prosperous sectors of food industry in Poland. Despite the fact its competitiveness on foreign markets has fallen in recent years. The research attempts to recognize causes of this fall. Producers were enquired to rank competitive advantages and strategies applied within their companies. The research consisted in gathering and describing opinions of management body on economic units which they own and run at the same time.

Research method

In 2010 the managers of ten fruit and vegetable processing plants had an empirical inquiry. A set of 150 variables regarded as significant for internal and external competitiveness of the studied industry was evaluated. Samples from works by Gorynia and Łaźniewska [2009], Jankowska [2005], Pierścionek [2007], Porter [1980] and Yip [2002] were used to design the questionnaire. Around 3000 evaluations were obtained. The research tool was intended to base the entrepreneurs' responses on their professional experience, intuition and knowledge about competitiveness. The gathered opinions were subjective and evaluative. The surveyed enterprises operated on domestic and foreign markets. Relative values of variables and relationships between them were tested [Nowak 1970].

To exemplify the studied variables non-parametric ordinal scaling was used. An ordinal rank was set to estimate correlation of assessments. In some cases tied ranks were found, but estimations of corrected and not-corrected Spearman's ranks showed very weak differences. Thus,

estimation of non-corrected Spearman's rank correlation coefficient is presented in the paper (1). The calculation of rank correlation has been tested with the independence test z-Spearman (2).

$$\rho = 1 - \frac{6 \sum_{i=1}^{n} d_i^2}{n(n^2 - 1)} \tag{1}$$

where:

d_i – rank difference of converted values of variables x_i, y_i $(i = 1, 2, \ldots, n)$ [Kenkel 1984, Sobczyk 2007].

$$z = \rho \sqrt{n - 1} \tag{2}$$

where:

n – number of observations [Gajek, Kałuszka 2000, Kenkel 1984, Sobczyk 2010].

The main difficulties encountered during the investigation were how to encourage entrepreneurs to take part in the inquiry and the lack of information concerning competitors. The qualitative and static character of the research ruled out the analysis of changes in economic potential and competitive position. Subsequently, the size and content of the tested sample excluded wide description, generalization or determination of any statistical regularity. It was assumed that the research allowed weak inductive reasoning for a case study [Tellis 2007].

Case study

There were ten reporting entities in the test. Purposive sampling was applied. Units operating within the European Classification of Activity (ECA) – fruit and vegetable processing – 15.3 and exporting were selected. As regards the aforementioned qualities the cases were comparable, as far as the other qualities are concerned – heterogeneous. They were enterprises with foreign capital shares and in one case – a foreign entity. Limited liability companies (Ltd.) prevailed among the analysed units; the others were a public limited company (p.l.c.), general partnership (g.p.) and sole proprietorship (s.p.). Mostly they were established in 1990s (Tab. 1). The average profit rate in the enterprises was 12% from 2006 to 2008. The gross profit reached from 105.5 to 527.5 thousand dollars yearly and the net revenue was between 1.3 and 7.0 million USD yearly.

As was mentioned above, in recent years the Polish fruit and vegetable industry has had a high export orientation. It was the fourth of fourteen main branches of the food industry. Its share of export in the total sales reached 38%. The inquired enterprises were export-oriented. The average merchandise exports achieved the share of 36% in their sales. Amid the sample entities two of them showed a higher share of export than the total food industry. None of them had a lower share than the lowest value for the industry in question, which was 6% in 2008 [Urban et al. 2010].

The enterprises which employ over 50 people make around 30% of total enterprises in the Polish fruit and vegetable industry [Kaczmarek-Piątek 2001]. As far as the employment level is concerned, the enterprises in question had the staff of more than 50 workers. The average number of employees in the studied entities was 71. Three of them employed 100 or more (130 and 150). The employment rate in the other enterprises was: 70, 40, 35, 25 and 18 workers respectively. There is no data about two of them.

To sum up, the research concerned the enterprises which stand out not only in the fruit and vegetable industry but in the entire food industry as well. The financial indicators and economic potential of the entities in question show relatively high values. Those enterprises built their competitive potential in the period of Poland's economic transformation. Thus, they underwent the process

Table 1. Profiles of Sample Producers
Tabela 1. Opis badanych przedsiębiorstw

Description/*Opis*	Producers/*Przedsiębiorstwa*									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Legal Status of Company/*Forma prawna*	Ltd.	Ltd.	Ltd.	Ltd.	Ltd.	g.p.	p.l.c	s.p.	Ltd.	Ltd.
Date of Establishing/*Data powstania*	1997	1992	1997	1992	2003	1994	1973	1993	1998	1992
Processing in Sales [%]/ *Udział przetwórstwa w sprzedaży [%]*	100	100	45	100	26	73	76	98	97	50
Export Share in Sales [%]/ *Udział eksportu w sprzedaży [%]*	17	45	35	15	20	30	12	7	100	25

Source: own study
Źródło: opracowanie własne

of structural and proprietary changes. They adapted their own resources to compete in the changing economic conditions. At present, they are distinguished by a stable position on the domestic market. Moreover, they are present on foreign markets. Therefore, the conclusions drawn from the analysis should be regarded as those based on the sample leaders of the industry. They are enterprises which developed their absolute and relative competitive potential [Zielińska-Głębocka 2005].
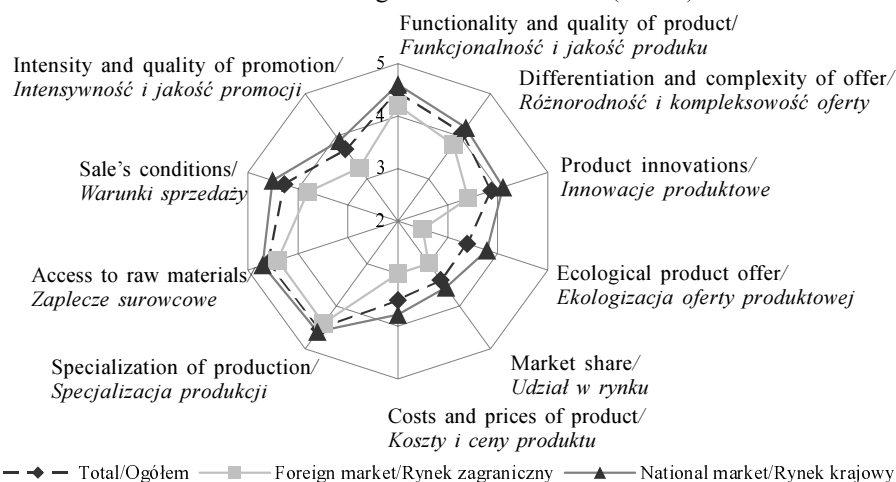
Competitive advantages

A company's competitiveness means an ability to compete, achieve and maintain competitive advantage [Gorynia, Łaźniewska 2009]. Food producers' competitiveness is defined as an ability to locate food on foreign markets and to develop effective export [Urban, Szczepaniak, Mroczek 2010]. It is the most important task to define company's comparative advantages in the process of creating and implementing company's competitive strategy. It is also essential to assess both home and abroad market conditions as well as company's competitive potential in order to determine companies' competitive advantages and strategies [Gorynia, Łaźniewska 2009].

The companies' managers were asked to assess 10 variables that describe competitive advantages of their enterprises. The averages out of 200 entrepreneurs' ranks, separately for foreign and domestic market as well as overall were computed. Upon analysis of the data by means of a radar chart, it become apparent that average level of competitive advantages was found lower for foreign market (Fig. 1). Generally, high valuations were set on such competitive advantages as: access to raw materials, specialization of production, functionality and quality of product as well as sale's conditions. On the other hand, product differentiation and complexity as well as product innovation were ranked lower. In contrast, the least rank was assigned to market share, ecological production, product cost and price as well as intensity and quality of promotion. The assessments confirmed overall situation of the industry which had been observed in recent years. After Poland's EU accession, an increase in efforts to improve production quality was endeavoured. At the same time, the industry was hit with slowdown of sales (including, inter alia, exports). Similar conclusions emerge from the Polish Institute of Agricultural and Food Economics (IAFE) reports, i.e. the fruit and vegetable sector has clearly undermined its position as a net exporter in recent years [Urban et al. 2010].

The fruit and vegetable companies recognized product quality management as their main competitive advantage. The research showed the companies' weaknesses resulting from relative low potential of production, small market share and high costs. On the market abroad the lowest validation was assigned to ecological production, market share, costs of production, prices and intensity and quality of promotion. This evaluations show the weakest points of the producers.

A coincidence for domestic and foreign market was found (Tab. 2). To assess correlation of

Gradation: 2 – very poor (very low), 3 – poor (low), 4 – good (high), 5 – very good (very high)/
Skala ocen: 2 – bardzo słaba (bardzo niska), 3 – słaba (niska), 4 – dobra (wysoka), 5 – bardzo dobra (bardzo wysoka)

Figure 1. Competitive advantages (n = 10)
Rysunek 1. Przewagi konkurencyjne (n = 10)
Source: own study
Źródło: opracowanie własne

variables the following scale is used: [0.00-0.3] – weak, [0.31-0.6] medium, [0.61-1.0] – strong correlation [Sobczyk 2007]. For the assessment of competitive advantages on domestic and foreign market Spearman's coefficient amounts to 0.961. It indicates existing dependency verified at a high level of significance $\alpha = 0.05$. Therefore, independence of tested hypothesis is out of the question.

To sum up, the study proved that in the companies in question the most important factors of competitiveness were specialization and quality of production. On the other hand, it recognized limitation to cost – price competition that had negatively influenced their competitive position on the foreign market. It may be concluded that there are still unused potential sources of competitive advantages in the companies such as product niches, e.g. ecological. There are the most important operating tasks for the companies in the nearest future such as: improving distribution conditions and promotion of Polish fruit and vegetable products abroad.

Table 2. Interdependence of competitive advantage on both domestic and foreign markets
Tabela 2. Współzależność przewag konkurencyjnych na rynku krajowym i zagranicznym

Description/*Opis*	Average national market assessments (x)/*Średnia ocena krajowego rynku (x)*	Average foreign market assessments (y)/*Średnia ocena zagranicznego rynku (y)*	*Rx*	*Ry*	d_i	d_i^2
Functionality and quality of product/ *Funkcjonalnośc i jakość produktu*	4.60	4.20	8.5	8	0.5	0.25
Product differentiation and complexity/ *Zróżnicowanie i kompleksowość produktu*	4.20	3.80	6.0	6.5	-0.5	0.25
Product innovation/*Innowacyjność produktu*	4.10	3.40	5	5	0	0
Organic production/*Produkcja metodami ekolog.*	3.78	2.50	2.5	1.0	1.5	2.25
Market share/*Udział w rynku*	3.56	3.00	1.0	2.5	-1.5	2.25
Product cost and price/*Koszty i ceny produktu*	3.78	3.00	2.5	2.5	0.0	0.0
Specialization of production/ *Specjalizacja produkcji*	4.60	4.40	8.5	9.5	-1.0	1.0
Access to raw materials/*Zaplecze surowca*	4.70	4.40	10	9.5	0.5	0.25
Sale's conditions/*Warunki sprzedaży*	4.50	3.80	7.0	6.5	0.5	0.25
Intensity and quality of promotion/ *Intensywność i jakość promocji*	3.89	3.25	4	4	0	0
Sum of squared differences between rank values of variables x_i and y/ *Suma kwadratów różnic pomiędzy wartościami rank dla zmiennych x_i i y_i*						6.5
Non-corrected Spearman's rank correlation coefficient (ρ)/*Nieskorelowane rangi współzależności Spearmana (ρ)*						0.961
Distribution of z statistics/*Rozkład statystyki z*						2.882
Border level of significance α/*Poziom istotności α*						0.05

Source: own study
Źródło: opracowanie własne

Competitive strategies

The competitive strategy is a set of market performances, based on the concept of company competitiveness and activities involving development of existing sources of competitiveness within the enterprise, such as: specific resources, skills, structures, core competences and capabilities, as well as creating new collection [Pierścionek 2007]. It is to undertake offensive or defensive activities, intended to maintain position in sector, to cope effectively with competitive forces and to obtain a higher profit rates [Porter, 1980]. Enterprises have developed many different ways of action and, thus, the company's strategy is a unique design, reflecting its specific conditions. However, Porter [1980] identified three main types of strategies: cost leadership, differentiation and market focus, segmentation. There are numerous competitive strategies and conditions of their selection in theory and practice [Pierścionek 2007].

Each of pursued strategies is determined by performances undertaken in respect of price, cost, quality, marketing and innovation competition. There are ten different strategies defined in the research: cost leadership (maintenance of low total costs), quality (quality advantages), segmentation (technological and productive) differentiation (of product, technology or services) concentration (on buyers, assortment or geographical markets), integrated cost-quality (high quality and

low costs), innovation (new products, activities or management), internalization (alliances, corporations or internal turnover), penetration (of sectoral new possibilities) and disinvestment (limitation of activity scope and scale, fusions and overtakes).

The aforementioned method of research was used to examine the competitive strategies of the fruit and vegetable companies. Similarly, the average evaluation of competitive strategies was found lower on foreign market than on domestic (Fig. 2). On average the highest evaluated strategies are: segmentation, quality, integrated cost-quality and cost leadership. There are some strategies ranked lower e.g. disinvest-
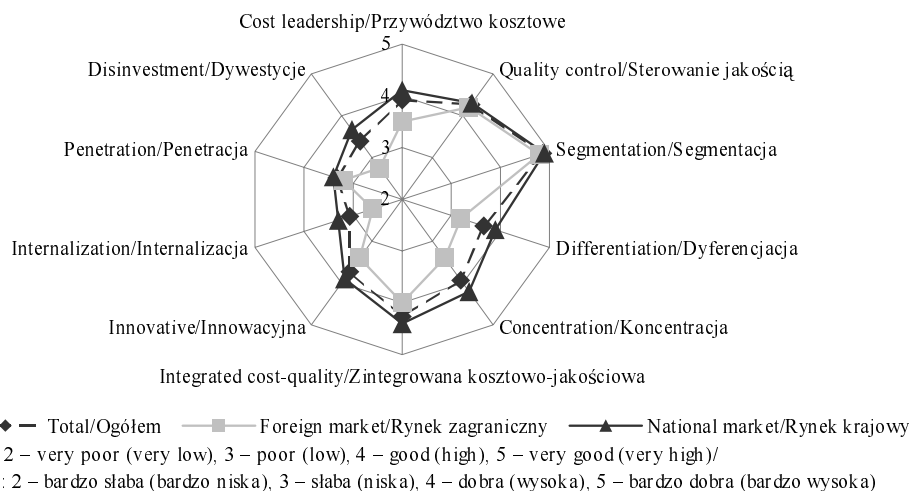

Gradation: 2 – very poor (very low), 3 – poor (low), 4 – good (high), 5 – very good (very high)/
Skala ocen: 2 – bardzo słaba (bardzo niska), 3 – słaba (niska), 4 – dobra (wysoka), 5 – bardzo dobra (bardzo wysoka)

Figure 2. Competitive strategies (n = 10)
Rysunek 2. Strategie konkurencyjne (n = 10)
Source: own study
Źródło: opracowanie własne

Table 3. Interdependence of competitive strategies on both domestic and foreign markets
Tabela 3. Współzależność strategii na rynku krajowym i zagranicznym

Description/ *Opis*	Average national market assessments (x)/*Średnia ocena krajowego rynku (x)*	Average foreign market assessments (y)/*Średnia ocena zagranicznego rynku (y)*	*Rx*	*Ry*	d_i	d_i^2
Cost leadership/*Przywództwo kosztowe*	4.11	3.50	6	7	-1	1
Quality comtrol/*Sterowanie jakością*	4.30	4.20	8	9	-1	1
Segmentation/*Segmentacja*	4.90	4.80	10	10	0	0
Differentiation/*Dywersyfikacja*	3.90	3.20	4.5	3.5	1.0	1.0
Concentration/*Koncentracja*	4.20	3.40	7	5.5	1.5	2.25
Integrated cost-quality/*Zintegrowana kosztowo-jakościowa*	4.40	4.00	9	8	1	1
Innovation/*Innowacyjna*	3.90	3.40	4.5	5.5	-1.0	1.0
Internalization/*Internacjonalizacja*	3.30	2.60	1	1	0	0
Penetration/*Penetracja*	3.40	3.20	2.0	3.5	-1.5	2.25
Disinvestment/*Dywestycje*	3.67	2.75	3	2	1	1
Sum of squared differences between rank values of variables x_i i y_i/ *Suma kwadratów różnic pomiędzy wartościami rank dla zmiennych x_i i y_i*						10.5
Non-corrected Spearman's rank correlation coefficient (ρ)/*Nieskorelowane rangi współzależności Spearmana (ρ)*						0.936
Distribution of z statistics/*Rozkład statystyki z*						2.809
Border level of significance α/*Poziom istotności α*						0.05

Source: own study
Źródło: opracowanie własne

ment, internalization, differentiation, penetration, concentration and innovation. The evaluation of strategies shows that the companies are not very actively pursuing modern methods of competing. They more often use traditional cost and quality improvements. On the other hand they do not withdraw their potential from production. The evaluations show a coincidence for domestic and foreign market (Tab. 3). The Spearman's coefficient amounts to 0.936. It indicates existing dependency verified at a high level of significance $\alpha = 0.05$. Therefore, independence of tested hypothesis is out of the question.

To sum up, the assessment shows that fruit and vegetable companies' strategies are consistent with the recognised competitive advantages. They are correlated but on average ranked lower for foreign markets. The evaluation indicates that quality and specialization oriented strategies play an active role in performing at home and abroad. Concentration and innovation are not the main strategies in the inquired companies.

Conclusions and recommendations

The evaluations of domestic and foreign are correlated that is proved by statistical means and indicates that domestic and abroad markets are converged. The managers evaluations of competitive advantages and strategies on foreign markets were generally lower than on domestic market. This shows the weaker position of the producers abroad. The main strengths of the companies are quality adjustments and specialization. They indicated innovativeness and concentration as their weaknesses. The competitive strategies are based on the recognized competitive advantages of the companies.

Optional strategies for enterprises are all niche strategies. As a rule they emerge where on the one hand economies of scale cannot be applied any more and on the other hand, where companies can find a large local potential. It can be easily observed on the example of local producers of healthy food, which is absolutely unique and different from 'industrial' food mostly traded in hypermarkets. With such a strategy they may implement the so-called blue ocean strategy. It would require them to build their market position mainly by occupying niches. Thus, evasion of excessive competition is possible and brings more stable and pacific market position.

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Streszczenie

W artykule przedstawiono wyniki badań jakościowych konkurencyjności polskich przedsiębiorstw przemysłu owocowo-warzywnego. Analizowano źródła przewagi konkurencyjnej i stosowane strategie konkurencji na rynkach krajowym i zagranicznych. Strategie badanych przedsiębiorstw są zgodne z przewagami konkurencyjnymi związanymi z jakością produktów i specjalizacją produkcji. Zbieżność ocen przedsiębiorców wskazuje na konwergencję warunków rynkowych w kraju i za granicą. Jednak przedsiębiorcy oceniali relatywnie słabiej swoją pozycję na rynkach zagranicznych w porównaniu do tej na rynku krajowym. Słabsza pozycja badanych przedsiębiorstw na rynkach zagranicznych wynikała z niskiego stopnia koncentracji przedsiębiorstw przemysłu przetwórstwa owoców i warzyw oraz z ich relatywnie niskiej innowacyjności. Opcjonalną strategią rozwoju dla badanych przedsiębiorców są wszelkie strategie niszowe – pojawiające się z reguły tam, gdzie z jednej strony nie można wykorzystać ekonomii skali, z drugiej zaś można znaleźć duży, lokalny potencjał.

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