

COMPETITIVENESS OF POLISH FIRMS AND THE EUROPEAN UNION
ENLARGEMENT
Workshop paper

MARIAN GORYNIA, Professor of International Business
University of Economics, Poznan, Poland

Abstract

The paper has two aims. The first one is to present a three-dimensional concept of competitiveness of an enterprise. The concept of firm competitiveness discussed in the paper covers three dimensions:

- competitive position of an enterprise,
- competitive potential of an enterprise,
- competitive strategy of an enterprise.

Each of the above-mentioned dimensions was subject to operationalisation – sets of variables describing particular dimensions of firm competitiveness were suggested.

The second aim of the paper is to present the results of empirical studies on the competitiveness of Polish firms in comparison with the European Union firms in the light of Poland's anticipated entry into the EU. The research is based on the concept of firm competitiveness developed in the first part of the paper. The studies were carried out in the year 2000 and included 68 firms of the manufacturing industry registered in Poland. The results obtained indicate that according to managers from those 68 enterprises there is a significant competitive gap between the Polish firms and their rivals from the EU. This gap concerns all the three dimensions of firm competitiveness: competitive position, competitive potential and competitive strategy.

Key words

Firm competitiveness, competitive position, competitive potential, competitive strategy

INTRODUCTION

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THEORETICAL-CONCEPTUAL BASES OF RESEARCH INTO FIRM COMPETITIVENESS

In the related literature there are many ways in which the firm competitiveness can be understood (Casson,ed.,1991; Rugman, Hodgetts,2000; Faulkner, Bowman, 1995; Porter,1998; Hamel, Prahalad,1990; Stalk,Evans, Schulman,1992; Hill, Jones, 1992). Some of them are fragmentary and one-sided. Therefore, it is necessary to conduct further work the aim of which is to work out a comprehensive and multi-aspect concept of firm

competitiveness, reflecting the complexity of behaviour of enterprises rivalling on the competitive market.

The aim of the first part of the paper is to suggest a possibly comprehensive approach to the problem of firm competitiveness. At the same time, this approach should include the most important aspects of competitive behaviour of enterprises. As a result, it should be possible to suggest such a way of evaluating firm competitiveness which would be free from the above-mentioned drawbacks (fragmentary nature and one-sidedness).

Formulating the concept of competitiveness and later on an analytical scheme to understand it calls for the following differentiation:

1. competitiveness ex ante versus competitiveness ex post,
2. competitiveness on the home market versus competitiveness on the foreign market.

Further on such a way of the concept's operationalisation should be suggested which would facilitate the measurement of competitiveness of real enterprises.

The author assumes that differences in competitiveness between firms may be defined as a competitive gap. For example, the statement that there exists a competitive gap between Poland's and European Union's enterprises is justified in view of Poland's entry into the Union.

***Competitiveness ex ante and ex post, competitive position, competitive potential,
competitive strategy, competitive gap, competing on the home and foreign markets***

The following terminology is suggested:

1. competitiveness ex post is the current competitive position. The competitive position achieved is a result of the realised competitive strategy and competitive strategies of the rivals,

2. competitiveness ex ante is the future (prospective) competitive position. It is defined, among others, by the enterprise's relative (i.e. referred to its rivals' abilities) capability to compete in the future, namely through its competitive potential; in other words this is competitiveness possible to be achieved. The structure and use of competitive potential is described by a competitive strategy, planned or intended. Therefore, a firm's competitive strategy is an analytical category facilitating transition from competitive potential, i.e. potential competitiveness (ex ante) to the real competitiveness, i.e. realised (ex post). Competing strategies are used so that the firm could achieve possibly the best competitive position. If a firm wants to obtain the desired competitive position, it must have competitive advantage. Having the competitive advantage is the sine qua non condition to achieve a good competitive position. The competitive advantage can be of cost-price or/and qualitative (differential) character. Competitive advantage results from using the set of instruments of competition which are the elements of a competitive strategy. The instruments of competition include (Hafer, 1999):

- product quality,
- price,
- distinctive nature of the products offered,
- flexibility in adjusting the products to the needs of customers,
- launching of new products onto the market more often than others,
- assuring potential customers an easy access to the products (a well-developed network of distribution, information, and the like),
- wide assortment,
- advertising,
- sales promotion,
- range of pre-sales services,

- range of after-sales services,
- prices of after-sales services,
- quality of after-sales services,
- terms and period of guarantee,
- firm's image,
- product's brand,
- terms of payment,
- generating needs unknown so far (creating needs).

In the light of the above-mentioned, for the needs of this paper it is necessary to define the concepts of competitive potential and competitive position. Competitive potential of an enterprise can have a narrow and broad meaning. In the narrow meaning of the term the competitive potential is all the resources used or available to be used by an enterprise (Godziszewski, 1999; Grabowski, 1994). Resources can be classified into three groups (Godziszewski, 1999):

1. primary resources,
2. secondary resources,
3. performance resources.

Primary resources is the entrepreneur's philosophy and the possibilities to gather in an enterprise the know-how and other resources (indispensable capital). Secondary resources include: material factors of production (fixed assets, raw materials, semi-products and exploitation means), human resources, innovations, distribution channels, enterprise organisation and information resources. Performance resources are understood as : image (particularly brand awareness), customer loyalty and customers' unwillingness to switch to other brands.

In a wider meaning of the term, the firm's competitive potential includes the following elements (Gorynia, Otta, 1998):

1. corporate culture,
2. firm's resources (broadly understood),
3. organisational structure,
4. strategic vision of an enterprise,
5. unique behaviour (process of creating strategy).

Corporate culture defines which ways of economic behaviour are preferred by the owners, managers and employees. In some enterprises priority is given to novelties. In others conservative behaviour dominates. Some enterprises take risks willingly, others – extremely reluctantly. Generally speaking, corporate culture in some firms favours competitive (e.g. entrepreneurial) behaviour while in others such culture does not exist.

The firms' resources determine the scope of its activities in the economic and social environment. The volume of resources may limit the scale of operation. Their flexibility and mobility may change the firm's position in its environment. Broadly understood, a firm's resources include human resources, technological, material, and financial resources as well as intangibles (e.g. reputation). Resources available for an enterprise reduce the set of behaviours possible under given environmental conditions to the set of feasible behaviours. The volume, character and allocation of the firm's resources also influence its possibilities to gain competitive advantage.

Organisation of an enterprise determines whose preferences will be of greater or smaller significance in the firm. The organisational structure of the firm includes: division of authority, division of labour and communication network.

Moreover, the real behaviour of an enterprise is influenced by its strategic vision (sometimes the formal strategic plan) which determines its objectives, mission and behaviour.

The importance of this vision depends on whether it is clear, supported by internal and external authorities, based on experience and possible to be implemented.

The strategy of an enterprise emerges from the strategy-creating process. It consists of two sub-processes – the process of formulating a strategic vision (plan) and the process of putting the vision (plan) into practice. Particular enterprises have their own research, planning and performance routines. External and internal factors are responsible for the fact that enterprises are more or less willing to change the set of routines used. Moreover, the external and internal factors are responsible for the fact that the firm's behaviour gets closer to the planned course (effective implementation of a clear strategic vision) or drifts away (either due to the lack of a clear strategic vision or inability to implement it).

A very complex, detailed structure of the competitive potential (competitiveness) is suggested in the studies supervised by M.J. Stankiewicz (Godziszewski, 1999, pp.79-82). Eleven functional-resource spheres and 91 elements constituting those spheres were differentiated within the competitive potential.

Competitive position of an enterprise results from the assessment of what the firm offers by the market (particularly by the buyers). The basic and synthetic measures of the competitive position of each enterprise are its share in the market and its financial situation. However, to quantify the competitive position one can use a wider set of the following measures:

1. profitability (relative, i.e. compared with competitors from the same branch),
2. cost level (relative),
3. market share,
4. features of a product (service) compared with the features of products (services) provided by competitors,

5. awareness of the firm and its products' existence on the market, perception of the firm by the environment,
6. customer loyalty, brand loyalty,
7. costs of shifting to other suppliers,
8. existence or likelihood of substitutes.

Attention should be paid to some similarity between the category of instruments of competition and the measures of competitive position – for example in both cases there appear definitions of product quality (features) and costs (prices). In both cases, however, the content of those definitions is different. For example, product quality as an instrument of competition means making attempts for the product of a given firm to be distinctive from the rival products (functional or process aspect of the concept of quality dominates here). On the other hand, product quality as a measure of competitive position, means the obtained effect of the positive differentiation between a given product and the rivals' products (the result aspect of the concept of quality dominates in this case).

For example, if by a competitive gap one understands the differences in competitiveness between the Polish and the European Union's firms, then in the light of the above-mentioned terminology, the concept of competitive gap can also be understood in the ex post sense (gap as a difference in competitive position) and in the ex ante sense (gap as a difference in competitive potential). Moreover, it is also sensible to differentiate between a competitive gap understood as a state at a given moment (static competitive gap) and a competitive gap in a dynamic approach, meaning the process of changes in the initial competitive gap, i.e. the sequence of the states of competitive gap at different moments (dynamic competitive gap).

It is also important to differentiate between competition on the home market and competition on the foreign market. The fact that some manufacturer does not export his

products does not mean that he cannot compete with foreign rivals. If his domestic market is an open market, there is an opportunity to compete with foreign rivals on the home market (competing with imports on the internal market). The differentiation between competing on the home market and on the foreign market is particularly important when shaping an economic policy as there arises a question whether exports should be supported with special means of the economic policy or treated in the same way as the output meant for the home market.

In this paper, where it is justified, we shall differentiate between competition and competitiveness on the home market and on the foreign market and, respectively, between the competitive gap on the home market and the foreign market.

Analytical scheme of competitive gap

The considerations presented so far can serve as a starting point to concretise the analytical scheme of a competitive gap. Taking into account the previously established terminology, four dimensions (aspects) of a competitive gap can be differentiated:

1. competitive gap as differences in the current competitive position of a given firm compared with its rivals; detailed variables describing the competitive gap understood in this way are the above-mentioned measures of the competitive position (market share, profitability, etc.) referred to the actual situation,

2. competitive gap as differences in the future competitive position of a given firm as compared with its rivals; it is described by a similar set of the measures of competitive position, however, referred to some moment in the future,
3. competitive gap as differences in the current (initial) competitive potential; the competitive potential is one of the determinants of the firm's ability to compete; it also determines the range of plausible competitive strategies; moreover, we assume that differences in the future competitive potential (referred to some moment in the future) will be significant for competing in the period after that moment,
4. competitive gap as differences in the competition strategy within the studied period; the differences in the competition strategy can be reduced to the differences in instruments of competition which have already been mentioned.

For example, when speaking about the competitive gap between the Polish enterprises and the EU firms in the context of Poland's entry into the Union, we shall simultaneously keep in mind four of the above-mentioned dimensions of that gap. The measurement of this gap will have to include detailed variables (measures) referring to all the four dimensions.

Formally the gap (CG) can be presented as a vector:

$$CG = \begin{pmatrix} DCCPS \\ DFCPS \\ DCCPL \\ DCS \end{pmatrix}$$

Where:

DCCPS – differences in current competitive position

DFCPS - differences in future competitive position

DCCPL – differences in current competitive potential

DCS – differences in competitive strategy

For the needs of the studies presented below, particular dimensions of the competitive gap were formulated as questions in the questionnaire. Operationalisation has led to determination of detailed variables which are measurable variables (See Tables 1, 2, 3).

The above concept of classifying the measures of competitiveness which are a tool to measure the competitive gap corresponds with the concept of three aspects of competitiveness suggested by Buckley, Pass and Prescott (1998). They distinguish three aspects of competitiveness or three groups of the measures of competitiveness:

1. competitive performance,
2. competitive potential,
3. management process.

The above-mentioned three Ps describe different stages of competitive process. A starting point is the potential which is a certain input or outlay in the process of competing. An impact on the competitive potential during the management process leads to some defined results of competition. There is a feedback between the differentiated aspects of competitiveness. The competitive potential partly determines the way of management process but the management process in turn influences the extent and quality of the competitive potential. The results achieved also influence the volume and quality of competitive potential and moreover, have an impact on the management process. These remarks once again lead to a conclusion that competitiveness and competitive gap cannot be treated as static concepts.

Further on in the paper there are three Tables where the concepts of competitive position, competitive potential and competitive strategy (instruments of competing) are operationalised. Each of those concepts is described by a set of variables which can be measured, using the suggested scales. While constructing tables-questions it was assumed that an enterprise operates on several markets and its competitive situation on particular markets can be different.

EMPIRICAL STUDIES ON COMPETITIVENESS OF POLISH FIRMS

Concept of research and research sample

In the middle of the year 2000 studies were carried out on the competitiveness of 68 Polish firms. Assumptions of the research were as follows:

1. studies were based on the method of direct interview – trained questioners (students) held interviews, using a special questionnaire, with representatives of top management of the studied firms (one representative from each of the studied firms),
2. studies consisted in gathering the managers' opinions as regards three aspects of competitiveness – competitive position, competitive potential, instruments of competing(competitive strategy),
3. studies covered enterprises from different branches of the manufacturing industry,
4. studies included the enterprises registered in Poland, irrespective of the origin of their capital,
5. studies concerned mainly medium-size and large enterprises,
6. main criterion of selecting the enterprises for research (apart from its size and belonging to the manufacturing industry sector) was the willingness to co-operate on the part of the firm.

Enterprises of different legal status participated in the studies: 29 limited liability companies, 27 joint stock companies, 4 civil companies, 3 one-man companies, 4 co-operatives and 1 state enterprise. Nineteen of the studied firms are enterprises with the share of foreign capital, including 5 firms with 100% of foreign capital; in 12 firms foreign capital had a major share and in one firm the share of foreign capital was minor.

As concerns the number of employees in the studied firms, the situation was as follows:

- up to 50 - 4 firms
- 50-100 - 10 firms
- 101-500 -38 firms
- over 500 -16 firms

In 1999 the value of sales in those firms was as follows:

- up to 5 m. PLN –3 firms
- 5-10 m. PLN -9 firms
- 10-50 m. PLN – 25 firms
- 50-100 m. PLN – 13 firms
- over 100 m PLN –14 firms

In 1999 the share of exports in total sales amounted, on average, to about 35% (data were provided by 63 firms), with exports to the three largest EU markets constituting on average 26% of the total sales (data provided by 46 firms). The largest EU markets for the firms under consideration were Germany, France and Holland. The firms' forecasts for the years 2000, 2003 and 2005 anticipate that the same markets will play the most important role for their export sales in the future.

Competitive position

At the beginning the respondents expressed their views on the weights of the criteria (measures) determining a firm's competitive position. Assessment was made according to a seven-grade scale presented below. The results are presented in Table 1. The data show that in the opinion of the firms considered two of the listed criteria of evaluating competitive position are more or less equally important, with the financial situation being slightly more significant.

This is convergent with the view that the best measures of the competitive position of a firm are profitability measures. Moreover, it seems that those opinions are sensible – a firm with a good competitive position should have a good financial situation. The research, however, made no attempt to determine which indicators – in the respondents' opinion – describe the firm's financial situation in the best way.

Further on Table 1 presents the mean evaluations of the managers from the studied firms as regards their position on the Polish market and on the 3 largest EU markets. In the eyes of the managers their firms' competitive position on the home market is a little better than the average, both as regards market share ($M=4.03$), and financial situation ($M=3.77$). Those managers are optimistic about the future – they anticipate that their firms' competitive position within the coming three years will improve, both as regards the home market share ($M=4.45$), and the financial situation ($M=4.26$). The current competitive position on the 3 EU markets was assessed as being worse than on the home market, both as regards market share ($M=3.25$), and financial situation ($M=2.73$). The managers anticipate that in the future they will maintain their competitive position as regards market share and the financial situation of their firms will slightly improve.

Competitive potential

The results of studies on competitive potential are presented in Table 2. The respondents were given a set of 39 measures of the competitive potential. The highest weights were attributed to the following measures:

- knowledge of the current and future needs of the customers ($M=4.88$),
- quality of the managerial staff – top management ($M=4.76$),
- reputation (image, good recognition) of the firm ($M=4.70$),
- importance of quality assurance ($M=4.69$),
- advancement of production technology ($M=4.67$).

According to the respondents, the following measures of competitive potential are of the least significance:

- quality of the research-development staff (M=3.64),
- outlays for R&D (M=3.67),
- level of marketing technology (M=3.67),
- employees' attitude to changes (M=3.69),
- employees' approval of the managerial staff (M=3.79),
- quality of the motivating system (M=3.79).

It is surprising that the factors relating to R&D and those relating to corporate culture were assessed as unimportant.

As regards evaluation of the current competitive potential of the studied firms on the home market, the highest measures were attributed to the following factors:

- importance of quality assurance matters (M=4.16),
- level of quality management system (M=4.11),
- quality of managerial staff – top management (M=4.09).

Thus, broadly understood quality seems to be the most important asset of the studied firms as compared with their home rivals.

On the home market basic, relative weaknesses of the studied firms include:

- outlays for R&D (M=3.14),
- relative level of outlays for marketing (M=3.22),
- employees' attitude to changes (M=3.23).

It should be underlined that low competitive potential appears in those areas which were regarded by the respondents as less significant.

Attention must also be paid to the fact that the assessment of the competitive potential of the studied firms for the future (in 3 years' time) is more optimistic than the current one. This concerns all factors of the competitive potential, without any exception. It may be a sign of an active and aggressive, and at the same time optimistic, approach of the studied firms to competition on the home market. Generally, it can be stated that in the opinion of the studied firms both their current and future competitive potential on the home market looks good. Each of the factors of competitive potential obtained average score above 3.00, which means that the studied firms are better from their average home rival in all respects.

The situation looks different as regards the three largest EU markets. As regards 11 out of 39 measures of the competitive potential referring to the current competitive situation, it was assessed that the Polish firms had lower competitive potential than their average rival on the EU markets (average score below 3.00). The lowest assessment concerned:

- relative level of outlays for marketing (M=2.40),
- level of marketing technology (M=2.48),
- outlays for R&D (M= 2.56).

It is also significant that in none of the 39 measures the mean assessment of the current situation did not exceed 4.00 which indicated a slightly higher competitive potential than that of the average rivals on the EU markets. This means that the studied Polish enterprises tend to have the competitive potential similar to the potential of their average competitors on the EU markets. The highest assessment refers to:

- quality of corporate finance management (M=3.86),
- quality of managerial staff – top management (M=3.61),
- importance of quality assurance (M=3.50).

Evaluations concerning the future are more optimistic. In 38 out of 39 measures these evaluations are higher for the future (in 3 years' time) than for the present (the quality of

corporate finance management which is quite highly assessed at present is an exception). The following measures achieved the highest score:

- reputation (image, good recognition of the firm) (M=4.03),
- quality of managerial staff – top management (M=4.00),
- importance of quality assurance (M=4.00).

Instruments of competing (competitive strategy)

Evaluation of the factors describing the competitive strategy applied (instruments of competing) is presented in Table 3. The highest weights are attributed to the following instruments:

- quality (M=5.09),
- price (M=4.88),
- promptness of delivery (M=4.69).

At the same time it was stated that instruments related to after-sales services (price, range and quality) seem to be the least significant for achieving success on the EU markets. It can be assumed that such low weights attributed to after-sales services may result from the fact that not all products of the analysed firms require such services.

Evaluation of the current situation as regards the application of instruments of competing tends to be similar to assessment of the factors of competitive potential – the Polish enterprises rank as average and the mean assessment referring to all the instruments are contained in the interval 3.00-4.00. The best situation seems to be in the following areas:

- promptness of deliveries (M=3.83),
- quality (M=3.79),
- product brand (M=3.52).

It must be admitted that the above-mentioned evaluation is a bit surprising. Those areas are usually regarded as weaknesses of the Polish exporters. However, it can be assumed that problems with selling the output (saturation of the home market) were responsible for the fact that those firms which managed to conclude export agreements make every effort to meet their obligations towards foreign partners.

The situation looks relatively bad as regards:

- advertising and sales promotions (M=3.06),
- servicing (M=3.16 – 3.39),
- frequency of launching new products (M=3.21).

The analysed firms are moderately optimistic about the future. Within three years they anticipate improvement of the situation – as compared with the present time – as regards all the instruments of competition. It is anticipated that within the area of each instrument of competition the studied firms will tend to be better than their average rival on the EU market. The most optimistic forecasts refer to:

- quality (M=4.30),
- promptness of deliveries (M=4.23),
- product brand (M=4.13).

This means that the studied firms intend to continue their present competitive strategy because they currently have competitive advantage as regards the same instruments of competition.

FINAL REMARKS

Studies on the competitive gap carried out by the author at the level of a firm prove that the suggested conceptualisation and operationalisation of the idea of firm competitiveness are useful in practice. Firm competitiveness consists of three elements: competitive position, competitive potential and instruments of competition (competitive strategies).

The results of the studies confirm the existence of intuitively anticipated competitive gap between the Polish and the EU enterprises in the sphere of the three above-mentioned elements of firm competitiveness.

Bearing in mind the limitations connected with the research method applied (gathering managers' opinions on the competitiveness of their companies) it should be underlined that although the above-mentioned competitive gap exists, there also exists some premises to be optimistic, namely:

- the gap is not perceived as enormous – i.e. average competitors operating on the EU market are perceived as rivals with whom the Polish firms can compete effectively,
- forecasts concerning competitive position, competitive potential and instruments of competition indicate that the Polish enterprises assume an aggressive attitude and intend to reduce the currently existing competitive gap. If this is to be successful, it is necessary to reformulate competitive strategies of many of the analysed firms and to obtain support from the economic policy (Gorynia, 1998).

Table 1. Competitive position of a firm against the rivals

Measures of competitive position	Weight of a given measure			Home market						3 largest EU markets					
				ACMP			AAMP			ACMP			AAMP		
	NI	MA	SD	NI	MA	SD	NI	MA	SD	NI	MA	SD	NI	MA	SD
1. Market share of the studied firm	65	4,14	0,80	54	4,03	0,97	54	4,45	0,93	43	3,25	1,53	43	3,21	0,99
2. Financial situation of the studied firm	64	4,41	0,78	50	3,77	0,86	50	4,26	0,82	41	2,73	0,84	42	3,26	0,88

NI – number of indications
MA – mean arithmetic
SD – standard deviation

ACMP – assessment of our current position on the market
AAMP – assessment of our anticipated position on the market

Weight of measure:

- 0 – no significance
- 1 – very small significance
- 2 – small significance
- 3 – average significance
- 4 – big significance
- 5 – very big significance
- 6 – enormous significance

Scale of possibilities to assessment competitive position:

- 0 – we are (will be) the worst on the market (low market share, bad financial situation)
- 1 – we have (will have) a much worse than average competitive position
- 2 – we have (will have) a slightly worse than average competitive position
- 3 – we have (will have) average competitive position (in a given respect)
- 4 – we have (will have) a slightly better than average competitive position
- 5 – we have (will have) a much better than average competitive position
- 6 – we are (will be) market leader (the best)

Table 2. Competitive potential

Weight of factor:

- 0 – no significance
 1 – very small significance
 2 – small significance
 3 – average significance
 4 – big significance
 5 – very big significance
 6 – enormous significance

Scale of possibilities (as compared with average competitor):

- 0 – we are (will be) the worst
 1 – we are (will be) much worse
 2 – we are (will be) slightly worse
 3 – we are (will be) average
 4 – we are (will be) slightly better
 5 – we are (will be) much better
 6 – we are (will be) the best

NI – number of indications

MA – mean arithmetic

SD – standard deviation

ACP – assessment of our current potential

AAP – assessment of our anticipated potential

Measures of competitive potential	Weight of a given measure			Home market						3 largest EU markets					
				ACP			AAP			ACP			AAP		
	NI	MA	SD	NI	MA	SD	NI	MA	SD	NI	MA	SD	NI	MA	SD
1. Possibilities of financing current activity	68	4,52	0,75	65	3,74	0,86	65	4,26	0,79	47	3,03	0,72	48	3,52	0,97
2. Possibilities of financing development from own funds	67	4,06	0,54	63	3,56	0,91	63	4,08	0,75	46	2,87	0,81	47	3,36	1,00
3. Possibilities of financing development from external means	67	3,79	0,81	63	3,57	1,11	63	4,11	0,85	44	2,80	0,92	45	3,34	0,99
4. Quality of corporate finance management	67	4,46	0,82	63	3,94	0,68	63	4,44	0,82	46	3,86	0,96	47	3,85	0,95
5. Quality of corporate finance management technology	67	4,16	0,77	63	3,84	0,75	63	4,35	0,84	46	3,17	1,00	47	3,66	1,06
6. Quality of production equipment	67	4,63	0,64	63	3,91	0,77	63	4,51	0,82	46	3,09	0,84	47	3,73	0,90
7. Advancement of production technology	67	4,67	0,81	63	3,83	0,74	63	4,38	0,78	46	3,07	0,81	47	3,70	0,86
8. Flexibility of production system	67	4,28	0,87	63	3,86	0,73	63	4,32	0,74	46	3,28	0,87	47	3,68	0,90
9. Technical culture of employees	67	4,15	0,71	63	3,74	0,72	63	4,31	0,74	46	3,20	0,85	47	3,74	0,90
10. Outlays for R&D	67	3,67	1,14	63	3,14	0,74	63	3,70	0,83	46	2,56	1,05	47	3,37	0,92
11. Quality of R&D staff	67	3,64	1,09	63	3,37	0,84	63	3,73	0,86	46	2,81	0,85	47	3,22	0,92
12. Possibilities of purchasing modern construction and technological solutions	67	4,10	0,94	63	3,50	0,88	63	4,11	0,92	46	2,89	0,92	47	3,32	1,16
13. Level of quality of management system	67	4,52	0,79	63	4,11	0,78	63	4,52	0,84	46	3,38	0,94	47	3,79	0,89
14. Rank given to quality assurance problems	67	4,69	0,70	63	4,16	0,81	63	4,60	0,81	46	3,50	0,96	47	4,00	0,93

15. Access to key resources	65	4,32	0,79	61	3,82	0,76	61	4,26	0,83	45	3,12	0,88	46	3,56	0,95
16. Quality of supply – logistic staff	67	4,00	0,60	63	3,60	0,71	63	4,00	0,68	45	3,12	0,84	46	3,60	0,91
17. Knowledge of present and future needs of customers	67	4,88	0,62	63	3,90	0,67	63	4,48	0,90	45	3,29	0,84	46	3,83	0,92
18. Knowledge of competitors	67	4,46	0,91	63	3,92	0,71	63	4,47	0,82	45	3,24	0,86	46	3,89	0,89
19. Rank given to marketing activity	67	4,19	1,03	63	3,60	0,86	63	4,27	0,84	45	2,80	0,93	46	3,48	0,96
20. Rank given to expansion on foreign markets	67	4,10	0,88	61	3,86	0,80	61	4,43	0,86	46	3,25	0,81	47	3,78	1,04
21. Quality of marketing staff	66	4,17	1,04	64	3,51	0,80	63	4,13	0,74	47	3,00	0,96	47	3,55	0,98
22. Quality of export-sales staff	65	4,09	0,86	61	3,65	0,73	61	4,19	0,70	46	3,10	0,86	47	3,60	1,00
23. Relative level of outlays for marketing	67	3,82	0,83	63	3,22	0,75	63	3,89	0,77	46	2,40	1,00	47	3,25	0,91
24. Level of marketing technology	67	3,67	0,93	63	3,29	0,73	63	3,90	0,74	46	2,48	1,02	47	3,33	0,95
25. Level of operational management technology	66	4,24	0,82	62	3,54	0,69	62	4,08	0,86	45	2,96	0,56	46	3,52	0,97
26. Level of strategic management technology	66	4,14	0,90	62	3,56	0,76	62	4,14	0,81	44	3,00	0,76	45	3,50	0,93
27. Quality of motivation system	66	3,79	0,82	64	3,31	0,75	64	3,94	0,68	47	2,88	0,77	48	3,41	0,85
28. Quality of managerial staff – top management	66	4,76	0,74	62	4,09	0,62	62	4,46	0,74	45	3,61	0,84	46	4,00	0,79
29. Quality of middle management	67	4,54	0,78	63	3,89	0,70	63	4,32	0,73	45	3,38	0,96	46	3,89	0,91
30. Degree of identification of the crew with company's goals	67	3,96	0,93	63	3,58	0,75	63	4,11	0,78	45	3,14	0,86	46	3,71	0,90
31. Employees' attitude to changes	67	3,69	0,81	63	3,23	0,61	63	3,80	0,63	45	3,00	0,56	46	3,58	0,69
32. General professional level of the crew	67	4,30	0,69	63	3,65	0,63	63	4,16	0,59	45	3,24	0,71	46	3,69	0,70
33. Level of innovativeness of the crew	66	3,83	0,75	62	3,52	0,75	62	3,87	0,71	45	3,02	0,66	46	3,50	0,75
34. Willingness to improve qualifications	67	4,00	0,66	63	3,62	0,85	63	4,16	0,91	45	3,29	0,99	46	3,77	0,92
35. Employees approval of the managerial staff	67	3,79	0,79	63	3,64	0,74	63	4,10	0,75	42	3,33	0,78	43	3,91	0,74
36. Employees willingness to co-operate	67	4,05	0,69	63	3,60	0,72	63	4,07	0,70	45	3,32	0,70	46	3,77	0,69
37. Working out a clear vision of company growth	67	4,37	0,82	63	3,65	0,73	63	4,16	0,80	45	3,27	0,71	46	3,81	0,69
38. Knowledge of the firm and its products on the market	67	4,49	0,84	63	3,90	0,79	63	4,55	0,91	45	2,96	0,87	46	3,77	0,94
39. Reputation (image, good recognition) of the firm	67	4,70	0,79	63	4,03	0,76	63	4,67	0,87	44	3,32	1,07	45	4,03	1,00

Table 3. Situation of a firm as regards application of instruments of competition (competitive strategy)

Weight of instrument:

- 0 – no significance
- 1 – very small significance
- 2 – small significance
- 3 – average significance
- 4 – big significance
- 5 – very big significance
- 6 – enormous significance

Scale of possibilities of evaluating situation as regards application of instruments of competition (compared with average competitor):

- 0 – we are (will be) the worst
- 1 – we are (will be) much worse
- 2 – we are (will be) slightly worse
- 3 – we are (will be) average
- 4 – we are (will be) slightly better
- 5 – we are (will be) much better
- 6 – we are (will be) the best

NI – number of indications

MA – mean arithmetic

SD – standard deviation

WI – weight of instrument

ACSF – assessment of current situation of our firm

AASF – assessment of anticipated situation of our firm - in 3 years

Instruments of competition	3 largest EU markets								
	WI			ACSF			AASF		
	NI	MA	SD	NI	MA	SD	NI	MA	SD
1. Price	56	4,88	0,63	54	3,50	0,84	54	3,74	0,95
2. Quality	56	5,09	0,55	54	3,79	0,97	54	4,30	1,02
3. Technological advancement	55	4,02	0,93	53	3,42	0,89	53	3,89	0,92
4. Complexity of offer	56	4,02	0,81	54	3,46	0,96	54	3,84	0,95
5. Packaging	55	2,96	1,18	51	3,40	0,86	51	3,87	0,87
6. Promptness of deliveries	55	4,69	0,75	53	3,83	0,86	53	4,23	1,01
7. Terms of payment	55	4,06	0,84	53	3,45	0,80	53	3,90	0,93
8. Advertising and sales promotion	56	3,79	1,28	54	3,06	0,93	54	3,67	1,11
9. Frequency of launching new products	56	3,18	1,23	52	3,21	0,94	52	3,76	0,97
10. Customer-friendly distribution network	55	3,24	1,33	53	3,43	0,90	53	3,99	1,10
11. Range of services	50	2,84	1,56	45	3,16	0,91	45	3,70	1,03
12. Quality of services	50	2,92	1,51	45	3,39	0,88	45	3,80	0,92
13. Price of services	50	2,68	1,47	44	3,20	0,89	44	3,46	0,94
14. Terms of guarantee	52	3,25	1,16	48	3,45	0,80	48	3,72	0,86
15. Product brand	54	3,85	1,09	51	3,52	1,02	51	4,13	0,99

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