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Competitiveness Factors in Post-transformation Period: The Case of Czech Enterprises*

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Abstract:

The subject of the paper is quality analysis in enterprises. The paper studies the link between efficiency and quality, or more precisely quality control in the company. We proceed on the claim that the quality control system has its reflection in the financial performance of the company. The principal aim of the paper is to characterize a successful company from the quality point of view. The paper is primarily based on the empirical research undertaken in the spring of 2009. We collected financial data from the period of four years (2004 – 2007) and at the same time we gathered qualitative data from questionnaires.

***Key Words**: Competitiveness, Quality*

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1. Introduction

In the last two decades Czech economy has changed significantly. The period of the transformation of a planned economy to a market economy or opening the Czech economy was connected to the arrival of new foreign competitors. Consequently, competitiveness factors of Czech enterprises had to be changed. In the last years we have carried out several researches on this topic, which have described the complexity of enterprise competitiveness in the post-transformation period [7], have analyzed competitiveness factors in post communist states [6] or underline the importance of quality as a competitiveness factor [17]. The subject of this paper - quality analysis in enterprises in the Czech Republic - has been formulated in this context. The paper is focused on linking performance and quality, or more precisely the quality control system in the company. We proceed on the claim that the quality control system is reflected in the financial performance of the enterprise. The principal aim of the paper is to find characteristics of a successful enterprise from the point of view of quality. To attain the principal aim the following partial goals are laid down:

- to specify indicators which can assess the enterprise performance
- to classify enterprises into clusters of efficient and inefficient ones
- to analyze the interpretation of quality, competitiveness, success and customer satisfaction including their interactions
- to analyze quality control methods.

The paper is primarily based on the empirical research undertaken in the spring of 2009. We collected financial data from the period of four years (2004 – 2007) and at the same time we gathered qualitative data from questionnaires. The data were gathered in the winter months and in the spring of 2009.

But our results also stem from those of the Research Centre for Competitiveness of the Czech Economy at the Faculty of Economics and Administration at Masaryk University The Centre came into existence in 2005 and to date it has conducted two survey research activities that aimed to formulate factors that alleviate competitiveness of an enterprise. As these results could enrich ours, we – whenever we found it useful – present them and compare with ours.

2. Materials and Methodology

2.1 Theoretical Framework

The concept of competitiveness has a microeconomic character and therefore a competitive company is able to succeed in competition with its rivals [11]. This general concept can be further developed and so competitiveness can be defined as a quality, which enables an entrepreneurial subject to succeed in competition with other entrepreneurial subjects [8]. However, this concept does not explain how a firm can succeed on the market. It is obvious that if a company is to succeed on the market then it must have a certain advantage in comparison with its

rivals and must be capable of exploiting this competitive advantage to outperform its competitors. The question is how this ability to compete should be rated.

In order to be able to enter the competitive relationship, a firm has to meet two basic conditions: (i) to have a competitive advantage and (ii) competitive interest – must have drive to compete [8]. When exploring competitiveness, it is necessary to focus not only on the market analysis, or a firm's position in the market, but also on the analysis of internal and external competitive capabilities and prerequisites [8].

Competitiveness of a firm is linked with its potential, the quality that could be developed to make it successful. This potential serves as a basis for outlining the firm's vision and mission -that is what the firm plans to achieve. On the vision hinges corporate strategy which says how the firm is going to attain this vision in order to fully utilize its potential. Due to the fact that the firm's objectives, its vision and potential must be expressible in financial terms, we offer the possibility to establish competitiveness by financial tools.

We consider competitiveness as a sort of image in the perception of customers, workers, suppliers etc. (so-called stakeholders). Therefore it is closely linked with the value of the company [8]. It is this value generated by a company that reflects its competitiveness as a degree to which the vision is attained or potential of the firm is exploited. In such a way competitiveness is a precondition for financial performance and it holds true that if a firm is able to compete, it is also high-performing. Performance is understood as the value volume, which a firm generates over a certain period of time [16].

The characteristics are based on the stakeholder model of the corporation used by Donaldson and Preston in which a corporation can be characterized from the point of view of various interest groups. As Wolfe and Putler put down:

> The desired reset of stakeholder management is to more closely align corporate priorities and actions with stakeholder needs. It is hypothesized that creating this alignment produces a good fit between the organisation and its environment, thus increasing the probability of the organisation's success. Understanding the priorities of and dealing with identifiable stakeholders – any group that can affect, or is affected by, the achievement of an organization's objectives [5] – offers strategic and cognitive efficiency advantages over conceiving of an organisation's environment as being composed of innumerable individuals and institutions. [18]

Furthermore, it is assumed that the principal groups are formed by owners, employees, creditors (investors), general public (state), customers and suppliers, to name the primary stakeholders [4]. Individual groups are then analyzed according to their specific and particularly qualitative characteristics are used (for more detail on methodology see [2]).

In this respect, our to date research (see [2]) shows that performance of the enterprise is not (at least primarily) influenced by customers as stakeholders. This could be due to the fact that the competition in the market is so great these days that it makes all the companies follow customer's needs and demands. Our results do not indicate any significant differences between efficient companies and inefficient ones. It seems that the differences rest only in the question whether are the companies able to fulfil customer's demands and simultaneously succeed in the market. We conclude that customers should be ranked among the key stakeholders of the company irrespective of its performance [14].

Creation of value is connected with enterprise output, consequently the enterprise competitiveness should be related to this output as well. This output is determined by a product, in other words product quality. Quality can be defined as a degree of requirement satisfaction by a set of innate attributes [18]. Product quality means not only the technical point of view (production technology and technical standard) but especially the ability to meet the customer's requirement – the higher conformity with customer's demands, the higher degree of quality.

Consequently, competitiveness of products is determined by their quality. Enterprise competitiveness depends upon product competitiveness and is based on customers demand. And this demand then sets up the enterprise earning, or more precisely sales of products (output). [16] The way to increase the company performance is increasing the quality based on well done business strategy.

Accordingly enterprise quality and their characteristics should be researched separately. Especially relation between a company and their customers must be closely examined because just small differences across companies could be expected. This predicted similarity is caused by high (and still growing) enterprise competition.

2.2. Data

Results presented in the paper are based on the date we gathered in 2009[4] using questionnaire method. The questionnaire included a general information part that comprised eight questions serving for a more detailed identification and classification of the company including questions referring to monitoring of quality. The main part of the questionnaire contained fifteen questions; from these four questions were close ended (in the form of differential scales), five were half-open ended and six open ended questions.

The questionnaire was supplemented by separate enclosure containing profit and loss statements and balance sheets from which information on the financial performance of the company could be extracted. Thus the questionnaire method was amplified by the method of financial analysis, namely by the instrument of financial

[4] The questionnaire survey was undertaken in the spring of 2009 and so the financial crisis was not taken into account and the resulting recession either, because at that time it was not clear how serious and deep impact the crisis would have on enterprises (if any at all).

ratios so that company's qualitative characteristics could be matched up with quantitative ones.

The basic investigated sample included 97 enterprises that were randomly addressed. Enterprises are from the manufacturing sector (47.04 % of enterprises), building and construction (9.24 % of enterprises) and trade and services (39.69 % of enterprises). They are located in various regions of the CR, mostly in South Moravian Region (44.95 % of enterprises) and Prague (13.05 % of enterprises), other regions are uniformly represented.

As far as the number of employees is concerned, distribution of enterprises is nearly uniform because representation of small (up to 49 employees) and medium-sized (50 – 249 employees) enterprises is the same (30.44 % of enterprises) and large enterprises (more than 250 employees) have a higher representation (39.13 % of enterprises).

Joint-stock companies is the most frequent form of business organization (47.83 % of enterprises), followed by limited liability companies (46.38 % enterprises). The sample also included two sole proprietors, a consumer cooperative and a state-owned enterprise.

We eliminated all enterprises from the Slovak Republic because of their small number as well as the enterprises, whose financial data either could not be acquired or which failed to complete all questions of the questionnaire in full. Thus the research is based on the data from 62 enterprises.

2.3 Methodology

The research of financial situation in companies employed the above mentioned financial analysis method, namely ratio analysis. The ratio analysis was chosen due to simplicity as well as comprehensiveness of the analysis. The individual ratios were in such a manner that all important partial areas of the company (i.e. profitability, activity, indebtedness and liquidity) could be evaluated and so express overall financial situation of the enterprise. Construction of selected ratios is based on the authors' previous research (see e.g. [15] and also methodology of the Ministry of Industry and Trade [3], so that the established values could be compared with the average values in a given industry or sector:

I. Return on Assets (ROA) from Earnings Before Interest and Tax (EBIT)

$$ROA = \frac{EBIT}{Assets}$$

where: EBIT = net profit + interest payable + tax due

II. Return on Equity (ROE)

$$\text{ROE} = \frac{\text{Net Profit}}{\text{Equity}}$$

III. Asset Turnover Ratio

$$\text{Asset Turnover} = \frac{\text{Revenues}}{\text{Assets}}$$

IV. Total Debt Ratio

$$\text{Equity Capital Quota} = \frac{\text{Equity}}{\text{Assets}}$$

V. Liquidity of the Third Degree (current ratio)

$$\text{Long-term Liquidity} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Our analysis was done in two independent steps. The first step was to divide respondents in our survey (enterprises) into two groups according to their published accounting data by means of cluster analysis. Owing to our experience and previous analyses of Czech enterprises (see e.g. [10]) the method of choice was k-means cluster analysis that employed accounting data from given enterprises which are readily available.

Since our aim was to assess the enterprise and its quality more like a general trend, we examined the accounting data from the period of four years (2004-2007). The cluster analysis split the enterprises into two groups that were branded as efficient and inefficient. These two groups were further used for comparing results from the questionnaire survey and we searched for differences between them. We assume that discrepancies in perception and conception of quality in a given enterprise would be reflected in its financial performance.

3. Results

3.1 Financial Standing of the Sample of Enterprises in the CR

With regard to cluster analysis it was necessary to choose from the above five potential ratios those, which could best assign the analyzed enterprises into two clusters, referred to as efficient enterprises (cluster A) and inefficient enterprises (cluster B). Three financial indicators (ROA, ROE and asset turnover ratio),

representing the performance component of the enterprise's overall financial position, proved most appropriate for our purposes. Assignment into clusters, however, does not reflect indebtedness and liquidity, since a certain degree of risk is necessary for attaining appropriate performance. Cluster A is made up of 26 enterprises and cluster B includes 36 enterprises.

Average values of financial ratios in clusters A and B are indicated in Table 1. As seen from the table, in enterprises A (efficient) the average value of ROA was growing slightly in 2004 – 2006 and dropped slightly in 2007; on the whole, however, average values of this ratio are very high. The second indicator (ROE) were growing much more steeply in these enterprises in the years of 2004 – 2006, yet its fall in 2007 was more dramatic. Average values of ROE in individual years are very high but its sharp fall in 2007 is alarming. Asset turnover ratio in Cluster A fluctuated slightly and generally it is high. In the case of cluster B (inefficient enterprises), the average value of ROA over years 2004 – 2007 was declining slightly and on the whole average values of the ratio are rather low. ROE in cluster B was continuously decreasing. While this drop was sharp in 2005, it slowed down in next years. Average values of ROE were again rather low in individual years (except for 2004). Asset turnover ratio slightly fluctuated (similarly as in cluster A) and generally it is rather low.

Table 1. Average values of chosen financial ratios in A and B clusters

	Cluster A				**Cluster B**			
	2004	**2005**	**2006**	**2007**	**2004**	**2005**	**2006**	**2007**
ROA	0.1352	0.1397	0.1535	0.1415	0.0496	0.0422	0.0425	0.0351
ROE	0.1700	0.2282	0.3360	0.1155	0.1213	0.0781	0.0615	0.0604
Asset turnover	2.55	2.42	2.48	2.55	1.13	1.01	1.08	1.13

Source: Own calculations

By comparing both clusters it is obvious that cluster A scores significantly better values mainly in the case of ROA, which is three or four times higher than in cluster B. Also as for the asset turnover and ROE, the situation is considerably better for cluster A; for assets turnover ratio the difference is more than twice as much. The differences in ROE ratio varied more considerably because there were sharp fluctuations in cluster A. In spite of the fact that the performance in cluster A was excellent, the development and value of ROE in 2007 made us be cautious about future performance of companies in this cluster. Performance of enterprises in cluster B is considerably worse and although it was far from disastrous in the year

2007), the development of financial situation suggests that the enterprises could be at risk of bankruptcy in years to come.

3.2 Quality Analysis of Enterprises in the CR

When assessing quality of enterprises we used questions included in a questionnaire, which was completed by enterprises. The answers were then summarized for respective clusters, so that possible differences could be identified between the replies of efficient and inefficient enterprises.

Question #1 was focused on the enterprise's competitive advantage. Enterprises could mark more than one choice. The results are summed up in Table 2, where each column represents relative frequencies of the advantage occurrence. They indicate that successful enterprises (cluster A) think that their competitive advantage lies primarily in quality of their product as well as contacts and relations (the same figure for 14.6 % of enterprises), other positions were taken by tradition and flexibility (the same in 12.2 % of enterprises) and less importance was attached to expertise and location (both choices in 9.8 % of enterprises). Situation is analogous in inefficient enterprises (cluster B) only flexibility and location appeared significantly less frequently in the answers. It is of some interest that inefficient enterprises reported more frequently product quality, tradition and expertise while successful enterprises stress more often contacts, flexibility and location.

Table 2. Enterprise's competitive advantage (%)

	Cluster A	**Cluster B**	**Both clusters**
Product (service) quality	14.6	18.3	16.8
Tradition	12.2	15.0	13.9
Contacts / relations	14.6	10.0	11.9
Expertise	9.8	11.7	10.9
Flexibility	12.2	6.7	8.9
Location	9.8	5.0	6.9
Other	26.8	33.3	30.7
Total	100.0	100.0	100.0

Source: Own calculations

Question #2 is asked to find out how the product (service) is adapted to meet the customers' requirements (in the opinion of the enterprise). The replies of the companies show that both successful and unsuccessful enterprises mostly consider the degree of adaptation as maximum (cluster A reports 50 per cent and cluster B 61.1 per cent of enterprises), fewer enterprises as significant (42.3 % for cluster A, and 22.2 % for cluster B) and only a minor part of them as medium (7.7 % of the cluster A and 16.7 % of the cluster B enterprises). None of the enterprises believe that their product would be little adapted to the customer or not adapted at all. Inefficient enterprises think more often that their product has a maximum or a medium degree of adaptation to the customer. On the other hand, successful enterprises believe more often that their product is significantly adapted to the customer.

Similar results are produced when enterprises assess quality of their product or perhaps quality of its technical design (Question #3 of the survey). Results in Table 3 are analogous with the previous question, only the percentage of inefficient enterprises, which rate their product as having maximal or significantly high quality, approximated across the clusters.

Table 3. Assessment of product (service) quality or quality of its technical design (%)

	Maximum	**Significant**	**Medium**	**Low**	**Minimum**	**Total**
Cluster A	50.00	42.31	7.69	0.00	0.00	100.0
Cluster B	52.78	31.33	16.67	0.00	0.00	100.0

Source: Own calculations

Question #4 concentrated on the way of conducting a customer satisfaction survey. The replies are given in Table. 4. Customer satisfaction is ascertained in 80.77 % of enterprises in cluster A as compared with 88.24 % enterprises in cluster B. The results make it obvious that successful enterprises establish customer satisfaction through questionnaires in the first place (34.8 % of enterprises), much less through personal interviews (17.4 %), work completion certificate (13.4 %) and phone interviews (8.7 %). Inefficient enterprises prefer personal interviews (31 % of enterprises), questionnaires (28.6 %) and significantly less telephone interviews (9.5 %), claims and the internet (the same percentage in both clusters – 7.1 %). Successful enterprises use questionnaires and work completion certificates more often, while unsuccessful enterprises prefer personal interviews, telephone interviews, claims and the internet.

Table 4. Method of conducting customer satisfaction surveys

	Cluster A	Cluster B	Both clusters
Questionnaires	34.8	28.6	30.8
Personal interviews	17.4	31.0	26.2
Telephone interviews	8.7	9.5	9.2
Work completion certificate	13.0	4.8	7.79
Claims	4.3	7.1	6.2
Internet	0.0	7.1	4.6
Other	21.7	11.9	15.4
Total	100.0	100.0	100.0

Source: Own calculations

Question #5 is connected with the previous one and it should establish the frequency of customer satisfaction surveys. As shown in Table. 5 successful enterprises carry out satisfaction surveys continually (40% of answers), significantly fewer answers were monthly and yearly surveys (in both cases 26.7 % of answers) and only exceptionally survey were undertaken daily (6.7 % of enterprises). The figures are similar for inefficient enterprises except for the fact that these enterprises conduct satisfaction surveys only exceptionally daily, weekly or once in two years (in all instances the percentage is the same – 3.6 %). Successful enterprises declare they perform surveys continuously or daily, while in inefficient companies the percentage was higher for monthly surveys. Values for the yearly frequency are roughly the same in both clusters.

Table 5. Frequency of customer satisfaction surveys

	Cluster A	Cluster B	Both clusters
Continuously	40.0	32.1	34.9
Daily	6.7	3.6	4.7
Weekly	0.0	3.6	2.3
Monthly	26.7	32.1	30.2
Yearly	26.7	25.0	25.6
Once in two years	0.0	3.6	2.3
Total	100.0	100.0	100.0

Source: Own calculations

Question #6 is also related to question # 4 (if it was answered in the affirmative) and it should find out what makes the company ask about satisfaction with a product or service provided. Enterprises could choose more than one option. The percentage of answers is tabulated in Table 6. Successful enterprises see the reasons for surveying customer satisfaction mainly in obtaining feedback (25 %), in continual improvement of quality and certification (20 %), in competition (15 %) and to a lesser extent in the ability to ensure customer retention (10 %). Inefficient enterprises in cluster B prefer mainly continual quality improvement (25.6%), customer retention (23.1 %), feedback (15.4 %), competition (12.8 % enterprises) and certification (13.6 % enterprises). Successful enterprises more often reported feedback, certification and competition, while inefficient enterprises preferred continual quality improvement and ability to retain customers.

Table 6. Reasons for surveying customer satisfaction

	Cluster A	Cluster B	Both clusters
Continual quality improvement	20.0	25.6	23.7
Retention of customers	10.0	23.1	18.6
Feedback	25.0	15.4	18.6
Competition	15.0	12.8	13.6
Certification	20.0	10.3	13.6
Other	10.0	12.8	11.9
Total	100.0	100.0	100.0

Source: Own calculations

Question #7 deals with customer satisfaction with the provided product (from the perspective of enterprises). The results indicate that successful enterprises think that customer satisfaction with their product is significant and put it in the first place (57.69 % of enterprises), a smaller part ticked off maximum satisfaction (34.62 % enterprises) and only a minimum of enterprises (7.69 %) wrote that the satisfaction was medium. None of successful enterprises rated customer satisfaction as low or even minimum. The situation is similar in inefficient enterprises. Successful enterprises more often stated significant satisfaction, while inefficient enterprises declared more often maximum and medium customer satisfaction with the product.

Table 7 summarizes principal reasons for less than maximum customer satisfaction with a product (again subjectively evaluated by enterprises themselves). Product quality clearly prevailed in cluster A (50% of enterprises). Both product quality and flexibility prevailed (40%) in inefficient enterprises and a lower percentage (20%) mentioned price as well. Flexibility and price as reasons for less satisfaction appeared solely in inefficient enterprises.

Table 7. Prevailing reasons for lower customer satisfaction

	Cluster A	Cluster B	Both clusters
Product quality	50.0	40.0	44.4
Flexibility	0.0	40.0	22.2
Price	0.0	20.0	11.1
Other	50.0	0.0	22.2
Total	100.0	100.0	100.0

Source: Own calculations

Question #8 was directed to the link between the level of customer satisfaction and competitiveness of enterprises (as assessed by researched enterprises). Obtained results indicate that 46.15 % of successful enterprises considered the link as maximum, 23.08 % thought it significant, 15.3 8% weak, 11.54 % medium and only a small fraction of enterprises (3.85 %) supposed it was minimum. Inefficient enterprises thought that this link was maximum in 41.67 % of choices, significant in 36.11 %, medium in 13.89 % and only few enterprises answered it think was weak (5.56 %) or minimum (2.78 %). Successful enterprises more often responded that the link was maximum and weak, while inefficient enterprises more often replied that the link was significant or medium.

Question # 9 concerned systematic quality control in the company. Results in Table 8 show that successful enterprises implement quality control by using mainly ISO standards (65% of enterprises), continually and by regular checks (both choices in 10% of enterprises) and only a minimum adheres to in-house directives or to laboratory tests (both choices in 5% enterprises). Inefficient enterprises predominantly rely on ISO standards (38.7%), less on continual control and in-.house directives (both options in 12.9% of enterprises) followed by regular checks and laboratory tests (both choices in 9.7% enterprises). ISO standards and regular checks were mentioned more frequently in successful enterprises, while inefficient enterprises preferred continual quality control, in-house directives and laboratory tests.

Table 8. Methods of quality control

	Cluster A	Cluster B	Both clusters
ISO standards	65.0	38.7	49.0
Continually	10.0	12.9	11.8
Regular checks	10.0	9.7	9.8
In-house directives	5.0	12.9	7.8
Laboratory tests	5.0	9.7	7.8
Other	5.0	16.1	13.8
Total	100.0	100.0	100.0

Source: Own calculations

Question #10 depends on the affirmative answer to the previous question, i.e. whether there is a systematic quality control in the company. It was found out from the results in Table 9 that successful enterprises implement systematic quality control chiefly due to requirements of the market (45 %), less frequently because of quality efforts and legislation (15 % for both choices) and only to a small extent because of a long-term perspective and certification (5% for both replies). Inefficient enterprises perform systematic quality control first and foremost because of requirements of the market (45.2%), quality efforts (22.6 %), less thanks to the long-term perspective (12.7 %), legislation and certification (9.7 %). Successful enterprises mentioned legislation more often, while inefficient enterprises more frequently stressed quality efforts, long-term perspective and certification. Enterprises in both clusters attached approximately the same importance to market requirements.

Table 9. Reasons for systematic quality control of a product in the company

	Cluster A	Cluster B	Both clusters
Market requirements (competition)	45.0	45.2	45,1%
Quality efforts	15.0	22.6	19,6%
Legislation	15.0	9.7	11,8%
Long-term perspective	5.0	12.9	9,8%
Certification	5.0	9.7	7,8%
Other	15.0	0.0	5,9%
Total	100.0	100.0	100.0

Source: Own calculations

Question #11 concerned the development of competitiveness in previous five years (assessed subjectively by enquired enterprises). The results suggest that successful enterprises predominantly believed that the competitiveness development was growing (65.38 % enterprises), to a lesser extent that it was stagnating (19.23 %), sharply growing (11.54 %) and only a minimum of them believed it was decreasing (3.85 %). Inefficient enterprises prevalently assumed that the development had a growing trend (55.56 %), a stagnating trend (30.56 %), to a lesser extent a decreasing trend (8.33 %) and was sharply growing (5.56 %). No enterprise stated that the development of competitiveness would be sharply dropping. Successful enterprises chose growing and sharply growing competitiveness more often, while inefficient enterprises mentioned more often stagnation and decrease in competitiveness.

Results in Table 10 refer to the previous question and summarize the reasons for the development of competitiveness. It is evident that successful enterprises see the main reason in production quality (25%), competition and investment (equally 16.7%), providing new services and changes in customer volume (equally 12.5%). Inefficient enterprises find the reasons for the development of competitiveness chiefly in production quality (28.6%), structural changes in enterprise (4.3%), competition and certification (equally 11.4%) and less in investment (8.6%), new services, contacts and change management (in all options 5.7% of enterprises) changes in customer volumes (2.9%). Successful enterprises replied more frequently competition, investment, new services, and a change in customer volume while inefficient enterprises product quality, certification, structural change, contacts and changes in management.

Table 10. Reasons for development of competitiveness in enterprises

	Cluster A	Cluster B	Both clusters
Product quality	**25.0**	**28.6**	**27.1**
Competition	**16.7**	**11.4**	**13.6**
Investment	**16.7**	**8.6**	**11.9**
Certification	**4.2**	**11.4**	**8.5**
New service	**12.5**	**5.7**	**8.5**
Structural change in enterprises	**0.0**	**14.3**	**8.5**
Decreasing (increasing) number of customers	**12.5**	**2.9**	**6.8**
Contacts	**4.2**	**5.7**	**5.1**
Changes in management	**0.0**	**5.7**	**3.4**
Other	**8.2**	**5.7**	**6.6**
Total	**100.0**	**100.0**	**100.0**

Source: Own calculations

Question #12 was designed to find out whether enterprises have quality control and what its consequences are. The question is comprehensive and structured; therefore its results are shown in Tables 11 to 13. Table 11 shows the impacts of quality control on competitiveness of the company. The results suggest that a vast majority of successful enterprises implement quality control (it is not controlled only in 19.23 % of enterprises), while 53.85 % of enterprises responded that quality control enhances and maintains competitiveness and 26.92 % of enterprises answered that quality control leads to the growth of competitiveness. The situation is rather similar in inefficient companies. The only difference is that 9.38 % of enterprises in cluster B responded that quality and competitiveness are unrelated. Frequency of answers is comparable in efficient and inefficient companies but inefficient enterprises more often express their opinion that quality enhances and increases competitiveness and also vice versa that quality and competitiveness are unrelated while in efficient enterprises prevails the frequency of replies if quality is not controlled in the enterprise.

Table 11. Impacts of quality control on competitiveness

	Cluster A	Cluster B
Quality enhances and maintains competitiveness	53.85	56.25
Quality leads to the growth of competitiveness	26.92	28.13
Quality and competitiveness are unrelated	0.00	9.38
Quality is not controlled	19.23	6.25
Total	100.00	100.00

Source: Own calculations

Causes of support and maintaining of competitiveness are listed in Table 12. Successful enterprises see the causes chiefly in customer retention (36.4 %), elimination of product's defects (27.3 %), optimization of company processes (18.2 %) and to a lesser extent in improving the image of the company and in new orders (equally 9.1 %). The situation is analogous in inefficient enterprises. Successful enterprises more frequently mentioned optimization of in-house processes and new orders, in contrast to inefficient enterprises which more often stressed customer retention, elimination of product's defects and image improvement of the enterprise.

Table 12. Causes of support and maintaining of competitiveness

	Cluster A	Cluster B	Both clusters
Customer retention	36.4	37.5	37
Elimination of product's defects	27.3	31.3	29.6
Optimization of in-house processes	18.2	12.5	14.8
Corporate image improvement	9.1	12.5	11.1
New orders	9.1	6.3	7.4
Total	100.0	100.0	100.0

Source: Own calculations

Table 13 reviews the causes of competitiveness enhancement (as seen by researched enterprises). Successful enterprises assume that primarily new markets and product quality are the cause of competitiveness enhancement (both options got 33.33 %), next places are taken by certificates and customer requirements (equally 16.67 %). Inefficient enterprises see the causes mainly in new markets (50 %), customer loyalty (33.33 %) a certificates (16.67 %). Successful enterprises more often included product quality and customer requirements, while inefficient enterprises new markets and customer loyalty, in the case of certificates the frequency was the same in both clusters.

Table 13. Causes of competitiveness enhancement in the enterprise

	Cluster A	Cluster B	Both clusters
New markets	33.33	50.00	41.67
Customer loyalty	0.00	33.33	16.67
Product quality	33.33	0.00	16.67
Certificates	16.67	16.67	16.67
Customer requirements	16.67	0.00	8.33
Total	100.00	100.00	100.00

Source: Own calculations

Question # 13 is directed to performance indicators, which are applied by enterprises for its assessment and to determine whether given indicators are linked to quality. As the results in Table 14 suggest, successful enterprises focus primarily on capacity utilization (10 %), revenues, profit/loss and profitability (all 8.3 %) and less importance is attached to claims and activity (3.3 % . Most efficient enterprises relate these indicators with quality except for claims and also partly capacity utilization. Inefficient enterprises are concentrated mainly on costs (8.6 %), profit/loss (7.6 %), revenues (6.7 %), capacity utilization (5.7 %), profitability (4.76 %) and less on activity (2.9 %) and claims (1.9 %). Inefficient enterprises do not link with quality chiefly capacity utilization, profit/loss, costs and claims. Inefficient enterprises less frequently found a link between given indicators and quality (except for claims).

Table 14. Performance indicators monitored and assessed by the enterprise

	Indicator is linked to quality			Indicator is not linked to quality		
	Cluster A	**Cluster B**	**Both clusters**	**Cluster A**	**Cluster B**	**Both clusters**
Revenues	8.3	6.7	7.3	1.7	4.8	3.6
Profit/loss	8.3	7.6	7.9	3.3	7.6	6.1
Costs	3.3	8.6	6.7	1.7	5.7	4.2
Capacity utilization	10.0	5.7	7.3	6.7	8.6	7.9
Profitability	5.0	4.76	4.8	0.0	1.9	1.2
Claims	3.3	1.9	2.4	13.3	5.7	8.5
Activity	3.3	2.9	3.0	1.7	3.8	3.0
Total	100.0	100.0	100.0	**Total**	100.0	100.0

Source: Own calculations

Question #14 investigates advantages, which the enterprise has over its competitors (subjective assessment of enterprises). As seen from Table 15, successful enterprises think that their advantages are, in the first place, quality and flexibility (equally 11.1 %), range of services and tradition (both choices 9.3 %), location and personal approach (7.4 %) and contacts, expertise and price (both choices 5.6 %). Inefficient enterprises reported mainly tradition and contacts (both scored 12.7 %), quality (10.1 %), expertise (8.9 %), flexibility and range of services (6.3 %), location (5.1 %) and less frequently personal approach and price (3.8 %). Successful enterprises stressed more frequently quality, flexibility, range of services, location, personal approach and price, while inefficient enterprises tradition, contacts and expertise.

Table 15. Advantages over competition

	Cluster A	Cluster B	Both clusters
Tradition	9.3	12.7	11.3
Quality	11.1	10.1	10.5
Contacts	5.6	12.7	9.8
Flexibility	11.1	6.3	8.3
Expertise	5.6	8.9	7.5
Range of services	9.3	6.3	7.5
Location	7.4	5.1	6.0
Personal approach	7.4	3.8	5.3
Price	5.6	3.8	4.5
Other	27.6	31.5	29.3
Total	100.0	100.0	100.0

Source: Own calculations

Question # 15 is asked with regards to the barriers, which enterprises feel as compared with competition. The results in Table 16 indicate that successful enterprises identify their barriers mainly in their range of services (20 %), possibilities of financing, enterprise size and flexibility (10% for both choices) and to a lesser degree operational costs and employees (both choices 5 %). Inefficient enterprises perceives these barriers above all in possibilities of financing (20 %), operational costs (17.1 %), enterprise size (11.4 %) and less in range of services and employees (both choices 5.7 %) and in flexibility (2.9 %). Successful enterprises more frequently mentioned range of services and flexibility, while inefficient enterprises more often pointed to possibilities of financing, operational costs, enterprise size and employees.

Table 16. Barriers of the enterprise in comparison with its competitors

	Cluster A	Cluster B	Both clusters
Possibilities of financing	10,0	20,0	16,4
Operational costs	5,0	17,1	12,7
Enterprise size	10,0	11,4	10,9
Range of services provided	20,0	5,7	10,9
Flexibility	10,0	2,9	5,5
Employees	5,0	5,7	5,5
Other	40	37,2	38,1
Total	100.0	100.0	100.0

Source: Own calculations

4. Discussion

Based on the cluster analysis, enterprises were divided into two basic groups (clusters): efficient or successful enterprises (cluster A) and inefficient or unsuccessful ones (cluster B). Tables 1 and 2 demonstrate that the performance in cluster A is significantly higher (primarily in the ratios ROA and asset turnover) in all monitored periods. Although inefficient enterprises attained the ratios lower by an order of magnitude, these values were by no means bad or even disastrous. It is probably one of the reasons why the quality analysis carried out by means of questionnaire is much less clear-cut than the performance analysis.

Both efficient and inefficient enterprises believe that their main competitive advantage is the product quality followed by contacts, tradition and expertise (both clusters of enterprises differ only slightly in preferences of declared advantages). However, successful enterprises put a greater emphasis on the quality (together with flexibility) in the other part of the questionnaire, while inefficient enterprises prefer tradition and contacts (compare the results of question #2 and the last question in Table 16).

As for competitive advantage, the differences between the two groups of enterprises are more marked. Successful enterprises are mostly limited by the range of services they can provide and less by the possibilities of financing, company size and flexibility. In contrast, inefficient enterprises see their reserves primarily in the financial situation (possibilities of financing and operation costs) and less in the

range of services and the enterprise size. Problems of inefficient enterprises in the financial sphere correspond with their weaker performance.

Interestingly, both groups of enterprises unanimously state that their product is adapted to the customers to the maximum or at least significantly. In proportion to it both clusters of enterprises value their product highly. These findings, however, collide with the fact that the customer satisfaction scores with the product are rated an order of magnitude lower (i.e. not as maximum but only as significant). Product quality is identically listed among the reasons for a lower customer satisfaction, inefficient enterprises add flexibility and price. Thus it can be concluded that all enterprises do recognize the importance of quality for customer satisfaction but instead of doing something for improving it they only seem to be talking about it.

Enterprises are aware that the satisfied customer is a competitive advantage and a cause for performance growth. Therefore most enterprises in both clusters monitor customer satisfaction. While successful enterprises survey customer satisfaction using questionnaires (probably by means of surveys), inefficient enterprises use primarily personal interviews and only then questionnaires. Thus it can be doubted whether enterprises do anything with the resulting data and (if anything) what they do with them, particularly in the case of inefficient enterprises.

Surprisingly, inefficient enterprises stress the link between customer satisfaction and quality, whereas successful companies prefer feedback. It seems as if inefficient enterprises did not particularly work towards customer satisfaction by increasing quality of their product or they failed to do so. In turn, successful enterprises obviously do not take into account that feedback should serve as a stimulus for increasing product quality. In our opinion, Low, poor or no utilization of acquired data for improving customer satisfaction and product quality is mirrored in the quality control system in the enterprise. Both clusters of enterprises (and predominantly the successful one) apply the system of ISO standards, which only serve for setting a basic level of quality and cannot ensure its high level. Since the reason for quality control in both groups are market requirements and competition, we assume that enterprises are forced to implement quality control, which means that their attitude in this sense is rather passive (at least in unsuccessful enterprises).

Enterprises in both clusters believe that their competitiveness has grown in recent years. If we accept the claim that a growth in competitiveness is reflected in a growth in performance, it is clear that enterprises were optimistic when assessing their situation because performance in both clusters was stagnating. Both clusters see the reasons for their development of competitiveness predominantly in production quality (successful enterprises also mentioned investment and rather surprisingly competition, which is related to the stagnating successful enterprises). Inefficient enterprises also name other reasons for competitiveness development in structural change and certification. It is positive that enterprises are aware of impacts of quality on their competitive ability, even if it is the case of a quarter of all enterprises.

A good point is that enterprises in both clusters are well aware of a favorable impact of quality control management on promotion or even growth of competitiveness. Enterprises associate the maintenance of competitiveness with the quality management system that is in turn linked to customer retention and elimination of defects in the product, which is certainly helpful and contributes to a clear understanding of quality management system. However, this raises the question whether enterprises are not too focused on the technical aspects of quality (in the sense of technical design of the product) and whether they sufficiently take into account customers' requirements. In view of the above findings the link between ideas and requirements of the manufacturing department and customer's requirements appears to be either non-existent or very weak. It is obviously connected with the quality control system, which is not all-embracing and thus cannot ensure this interconnection. This finding is confirmed by replies to the question about competitiveness growth, which is reported to be caused mainly by new markets, customer loyalty and quality of the product. Only a minimum of enterprises said that the growth is linked with customers. Therefore it can be concluded that enterprises expect the quality management system to bring chiefly quantitative growth (it could be added that it would apply to the existing product or more precisely the product with existing quality).

The whole situation is illustrated by the method of evaluating enterprise performance that is mostly reduced to capacity utilization and absolute indicators such as revenues and profit. It should be pointed out that successful enterprises more often link given indicators with quality, unlike the inefficient ones. On the other hand, however, it makes you wonder why successful enterprises do not link quality with claims in the first place, in contrast to inefficient enterprises, which do not associate quality most frequently with capacity utilization. It confirms the observation that successful enterprises often substitute the total quality management system for partial elements of quality control, such as ISO standards. On the other hand inefficient enterprises mostly do not realize that product quality is projected in the results of the company and that it mirrors the efficiency of their the quality control system.

5. Conclusion

It can be reasonably assumed that the cause of a higher performance lies in other factors than in product quality (let us mention e.g. more sophisticated marketing, more economical management and the like). Czech enterprises appear to have large reserves in the area of product quality and it can only be guessed whether enterprises are not willing to produce and offer quality products and services or customers are not willing to pay for them.

Obviously, problems that enterprises have with quality and customer satisfaction lie in the quality control system, which is absolutely insufficient. Usually this system only consists of ISO standards, which are not suitable for

systematic quality control that should serve to attain the highest quality level. Due to the fact that product quality is limited to the technical design of products without relating product manufacturing and customer requirements, it is not possible to get the required quality to customers. The Kadasca's research on small and medium enterprises in Hungary has similar findings (insufficient quality control system). It shows that only 15 % of analyzed companies have at least an ISO certified quality assurance system (less than Czech enterprises in our research). On the other hand, about 30 % of Hungarian enterprises are planning to get ISO system in the following years, because of their intentions to become a supplier or act as a supplier [6].

It emerged that most Czech enterprises do not realize that product quality is derived from customer satisfaction and that quality control must be a comprehensive system involving the entire company including interest groups (led by customers) and that the results of proper quality control are reflected in performance indicators, closely monitored by enterprises. .

In spite of that a part of companies in both clusters are aware of the important role that quality plays in their competition fight. The results indicate that successful enterprises are more consistent in this respect (see financial results) than inefficient ones, which prefer tradition and contacts to quality. It should be stressed that the differences between the two clusters are quite small and in order to confirm the above conclusions it will be necessary to do research in a larger sample of enterprises.

If we are to characterize the successful enterprise on the basis of our research, it would be a financially efficient enterprise able to attain ROA and ROE values exceeding 10% in the long term, and asset turnover higher than 2. Such enterprise must pay great attention to product quality and flexibility and can have certain difficulties with its range of services. The successful enterprise must regularly (in the order of days) survey customer satisfaction and all suggestions of customers must be projected into the product so that customer satisfaction with the product can be enhanced (and hence product quality). To achieve this aim quality must be systematically controlled, not by ISO standards alone but by some systems which can ensure maximum quality, such as EFQM or TQM systems. Last but not least it is necessary for enterprises to behave proactively i.e. not to be passive recipients of changes in their surroundings but to initiate these changes themselves. If enterprises implement some good quality control system, quality of their products should continue growing and by means of internal qualitative changes they should accomplish both an increase in efficiency and competitiveness in the market.

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