On the strategic planning, innovation activities and economic performance of industrial companies

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Proposed paper deals with the "in-situ" situation of strategic planning, innovation activities and consequent economic performance of Czech and Slovak industrial companies based on questionnaire research results. The relations between selected parameters were aimed and statistically tested on the sample of 254 industrial companies active in Czech and Slovak republic in years 2009-2011. Four hypotheses were evaluated, with the goal of enlightening mutual relations of strategy-innovations-performance behavioural characteristics of the studied companies. In findings, there is well apparent, that written detailed strategic document has mostly bigger companies (above 250 employees and gross annual turnover over 1 bill. CZK), who plan longer in advance (mostly 5 to 10 years or 3 to 5 years) than smaller companies that have more often concise written (a plan mostly from 1 to 3 years in advance) or not written strategic document (11 to 50 employees and gross annual turnover 11 to 100 mil. CZK). The (industrial) companies with written detailed strategic document are continually active in innovations and experienced strong positive progress in volume of production (over 30 %) and earnings - profit (over 30 %) in research period. The analyses have shown that medium-sized and big industrial companies experienced growth up to 30 % of gross annual turnover meanwhile the costs fall up to 30 % during the examined period 2009-2011. Change in volume of production in the course of the period 2009-2011, there is significant correlation to change in gross annual turnover and change in earnings (profit) in the course of the research period. These finding can be interpreted as empirical confirmation of the reasonability of thorough strategic planning with respect to dynamics and innovation necessity. Strategic and innovative industrial companies apparently passed through the period of slow growth without substantial problems, which most likely suffered above all micro enterprises.

Key words*: Strategic planning, Innovation, Economic Performance, Industrial Companies, Chi Square*

Introduction

The paper presents a behavioural study of Czech and Slovak industrial companies concerning their quality of strategic planning, innovation activities and economic performance and their mutual relations.

The goal of the paper is to contribute to the understanding of management behaviour of Czech and Slovak industrial companies concerning their activity in strategic planning and innovations with the effect of measurable aggregate economic performance improvement. The hypotheses are formulated later.

Motivation of the paper is to support awareness of importance of thorough strategic management planning in order to establish crucial innovations leading to good economic performance visible in turnover and profit even in times of decelerated national economic growth or stagnation. The study provides ex-post evaluation of industrial companies' behaviour cause and the effect bonds.

Theoretical background

There exist many different methods how to evaluate the economic performance of an industrial company. Dvořáček et al. (2012) calculate financial bankruptcy models in order to determine the ratio of non-bankrupt and bankrupt industrial firms in the Czech Republic. In additional to the financial approach, it is possible to admit wider cause-effect perspectives as using e.g. BSC methods. In the presented paper, we put into relations strategy-innovations behavioural parameters to their performance, so we can statistically decide these activities play a role in competing successfully during the period of decelerated national economic growth or stagnation.

Deceleration of economic growth

The figure 1 illustrates trends in gross domestic product (GDP) development in the Czech Republic in the years 2002-2012. The data can be mathematically modelled by two line segments with the break point in years 2008-2009. The model is valid at the reliability value R^2 more than 99 %. In the years 2005 to 2008 (I.) increased the gross domestic product with the average increment 203,27 bill. CZK per year. Later in years 2009 to 2012 (II.) increased the gross domestic product with the average increment 29,32 bill. CZK per year. The slump in acceleration of economic growth was 85,6 % or 7 times down. Period of interest and research 2009 to 2011 lies already in the period of decelerated growth.

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Although economic recession is believed to be over in the Czech Republic, the previous acceleration of economic growth and GDP was not verifiable established yet. (Česká televize 2013).

Since GDP is based on production, drop in GDP growth reflects drop in economic activity of enterprising subjects. Perfectly appropriate is than curiosity how that situation manages headquarters of Czech and Slovak industrial companies and if the tools as strategic planning and innovation activities help to secure economic performance. The industry creates 35 to 40 % of the Czech national economy (MZV 2011).

There is a generally accepted opinion, that efforts in strategic management and following continuous strategic innovation activities are beneficial in preventing economic problems in bad times.

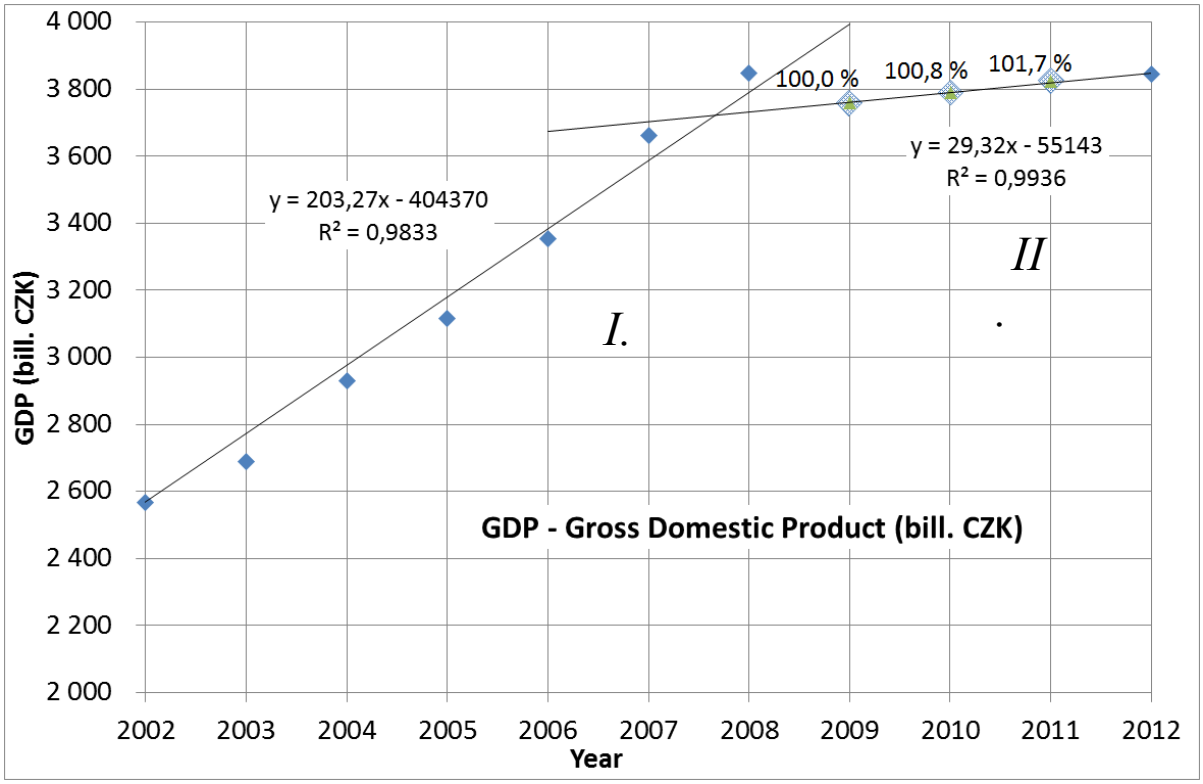

Fig. 1. Time chart of annual gross domestic product (GDP) of the Czech Republic in years 2002-2012. Years 2009 to 2011 are supplemented with percentage data (source: ČSÚ)

Strong strategic planning and innovation activities and economic performance

According to R. P. Rumelt, one of the most influential thinkers on strategy and management, the kernel of a strategy contains three elements (Rumelt 2011, p. 77,):

1. A diagnosis that defines or explains the nature of the challenge. A good diagnosis simplifies the often overwhelming complexity of reality by identifying certain aspects of the situation as critical.
2. A guiding policy for dealing with the challenge. This is an overall approach chosen to cope with or overcome the obstacles identified in the diagnosis.
3. A set of coherent actions that are designed to carry out guiding policy. These are steps that coordinated with one another to work together in accomplishing the guiding policy.

In many industries, external technology commercialization is critical to gain and sustain a competitive advantage. Opening up strategic technology planning therefore contributes to firm performance in a knowledge-based economy. (Lichtenthaler 2008)

Existing companies that want to master strategic innovation have to carefully borrow some core capabilities, thoroughly forget others and systematically learn some completely new skills – Vijay Govindijan. (Anthony, p. 36, 2012).

Success insignificant or disruptive innovation requires long-time strategic work and outlook in deep vision. Innovation advantage can translate into a premium in your company's stock price – an innovation premium – that is possible only by building the code for innovation right into your organization's people, processes and guiding philosophies. (Dyer et al. 2011)

It can be inferred that the best quality management (integrating continuous improvement philosophy) practice is found in companies having clearly defined analyzing strategy relying upon cost-based leadership with

a smaller-scale (continuous) innovations and good analytical capabilities, where managers are proactive, plan long-term and motivate employees, who are also proactive, having good personal relations, spirit of fellowship and cooperation (Brkic et el. 2011).

Andersen furthermore finds evidence that innovation relates to use of the modern ICT/IS and participation across industries, and that economic efficiency relates to use of modern ICT/IS and autonomy in dynamic and complex industries (Andersen 2001).

Leadership (social learning theory), business process re-engineering (change the company not the technology) and acquisition strategy (buy, do not make) were found to be significant predictors of adoption performance, controlling for industry (manufacturing versus service), project start date and scale (sales). (Ettlie et al. 2005)

Based on the findings of previous and more quality scientific resources we performed following research:

Methodology applied

The second volume of company research called "Adaptability of entrepreneurship", which has been informational background of the presented article was realized during the spring semester 2012. The total number of 722 companies active in Czech (89 %, 64 % from Moravia-Silesian region) and Slovak Republic (11 %) between 2009 and 2011 were subjected to questioning. Interview protocol included controlled dialogue of a questioner with an enterprise owner, an executive manager or a top manager, so the collected data have the character of an experts' guess opinion. Initial sample size 722 companies were filtered and reduced to 677 credible items.

Further filtration was realized in order to obtain data group which could be considered as industrial companies. The filtration included exclusion of micro enterprises with gross annual turnover less than 10 million CZK according the question A8, exclusion of enterprises with less than 10 employees accordingly the question A7 and exclusion of self-employed entrepreneurs – physical bodies according the question A2. Filtration specified industrial companies (with compliance with ČSÚ) as those with NACE 05 to 33 and delimited data group of 254 valid items. NACE 05 to 33 covers these economic activities: B – Mining and quarrying (5 to 9) and C – Manufacturing (10 to 33).

Following questions/criteria were evaluated in the presented paper:

Identification data

A5:	Main economic activity of entrepreneurship – NACE Classification (nn): Fill in NACE code first two digits
A7:	Average number of employees in determined period: (0, 1 – 10, 11 – 50, 51 – 100, 101 – 250, 251+)
A8:	Average gross annual turnover in CZK: (<1mil., 1mil. to <10mil., 10mil. to <100mil., 100mil. to <250mil., 250mil. to <1bill., 1bill. and more)

Strategic document

B1:	What form of strategic document – business plan has the company got? (not written, written brief, written detailed, other: text)
B3:	Planned period considered by the strategic document: (<1year, 1 to <3 years, 3 to <5 years, 5 to <10 years, 10 years and more)
C8:	Has the company got processed written measures for elimination of risks or crisis impacts? (no, yes, specify: text)

Performance parameters

C1:	How did determined period (2009-2011) influence company turnover? (growth >30%, growth up to 30%, stagnation, fall up to 30%, fall >30%)
C2:	How did determined period influence company costs? (growth >30%, growth up to 30%, stagnation, fall up to 30%, fall >30%)
C3:	How did determined period influence company profit? (growth >30%, growth up to 30%, stagnation, fall up to 30%, fall >30%)
E3:	Did the volume of production changed in determined period? (growth >30%, growth up to 30%, stagnation, fall up to 30%, fall >30%)

Innovation activities

E2:	In which areas was the production innovated in your company? (new products, new services, better quality, better design, technologal innovation, nothing)

E4: What part of turnover is a company devoted to invest into innovation activities?
(up to 1%, 1 to <5 %, 5 to <10 %, 10 to <20 %, 20 % and more)
E6: How does the company realize its innovation, research and development (R&D) activities?
(no way, own innovations, own R&D activities, cooperation with university, cooperation with R&D institution, open innovation)
E7: What is the ratio of innovated products sales of the total turnover?
(up to 1%, 1 to <5 %, 5 to <10 %, 10 to <20 %, 20 % and more, none)
E8: What types of innovations do you implement most often?
(product, process and technology, organization, marketing, strategy)

Data analyses

Data were analysed and processed with the help of Microsoft Excel and IMB SPSS software. There were employed following methods of statistical evaluation: Pearson chi2 test, adjusted residual analysis and Spearman correlations.

The fundamental test for analysis of categorized data is the chi2 (chi square) test of the mutual independence in the pivot-table (equation 1). It is a kind of the chi2 'goodness of fit' test, since the observed and theoretical frequency is tested. These non-parametric tests do not assume that a selection is of a particular distribution type with certain parameters.

$$\chi_p^2 = \sum_{ij} \frac{\left(f_{ij} - e_{ij}\right)^2}{e_{ij}}, \mathrm{df} = (\mathrm{R}-1)\cdot(\mathrm{C}-1) \tag{1}$$

χ_p^2 ...chi square

f_{ij} ...actual (measured) frequency

e_{ij} ...expected frequency

r_i ...line

c_j ...column

N ...sum

Residual analysis is based on comparison of the expected and measured frequencies. While the classical residues represent a simple difference of the values, standardized residuals are normalized by expected frequency (equation 2) and allow us better compare the cells in the pivot-table. Adjusted residuals are compared to the previous convenient to compare cells in pivot-tables of different size. If the adjusted residual value is greater than 2 or lesser then -2, the probability that this value is due to chance will be less than 5 % and it will be possible to say that the residual is significant.

$$AR_{ij} = \frac{f_{ij} - e_{ij}}{\sqrt{e_{ij}\left(1 - \frac{r_i}{N}\right)\left(1 - \frac{c_j}{N}\right)}} \tag{2}$$

Correlation examines the mutual fit of variables and expresses the closeness of relationship of variables. The correlation coefficient indicates the relative degree of linear dependence of two random variables. If the value is close to 1 (or to -1), it represents a direct (or indirect) linear proportion. There is Spearman correlation formula applied in the presented research results.

Convention in companies size and quality of strategic document

European Commission defines enterprise size according to the staff headcount (number of employees) and annual turnover (EC 2003):

- Fewer than 10 employees and €2 million (~55 mil. CZK) turnover as "micro",
- 10 to 49 employees and €2 million to €10 million (~275 mil. CZK) turnover as "small"
- 50 to 249 employees and €10 million to €50 (~1,374 bill. CZK) million turnover as medium-sized and
- Over 250 employees and €50 million turnover as "big". Calculated exchange rate: 27,5 CZK/EUR

Small enterprises are defined as enterprises which employ fewer than 50 persons and whose annual turnover or annual balance sheet total does not exceed 10 million euro. Micro enterprises (not included in the examined data group) are defined as enterprises which employ fewer than 10 persons and whose annual turnover or annual balance sheet total does not exceed 2 million euro.

Generally, we can divide companies (including both SMEs and large firms) in terms of business strategy development into three categories:

I. Companies that have a well-planned and detailed written primary strategic document. This document deals with important areas of enterprise organization such as human resources, market analyses and marketing goals, product development and innovation, technologies of production and services, logistics, quality and environment, budgeting, financing and payback, time schedule, risk evaluation, etc. Detailed strategy document should have utilized modern management methods and techniques as PEST, Porter five forces, marketing mix, SWOT and others. The strategic document covers the future period of at least three years and is often compared with the real situation and updated (at least once a year). Compare to Rumelt (2011).
II. Companies that have a strategic document drawn up in some written, but concise form, with insufficient details in all important chapters. Many enterprises briefly address just a mission and vision, and some partial strategic issues, such as production, marketing or finances; however other important chapters stay unelaborated. Such document often serves as the business plan for obtaining subsidies or loans, but hardly satisfies internal strategic function.
III. Companies that have no written strategic document. It is never clear if the strategy is kept in mind of top management (e.g. alone self-employed entrepreneurs), some pieces are subject of company culture or does not exist at all.

Hypotheses

Following set of hypotheses was formulated after reconsidering previous findings in the field of industrial companies' behaviour published by authors earlier (Navrátilová et al. 2014, Pawliczek et al. 2013, Vilamova et al. 2012):

H1: Medium-sized and big industrial companies experienced stagnation in gross annual turnover meanwhile the costs increased during the examined period 2009-2011.
H2: Written detailed strategic document have mostly bigger companies, who plan longer in advance than smaller companies that have more often concise written or not written strategic document.
H3: The (industrial) companies with written detailed strategic document are active in innovations and experienced positive progress in volume of production and earnings (profit) in research period.
H4: Change in volume of production in the course of the period 2009-2011 is in significant correlation with the change in gross annual turnover and change in earnings (profit) in the course of the researched period.

Results and discussion

Data were analysed using the chi2 test, adjusted residual analysis and Spearman correlation matrix produced many interesting results.

Major well apparent findings can be divided into following important areas: (I.) basic characteristics of industrial companies' data group, (II.) strategic planning – the form of strategic document and length of planned period, (III.) further on innovation activities and (IV.) significant correlations.

Basic characteristics of industrial companies data group

Figure 2 presents fundamental information about the evaluated data group structure regarding NACE branches of economic activity and companies' size regarding two criteria – number of employees and gross annual turnover.

More than ¾ of the examined companies fall into group C – Manufacturing and the others are B – Mining and quarrying active firms.

Regarding size roughly 30 to 40 % are small companies, 20 to 30 % are medium companies and 15 to 30 % are big companies. The rest are micro enterprises according to the turnover criterion (~15 %). The criterion of number of employees does not match very well with the criterion of annual turnover in our data group, what indicates relatively low turnover per capita in regions of interest.

To analyse the interdependence of individual variables is used chi2 test, which confirmed the interdependencies of the industrial companies to the variables listed in table 1. This is evidenced by the significance value α (in tables labelled as Asymp. Sig.), which reaches in all presented cases, values less than 0,05.

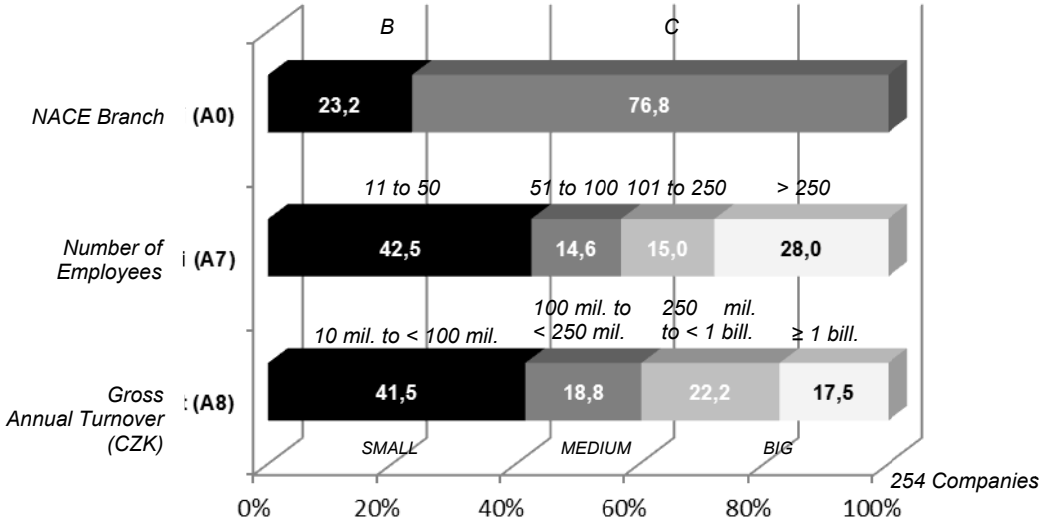

Fig. 2. Structure composition of data group – results of identification questions (source: own processing).

To find out in which the specific cases are largest statistical differences of industrial companies in the selected variables of the table 1, we submitted each pivot-table (showing the relationship of industrial companies to the each selected variable of the table 1) under the analysis of adjusted residuals. According to these residuals, we came to the following conclusions:

From the point of view regarding firm size, researched industrial companies show highest significant values of adjusted residual in the group of number of employees (question A7) above 250 (value 5,5) and 101 to 250 employees (2,6). In other hand the lowest significant value of adjusted residual is in the number of employees' category 11 to 50 (value -7,5). So we can say, that most researched companies are over (higher) medium and big sized.

From the point of view regarding size based on annual turnover criterion (question A8), researched industrial companies show highest significant values of adjusted residual in the group of gross annual turnover above 1 bill. CZK (3,8), 101 to 250 mil. CZK (2,6) and 251 to 1000 mil. CZK (2,5). The lowest significant value of adjusted residual is in the category of gross annual turnover 11 to 100 mil. CZK (-7,1). Most researched companies are than from the point of view regarding annual turnover again medium and big sized (including some part of bigger small companies).

Industrial companies indicated highest significant values of adjusted residual in the gross annual turnover change during researched period (question C1) category "growth up to 30 %" (2,7). The lowest significant value of adjusted residual is in the category of gross annual turnover change "stagnation" (-3,1).

Industrial companies indicated highest significant values of adjusted residual in the change in costs during researched period (question C2) category "fall up to 30 %" (4,0). The lowest significant value of adjusted residual is in the category of change in costs "stagnation" (-2,5).

Regarding above stated findings, we can dismiss the hypothesis H1: Medium-sized and big industrial companies experienced stagnation in gross annual turnover meanwhile the costs increased during the examined period 2009-2011. The analyses have shown that medium-sized and big industrial companies experienced growth up to 30 % of gross annual turnover meanwhile the costs fall up to 30 % during the examined period 2009-2011.

The form of strategic document (question B1) in industrial companies was mostly declared to be written and detailed – significant value of adjusted residual is 3,1.

The length of the planned period by the strategic document (question B3) in industrial companies is mostly up to 5 years – highest significant value of adjusted residual is 2,7 but no less than 3 years – lowest significant value of adjusted residual is here -2,6.

Approach to risk management (question C8) is in industrial companies active, adjusted residual value 2,0 indicates that companies have got processed written measures for elimination of risks or crisis impacts.

Industrial companies are active in innovations (question E2) with the significance of adjusted residual value 3,0.

The character of innovation focused on processes (question E8) is in industrial companies significant with adjusted residual value 3,3.

The percentage of turnover from innovated production (question E7) carried out by industrial companies is mostly 6 to 10 % supported by highest significant values of adjusted residual 2,3 and no less than 1 % supported by lowest significant values of adjusted residual -2,4.

Tab. 1. Chi2 test characteristics of identification data of companies in connection with NACE branch 05 to 33 – industrial companies (source: own processing).

	Pearson Chi-Square Value	df	Asymp. Sig. (2-sided)
Number of Employees	60,701	3	,000
Gross Annual Turnover	52,214	3	,000
Form of Company's Strategic Document	10,087	2	,006
Period Planned by the Strategic Document	9,830	4	,043
Gross Annual Turnover Change during Researched Period	12,795	4	,012
Change in Costs during Researched Period	18,508	4	,001
Written Measures for Elimination of Risks or Crisis Impacts	4,121	1	,042
Active in Innovations	8,711	1	,003
Percentage of Turnover from Innovated Production	10,810	4	,029
Innovation Focused on Processes	10,806	1	,001

Strategic planning – the form of strategic document and length of planned period

To confirm the interdependencies of the form of the company's strategic document to the variables listed in table 2 is again used chi2 test. Statistical dependence is evidenced by the variables with significance value α (in tables labelled as Asymp. Sig.), which reaches in most presented cases, values less than 0,05.

To find out in which the specific cases are largest statistical differences in the form of company's strategic document to the selected variables of the table 2, we submitted each pivot-table (showing the relationship of industrial companies to the each selected variable of the table 2) under the analysis of adjusted residuals. According to these residuals, we came to the following conclusions:

The adjusted residual analysis show (questions A7/B1), that written detailed strategic document has mostly big companies above 250 employees (4,6) and not written strategic document have mostly small companies with 11 to 50 employees (3,7).

Similar situation shows size criterion based on company gross annual turnover (questions A7/B1). Written detailed strategic document have mostly medium/big companies over 1 bill. CZK gross annual turnover (5,4) and not written strategic document have mostly micro/small companies with 11 to 100 mil. CZK gross annual turnover (2,3).

Companies, who have written detailed strategic document (questions B1/B2) do plan mostly 5 to 10 years in advance (value of adjusted residual is 3,0) or 3 to 5 years (value of adjusted residual is 2,5), but not less than 3 years (value of adjusted residual is -2,2). Besides that companies, who have written concise strategic document do concern mostly 1 to 3 years in advance (value of adjusted residual is 2,1).

Regarding upper findings, we can accept the hypothesis H2: Written detailed strategic document have mostly bigger companies (above 250 employees and gross annual turnover over 1 bill. CZK), who plan longer in advance (mostly 5 to 10 years or 3 to 5 years) than smaller companies that have more often concise written (the plan mostly 1 to 3 years in advance) or not written strategic document (11 to 50 employees and gross annual turnover 11 to 100 mil. CZK).

The companies with written detailed strategic document (questions B1/C3) indicated the growth of earnings (profit) in research period over 30 % (2,8) in opposite to companies with only concise strategic document (-2,2).

Approach to risk management (questions B1/C8) regarding the form of strategic document is characteristic by that: companies with written detailed strategic document have got processed written measures for elimination of risks or crisis impacts (5,9), however, companies with written concise strategic document (2,2) and not written strategic document (4,1) have not processed written measures for elimination of risks or crisis impacts.

The adjusted residual analysis further suggests (questions B1/E2/E6) those industrial companies with written detailed strategic document are active in innovations in last three years (2,8) and are continually innovative (2,6).

The industrial companies with written detailed strategic document (questions B1/E3) also indicated the growth over 30 % in volume of production (2,3) and most likely their volume of production not stagnated (-2,1), which are very strong and important values emphasizing the meaning of diligent strategic management and planning. On the opposite side, companies with not written strategic document indicated fall over 30 % with adjusted residual value 2,1. It should be mentioned also that companies with written concise strategic document contraindicated the growth of volume of production over 30 % what more underlines necessity of detailed formulations of strategic forecasts.

Tab. 2. Chi2 test characteristics for parameters connected with the form of company's strategic document (source: own processing).

	Pearson Chi-Square Value	df	Asymp. Sig. (2-sided)
NACE Branch 05 to 33	10,087	2	,006
Number of Employees	31,267	6	,000
Gross Annual Turnover	36,150	6	,000
Period Planned by the Strategic Document	18,179	8	,020
Change in Earnings (Profit) in Course of Researched Period	15,276	8	,054*
Written Measures for Elimination of Risks or Crisis Impacts	39,540	2	,000
Active in Innovations	8,011	2	,018
Change in Volume of Production in Course of Researched Period	18,565	8	,017
Continuously Active in Innovations	8,735	2	,013

Regarding above stated findings, we can accept the hypothesis H3: The (industrial) companies with written detailed strategic document are continually active in innovations and experienced strong positive progress in volume of production (over 30 %) and earnings - profit (over 30 %) in research period. Vice versa, companies with not written strategic document indicated falling in volume of production over 30 %.

The next set of interesting data brought analyses of the length of the period planned by the strategic document (question B3). The relation to gross annual turnover (question A8) is characterised by the value 2,5 for the companies planning up to 5 years in advance and value 2,1 planning up to 10 years in advance both with gross annual turnover more than 1 bill. Companies with gross annual turnover 11 to 100 million CZK are characteristic with the length of the period planned by the strategic document up to 3 years.

Regarding the change in earnings (profit) in the course of the research period (question C3) and the length of the period planned by the strategic document the highest value of adjusted residual is 3,1 suggesting growth of earnings over 30 % in the companies strategically aware and conscious most longer (with the period planned by the strategic document over 10 years). Surprisingly, companies with the period planned by the strategic document up to 1 year indicated growth of earnings up to 30 % (2,9) but not surprisingly also a slightly weaker fall of earnings up to 30 % (2,3). The picture supplements the companies with the period planned by the strategic document up to 3 years that indicated a fall of earnings up to 30 % (2,0) and contraindicated growth of earnings up to 30 % with strong value -3,2.

Last analysis concerning the length of the period planned by the strategic document and innovation activity (question E2) has shown that companies planning up to 1 year were not active in innovations in the search time period (2,4). Further companies planning up to 5 years were, according to the value of adjusted residual 2,0, active in innovations in research time period.

Further on innovation activities

Last but not least residual analyses show the closeness of companies' innovation activities and innovations of processes (questions E2/E8) which is confirmed with values 2,6.

The companies (questions E2/E4) who are not active in innovations put less than 1 percent of turnover to innovation activities (3,5).

The companies (questions E4/E6) who are continuously active in innovations put into innovation activities 1 to 5 percent of turnover (2,3) with comparison to companies who are not continuously active in innovations and put into innovation activities not more than 1 percent of annual turnover (4,4).

Significant correlations

Table 3 represents Spearman correlation matrix. Into the matrix were selected only variables found to have the largest correlation interaction coefficients (greater than 0.5). These specific correlation coefficients are listed in the table numerically.

Tab. 3. Spearman (rho) correlation matrix (source: own processing).

	(A7)	(A8)	(C1)	(C2)	(C3)	(E3)
(A7) Number of Employees	1,000	,717**				
(A8) Gross Annual Turnover	,717**	1,000				
(C1) Gross Annual Turnover Change during Researched Period			1,000	,513**	,720**	,557**
(C2) Change in Costs during Researched Period			,513**	1,000		
(C3) Change in Earnings (Profit) in Course of Researched Period			,720**		1,000	
(E3) Change in Volume of Production in Course of Researched Period			,557**			1,000

**** Correlation is significant at the 0.01 level (2-tailed)**

There are two groups of correlation bonds observed:

Number of employees correlate to gross annual turnover with the index 0,717.

Gross annual turnover change during researched period correlate strongest to change in earnings (profit) in course of researched period with the index 0,720, further to change in volume of production in course of researched period with the index 0,557 and to change in costs during researched period with the index 0,513.

Regarding upper findings, we can accept the hypothesis H4: Change in volume of production in course of the period 2009-2011 is in significant correlation with the change in gross annual turnover and change in earnings (profit) in course of researched period. This means, the turnover and profit (and also costs) has grown with production and vice versa.

Conclusions

Presented paper deals with issues of strategic planning, innovation activities and their relations to economic performance of Czech and Slovak industrial companies. The article based on original questionnaire research brought a new perspective on mentioned areas and the goal of the paper to contribute to the understanding of management behaviour concerning activity in strategic planning and innovations with the effect of measurable aggregate economic performance improvement has been achieved.

Regarding tested hypotheses, there is well apparent, that written detailed strategic document has mostly bigger companies (above 250 employees and gross annual turnover over 1 bill. CZK), who plan longer in advance (mostly 5 to 10 years or 3 to 5 years) than smaller companies that have more often concise written (a plan mostly 1 to 3 years in advance) or not written strategic document (11 to 50 employees and gross annual turnover 11 to 100 mil. CZK). The (industrial) companies with written detailed strategic document are continually active in innovations and experienced strong positive progress in volume of production (over 30 %) and earnings - profit (over 30 %) in research period. The analyses have shown that medium-sized and big industrial companies experienced growth up to 30 % of gross annual turnover meanwhile the costs fall up to 30 % during the examined period 2009-2011. Change in volume of production in the course of the period 2009-2011 is in significant correlation with change in gross annual turnover and change in earnings (profit) in the course of the research period.

These finding can be interpreted as empirical confirmation of the reasonability of thorough strategic planning with respect to dynamics and innovation necessity. Strategic and innovative industrial companies apparently passed through a period of slow growth without substantial problems, which most likely suffered above all micro enterprises.

Used methodology and approach is bordered by following shortcomings and limitations: First the data have subjective character what can decrease their reliability. Secondly, the data sample does not cover CZ and SK homogeneously from the geographic point of view, but has rather a regional character. Third limitation is in quite general formulations of research questions in order to be well comprehensible and easily answerable. Yet presented findings should be credible enough to allow wise managers to take a lesson. Recommended suggestions can cover inclusion of specific strategic planning and innovation parameters into observed KPI.

Further research will be performed on next round data (2010-2012) obtained in 2013 and knowledge will be deepened with the perspective of further longitudinal study.

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