



Contemporary Issues in Business, Management and Education 2013

## Performance measurement and management in Czech enterprises

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### Abstract

Changes in business conditions change the requirements on management systems in three main areas: conception and management techniques, in information security and in profession skills and knowledge base of employees. The decisive role in this is played by customer, product and process innovation and uncertainty to achieve success in the future. That is why the companies deal with the measurement and management of their performance. This paper analyzes and evaluates the performance measurement and management in the Czech Republic on the basis of secondary and primary research.

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Selection and peer-review under responsibility of the Contemporary Issues in Business, Management and Education conference.

*Keywords:* performance measurement; performance management; innovation activities; cooperation; strategy.

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### 1. Introduction

Performance measurement is essential for enterprises because if the efficiency of activity can not be measured, the activity can not be properly controlled. In addition for every business that wants to be successful and stand among the competitors, it is necessary to measure their performance. Effective performance measurement is key area to successful implementation of strategy. Company has to measure costs, quality, flexibility, value and other dimensions of processes.

The complexity of today's business environment requires a robust performance measurement and complex systems which are sufficient to cover all areas of the company and its surroundings. These systems are referred as systems of performance measurement and management.

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Historical view on performance measurement and management shows the evolution from traditional approaches to measuring financial benchmarks – profit, profitability, cash-flow to modern approaches to measuring value for the owners and shareholders. Theoretical and practical area of performance measurement and management in recent years has expanded the range of methods and approaches such as economic value added, economic profit, EFQM, Balanced Scorecard, performance prism.

Table 1 shows the progression of financial and systemic approach to performance measurement in the 4 phases.

Table 1. Paradigm shift in measuring business performance

1. phase	2. phase	3. phase	4. phase →
Profit margin (profit/revenue)	Profit growth (profit maximization)	M/B – Market to Book Value per Share	Value creation for stakeholders:
ROI	EPS – Earnings per Share	Performance of capital (profit(invested capital))	EVA, MVA, CFROI, EFQM, BSC,
Du Pont pyramid		Cash-flow Controlling	FCF – Free cash flow, TQM

Source: Compiled by the authors

Approaches to measuring and managing performance carries out variety of strengths and weaknesses. Success requires understanding full effect and side effects of different approaches and their creative combinations right way at the right time. The approaches mentioned above are based on the indicators. Different surveys show that the level of satisfaction increases with greater variety and scope of indicators focusing on selected areas addressed in detail. Of course, only to a certain extent because the more indicators, the more evaluation process is difficult and achieved results are difficult useful in decisions. It also shows that satisfaction increases further if company combines both financial and non-financial indicators, with a greater emphasis on non-financial indicators. Size of organization applying these tools, or chosen strategy are not decisive (Rigby & Bilodeau, 2007).

Quantity of used tools (indicators) differs by industries. The largest users of multiple indicators are companies operating in the market of consumer goods, mining, processing chemicals, metals and healthcare. The smallest users are, however, companies in the area of construction, retail and manufactory (Janeček & Hynek, 2010).

In the context of developing performance measurement system the authors recommend compliance the following principles (Najmi, Rigas & Ip-Shing, 2005):

- Performance measurement should be based on business strategy.
- The purpose of performance measurement must be clearly given.
- Collection and data collection methods, as well as the calculation of the performance must be declarative.
- All subjects of company must be involved into the performance measurement system.
- Process of measurement should be easily modifiable by any changes in the surroundings and environment.

## 2. Performance of companies in the Czech Republic

For the secondary research was chosen the research project “Development of a model for measuring and managing business performance” (Czech Association for Financial Management, 2011), which was supported by the Grant Agency of the Czech Republic. Research was attended by 402 companies from the Czech Republic the research period was the year 2010. In terms of the distribution of the respondents there were 27% of large enterprises, 36% of medium-sized companies, 27% of small businesses and 10% were micro enterprises. Half of the respondents were focused on manufacturing activity, 30% of enterprises in services and 20% were commercial enterprises. Enterprises in the survey indicated that relevant reasons why to implement a system of performance measurement and management in the company are numerous. Strategic planning, controlling and motivating and rewarding are considered to be the most important. Up to 70% of Czech companies said that the results of performance evaluation are interconnected with the system of executive pay of managers. Often companies also stated that as the basis of the incentive system is used indicator EVA. 16% of enterprises thus linked remuneration

system don't have, but in the future it is planning. But as far as regular employees, there already is a job performance evaluation underestimated as a tool for increasing productivity and consequently competitiveness of the company. Other overtures for the implementation of performance measurement system are communication, daily decisions and verification strategies. Requirements from acts and relationship with stakeholders are considered to be less significant reasons.

73% of companies indicated that performance measurement is based on the strategy and objectives of the company and helps in their development. 7% of businesses reported that performance measurement is not based on strategies and goals which are formulated. 20% of companies said that the strategy and goals are not formulated performance measurement is performed on specific activities and processes.

Companies consider finance as the most important area of management. The following is the area of customer, employees, internal processes, innovation, health and safety and the use of IS / ICT.

On the question "How strongly influenced individual factors firm performance?" it was stated that the most important performance factor is the maintenance and acquisition of new customers, followed by customer satisfaction, financial stability and profitability. Smaller degree of importance was given to factors such as the innovative activity, research and development and knowledge management.

Although the literature argues that if company wants to be successful, there should be placed greater emphasis on systems of performance measurement based on value chains and although the companies which apply that agree as it presents the results of research conducted as the Czech Republic and in other countries, most businesses still frequently used to evaluate financial ratios derived from financial accounting data.

The most frequently used financial indicator is sales, which on average uses about 75% of the companies. Other important benchmarks include return on sales figures of net profit, profit before tax, using cash flow indicators or cost-effectiveness. Average used financial performance indicators are added value, ROE, ROA, ROI, EBIT, which uses at least one third of asked businesses.

Another frequently used tool of control and performance measurement besides financial indicators is controlling, which is used by more than 75% of enterprises of the Czech Republic, an important indicator is also managerial accounting, which uses almost 70% of businesses. Other concepts and tools are used by less than 5 % of enterprises.

With these tools are also firms which applied them, most satisfied, while methods such as EVA and Balanced Scorecard use far fewer businesses. A survey conducted in 2005 shows that EVA used only about 40% of the surveyed firms on the Czech market. New survey from 2010 already shows only 30%, which is quite surprising finding given that nearly 80% of companies surveyed in 2005 reported that EVA is deemed suitable for enterprise performance management.

The Balanced Scorecard method used even less than 20% of companies in last year. This result can be partially explained by the lack of familiarity with this model, although in recent years, awareness has increased considerably. Inadequate information systems were rather replaced by the lack of support and initiative of management in implementing of new systems of performance measurement and evaluation. Certain reason for small representation of companies which use new complex systems such as the Balanced Scorecard is the fact that this model was originally designed for large enterprises, while in the Czech Republic there dominate small businesses or medium-sized businesses. Although this does not mean that it could not implement these companies, however, it shows that they prefer other methods of evaluation.

In evaluation of the situation of the company in relation to measuring the performance of individual processes, there said more than 40% of companies that each business process has been defined indicators by which the processes are measured and evaluated. 60 % of businesses have given a recording frequency of the parametric values and they have defined responsibilities for evaluation of indicators. About three-quarters of the companies have agreed that the evaluation of business processes is the basis for their improvement and these companies have data for the last financial year about the costs of business processes.

### **3. Performance of enterprises of the Czech Republic from primary research**

Department Management and Business Administration of the Silesian University in Opava, School of Business Administration in Karvina carried out research within the project SGS/9/2012 entitled "Business adaptability in

response to the turbulent political-economic-social and technological (PEST) environment in the context of sustainable development" (Šebestová *et al.*, 2011).

From the primary researches which took place in the periods 2008–2010 and 2009–2011 there were found categories which have a significant impact on the speed of businesses to respond to changes and development. It was found that, innovation, performance measurement, cooperation, strategic planning are categories which can have the greatest impact on the speed of adaptability of companies to changes and development (Rylková & Antonová, 2013).

From the questionnaire entitled "Adaptability enterprises (SMEs) in the years 2010–2012" was a selected sample of 130 respondents. The questionnaire included seven thematic areas (identification of firms, strategic management, economic development in the company, personnel policy of company, production and innovation activities, research activities and cooperation and business performance measurement).

On the question which method is used to performance management, stated 12% of enterprises TQM method, 2% of respondents stated EFQM method, ISO 9000 uses 17%, six sigma 5%, MBO method uses 2%, BSC method uses 4%, SMART uses 9 %, BCG uses 3%, SWOT uses 22% PESTLE 1% and 23% of respondents stated that they use other method (Kaizen, ABC).

Regarding the characteristics of the performance measurement system in the enterprise, from the sample of 130 companies stated 40% of companies that they have assembled the performance measurement system and they use it. 8% of companies stated that they have assembled the performance measurement system, but they do not use it, 14% of businesses reported that a performance measurement system is in the phase of making or implementation and the remaining 38% reported that they do not measure performance.

On the question which system of performance measurement companies use – 46% stated that they use financial ratios, 27% use comparison with plan, 10% use the system using standards, BSC use 4 % of companies, 6% stated that they use TQM, 6% stated that they use other performance measurement system (there were recorded responses such as KPI, or no one).

On the question which indicators companies use to measure performance stated 58% of companies that they use only financial indicators, 5% stated that they use only non-financial indicators and 37% of companies stated that they use, both financial and non-financial indicators to measure business performance.

In the primary research of the period 2010–2012 there was determined the following hypothesis: *H1: Innovation activities are one of the factors affecting business performance measurement.*

One of the objectives of research in the years 2010–2012 was the analysis and evaluation of factors that affect the performance measurement.

Table 2. The most important factors of performance measurement, years 2010–2012

	Initial	Extraction
Innovation activities	1,000	0,868
Written strategy	1,000	0,852
Managerial method	1,000	0,814
Cooperation	1,000	0,801

Source: Compiled by the authors (evaluation by SPSS)

Table 2 shows that innovation activities, written strategy, management method, and cooperation are the categories which have significant impact on business performance measurement (there was used own evaluation by SPSS).

Based on the results of primary research from the years 2010–2012 it was possible to create a model of factors affecting organizational performance measurement (see Figure 1).

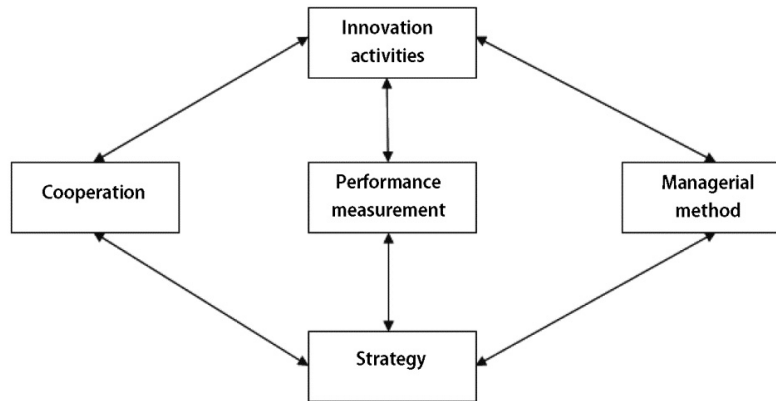


Fig. 1. Factors affecting organizational performance measurement  
Source: Compiled by the authors

### 3.1. Strategy

Today it is convincingly argued that "the principle of corporate strategy lies in creating tomorrow's competitive advantages, but faster than competitors can imitate that which a company has today." The principle of strategy is to formulate an infrastructure which supports continuous innovation. Today's companies should be competitively better, cheaper, faster, more flexible, proactive, creative, and of course they should encourage continuous innovation. Entrepreneurs must first get rid of the belief that any convenience can hold their position and they have to begin with implementation of steps to start with continuous innovation based on modern strategic method of management.

Innovation is part of long-term plans and it is a necessary condition for maintaining competitiveness and achieving long-term business goals. Successful innovation is not hap, on the contrary, it is a management planning process. Systematic implementation of the innovation is based on a purposeful look for changes and systematic analysis of the possibilities.

In order to be SMEs (small and medium sized enterprises) successful in innovation, they should have a clear idea what direction they will take, they should set goals for innovation, which they will attempt to achieve and after that they should create innovative strategies which can help them to implement and achieve innovation activities. These strategies are then needed to link with particular substantive areas of business activities. The basic aspects of the innovation activities of firms are the areas such as: the uniqueness of product, marketing activities, market and customers, human resources management and innovation culture, project management and innovative behavior, technological orientation and financial resources. These are aspects that should appear in each innovative strategy of SMEs.

Innovative strategies are mainly based on the creativity of workers and it involves the development process providing benefits for customers in the beginning and the process is ending with defining technological intensity and the perception from the perspective of the company. Planning and implementation of innovative strategies should be the basic skills of management. Each type of innovation policy brings different requirements on the organizational processes of the enterprise.

Innovative strategies have be able to deal with complex and changing external environment which is characterized by uncertainty in future developments in technology, in competitive threats and market (and non-market) demand, and today's companies have to respect more and more the fact that the company will work in an open system of innovation, which can be connected with the cooperation factor.

There can be recommended the focus on the following areas, when company formulates innovative strategy:

- Based on the situation analysis it is important to make profile of the product structure of competitors and consider options of using of outsourcing and benchmarking.

- Based on the profiling of companies it is important to focus the company on increasing innovation activity, development of new products, technologies in cooperation with universities, research institutions, companies, etc.
- It is important to create innovation culture and practically implement the process and project management.
- Uncovered dysfunctions in the area of innovation, including logistics, financial management, science and research are important to solve through cooperation with universities, research institutes, linking to the association, clusters, competition etc.

### 3.2. *Managerial Method*

Modern strategic management brings entrepreneurs many effective tools helping them develop their business and achieve better results. Some of them are basic and easy as SWOT analysis or SMART principles. Further methods are advanced, more complex and need to be thoroughly studied as f. e. MBO, KPI, BSC. Quality management systems as TQM, EFQM, LEAN, KAIZEN, 6 SIGMA, SA 8000 are very important (Pawliczek & Piszczur, 2012).

### 3.3. *Innovation activities*

When we pass through knowledge bases, it stands to reason, that there is no simple formula and that innovation are enormously different as for – range, type, sector, sort, order etc. Nevertheless it is possible to find out convergence to two crucial points (Tidd, Bessant & Pavitt, 2007). Innovation is process, no separate event or action, and such as it has to be managed. Factors, which this process determines, can be influenced, also thereby we can influence result – otherwise process of innovation can be managed.

We also known, that management of innovation is not issue of making one or two things well, but it is concerned to keep total good performance, which is conditioned by set of learned patterns of behaviour. There are identified 4 behaviour groups, which constitute particularly important routine (Tidd, Bessant & Pavitt, 2007). Successful innovations have to go out from strategies and depend on efficient internal and external structures. Successful innovations require auxiliary mechanisms, which enable implementation of changes, and are only implemented in supporting organizational environment.

Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic (AMSP CR) conducted in the year 2012 research entitled "The position of the SME entrepreneurs to innovations and their financing" From the sample of 506 SMEs in the next 2 years there plan to devote 75% of companies in the SME to innovation. Entrepreneurs are planning to introduce new models, mostly in the area of product innovation (52% of companies) and the dynamics of innovation in comparison with the volume of innovations over the past two years is expected to decrease slightly according to the Association of Small and Medium Enterprises Czech Republic.

### 3.4. *Cooperation*

Not all companies, especially small and medium - sized, can allow to invest into own research and development. Cooperation of innovative firms inclines to cooperation in industrial networks (including knowledge networks). Information exchange but also outsourcing can initiate strategic movement. Generally, inter-firm cooperation can be comprehended like critical factor of success in the process of innovation. Many studies single out cooperation relevance for commercial success of small and medium sized companies from different perspectives. Cooperation of companies can become resource of obtaining access to some market or technological know - how or access to other activities. However it is possible to use alliance on learning of something – to obtaining new market and technological competence, or also to acceptance partner's know – how.

It is possible comprehend innovation like social activity, which consists of people that draw together and participate ideas. Cooperation often runs informally and many organizations acknowledge the need of supporting development of informal network like instrument stimulated creative exchanges. There also exist tendency, when organizations try to build up innovative networks some specialists call these networks as „managed networks". Purpose of cooperation can be seen in new product or the process forming, or in connection of radically different knowledge combination, or in networks, whose members accept and imply innovative ideas. Participants can be

interconnected in some geographical sight or as part of some supply chain, which try scheme out new ideas within whole system. They have in common understanding, that they can reach efficient solving of some innovative problem aspect through the network communication. In order to be cooperation successful, it is necessary, to be considered by all the partners as important, among partners there have to existed high level of trust, to instituted integrated process of project planning, including project milestones definition, there have to existed frequent communication among partners, especially between marketing and technical workers, have to contribute by cooperative partners, how they arranged, and contributions have to be rightly allocated.

From the research of Rylkova (2011) there was found that only 13% of selected sample (300 organizations) from the Czech Republic consider cooperation of small and medium sized companies as the main factor of innovation background in the company. As for SME's cooperation with other firms, only 34% asked cooperate on new product or process development.

Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic (AMSP CR) which conducted the research entitled "The position of the SME entrepreneurs to innovate and their financing" involved into the research a question whether SMEs cooperate currently in the process of innovation with an external entity. Less than a third of companies (from the sample of 506 SMEs) in small and medium-sized enterprises are working with an external organization. Association of Small and Medium Entrepreneurship of the Czech Republic found that most often it is a different company or tradesman. The most common areas for cooperation in the innovation process are the area of IT and web presentation. Another area for cooperation on innovation is marketing.

Cooperation between the public and the business sector in innovation activities can take many forms in the Czech Republic, listed below are the opportunities for cooperation that include the involvement of business, academia and the public sector. Areas of cooperation in innovation activities include: incubators, science and technology parks, technology transfer departments, Universities, Clusters, Spin-offs, programs of research and development support of entrepreneurs, the Enterprise Europe Network, Innovative Networking, regional innovation strategies, innovation vouchers.

One of the main barriers in the area of cooperation are retiring universities, the removal of retiring is a prerequisite for better and more effective cooperation between industry and universities. It is important that the university staff were more interested in the real problems of industry and offer their solutions (offer research). On the contrary, the state should its activities contribute to increased research demand. Although cooperation between the business sector and research and development sector in the Czech Republic exists, its contribution to innovation and economic growth is very limited, therefore there has been running the project "Development of Cooperation and Knowledge Transfer between Business and R & D Sector," which is part of the pillars of the "Innovation" International Competitiveness Strategy of the Czech Republic for the period 2012–2020.

The use of any kind of partnerships between the public and private sectors above mentioned is seen not only as one of the methods for attaining the objective lowest possible cost, but also as a tool for innovation activities. In certain situations, it is either the business or the public sector, which may have better resources, experience and opportunities for successful management of the issue, and therefore it is appropriate to develop cooperation and continue to look for new contingencies of its application, because it could be a way to improve the innovation system of the Czech Republic.

#### **4. Conclusion**

The contribution analyzed and evaluated in which ways the performance is measured and managed in companies of the Czech Republic on the basis of secondary and primary research. It was found that the disadvantages of the current approaches for the application in terms of business are predominant focuses on financial indicators. Another disadvantage is the financial unavailability of instruments for measuring and managing performance, high costs of implementation, operation and updating and unavailability of implementation of methodologies.

The performance measurement should include five main dimensions, namely financial dimension, the dimension of the market and customers, the dimension of processes, employee development dimension and dimension of standards for the future. The financial dimension should be reflected in indicators such as sales, profits, return on investment. The dimensions of the market and customers should evaluate customer satisfaction, retention and quality

of services. Dimension of the process should include evaluation of the length and quality of processes. The dimension of employee development should evaluate employee options, their motivation and capacity of information system. Dimension of scales for the future have to evaluate the depth and quality of strategic planning, forecasting and preparing for unexpected changes in the external environment, the possibility of joint ventures and strategic alliances and investments in new market development (Maltz, Shenhar, & Reilly, 2003).

The issue of performance measurement is discussed and it is looking for ways how to create effective management tool of performance measurement system, which should support the continuous improvement of the company.

One of the primary objectives of research of years 2010–2012 was the analysis and evaluation of factors that affect the performance measurement. It was found that the innovative activities, managerial method of management, cooperation and strategy are important for performance measurement. In the future, there will be studied the impact of individual components of the model in terms of sectors and in terms of company size.

## References

- Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic, (2012). *Výsledky průzkumu AMSP*. Available online at: <http://www.amp.cz/16-pruzkum-amp-cr-nazory-malych-a-strednich-podniku-na>.
- Czech Association for Financial Management, (2011). *Tvorba modelu pro měření a řízení výkonnosti podniků. Měření a řízení výkonnosti podniků – závěrečná zpráva*. Available online at: <http://www.cafin.cz/sites/default/files/Zprava.pdf>.
- Janeček, V., & Hynek, J. (2010). Motivační systém jako faktor zvyšování efektivnosti podniku. *Ekonomika a management*. Available online at: <http://www.faq.s.org/periodicals/201001/1975382781.html>.
- Maltz, A. C., Shenhar, A.J., & Reilly, J. J. (2003). Beyond the Balanced Scorecard: Refining the Search for Organizational Success Measures. *Long Range Planning*, 36, 187–204. [http://dx.doi.org/10.1016/S0024-6301\(02\)00165-6](http://dx.doi.org/10.1016/S0024-6301(02)00165-6)
- Najmi, M., Rigas, J., & Ip-Shing, F. (2005). A framework to review performance measurement systems. *Business Process Management Journal*, 11(2), 109–122. <http://dx.doi.org/10.1108/14637150510591129>
- Pawliczek, A., & Piszczur, R. (2012). Relevance of management systems ISO 9000 and ISO 14000 for stabilization of business in the sustainability context, *Proceedings of 19th IBIMA Conference Barcelona*, Norristown: IBIMA, 2012, 1338–1354.
- Rigby, D., & Bilodeau, B. (2007). Bain's global 2007 management tools and trends survey. *Strategy & Leadership*, 35 (5), 9–16. <http://dx.doi.org/10.1108/10878570710819161>
- Rylková, Ž. (2011). *Analýza a hodnocení faktorů vedoucích k efektu inovace*. Karviná: SU.
- Rylková, Ž., & Antonová, B. (2013). Impact of Different Factors on the Success of Organization, *Proceedings of the 21st International Business Information Management Association - Vision 2020 Innovation, Development Sustainability, and Economic Growth*, 1404–1412.
- Šebestová, J., Rylková, Ž., Pawliczek, A., Piszczur, R., Veselá, K., & Antonová, B. (2011). *Adaptabilita podnikání v reakci na turbulentní politicko-ekonomické prostředí a technologický pokrok v kontextu udržitelného rozvoje*. Research Report of Department – Pilot research. Karviná: Slezská univerzita v Opavě, Obchodně podnikatelská fakulta v Karviné.
- Tidd, J., Bessant, J., & Pavitt, K. (2007). *Řízení inovací*. Brno: Computer Press.