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Sustainable Human Resource Management. The attempt of holistic approach

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Barbara Mazur

ABSTRACT

The concept of sustainability seems fundamental for companies operating worldwide. Human resources are acknowledged to be among the most valuable assets for them. Even though literature shows that Sustainable Human Resource Management is an upcoming topic there is still limited research on the concept due to its initial state. Previous literature reveals a lack in research on systematic links between sustainability and HRM. There are some studies that take this subject into account but they are widely dispersed across different HRM subfields, use diverse interpretation of sustainability and are barely interrelated with each other or with mainstream HRM literature. The purpose of the study is to present the four important approaches to Sustainable Human Resource Management – sociological, psychological, strategic and 'green'. The paper contributes to the literature linking sustainability to the HRM issues presented in the literature. In the introduction, it discusses how the notion of sustainability has emerged and developed. Then, the four approaches to Sustainable Human Resource Management are briefly depicted. Next, each of them – sociological, psychological, strategic and 'green' – is widely described. Diversity of Management and Work-Life Balance programs is presented as the manifestations of societal and psychological approaches to Sustainable Human Resource Management. The strategic and 'green' approaches to SHRM are presented as the sources of sustained competitive advantage and increasing employer attractiveness. Finally, some concluding remarks are delivered.

KEY WORDS

sustainability, HRM, approaches to SHRM

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Introduction

In the 21st century, sustainability and sustainable development – applied as synonyms for "long-term", "durable", "sound", and "systematic" – have become a critical issue for the world and for business in particular. Companies have found themselves in need to develop more sustainable business models, in which the HR function has a key role to play. The understanding of sustainability has been influenced by three main groups: ecologists, business strategists, and the United Nation's World Commission on Environment and Development (WCED, 1987), called the "Brundtland Commission".

Ecologists' view on sustainability is said to have been coined in 1712 by the German nobleman Hans Carl von Carlowitz, and referred to the sustainable production of wood. In the 1970s, the term was adapted by the ecological movement concerned with the over-exploitation of natural and environmental resources of the planet. While ecologists focus on sustainability's ecological dimension – the protection of the natural environment – the traditional goal of business strategy scholars is economic sustainability of organizations. Business strategists link the term "sustainability" with "sustainable competitive advantages". The Brundtland Commission added a social dimension to the ecological and economic ones, defining sustainable development as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Since it's dissemination through the Brundtland Report, the notion of sustainability has been associated with ecological issues in business practice primarily. In the recent years however, the focus on

the social dimension of sustainability has become increasingly important.

The diffusion of research and practice such as "Corporate Social Responsibility" or "Corporate Sustainability", in practice and research, has contributed to the interest in sustainability linked to Human Resources issues.

1. Sustainability in Human Resources Management

Today's approaches using the notion of sustainability in HRM and HR-related literature deal with one or more origins of sustainability described previously. Prior research linking sustainability and problems relevant for HRM can be traced in the literature on Strategic HRM, Corporate Social Responsibility, Sustainable Work Systems as well as Sustainable HRM (Mazur, 2013). The approaches identified in this literature differ with regard to the origin of their understanding of sustainability, their objectives, focus, and theoretical foundations (Ehnert, 2006). One of the most interesting attempt to capture the complexity of the concept of Sustainable Human Resource Management (SHRM) is De Prins' holistic model consisting of four approaches to Sustainable HRM.

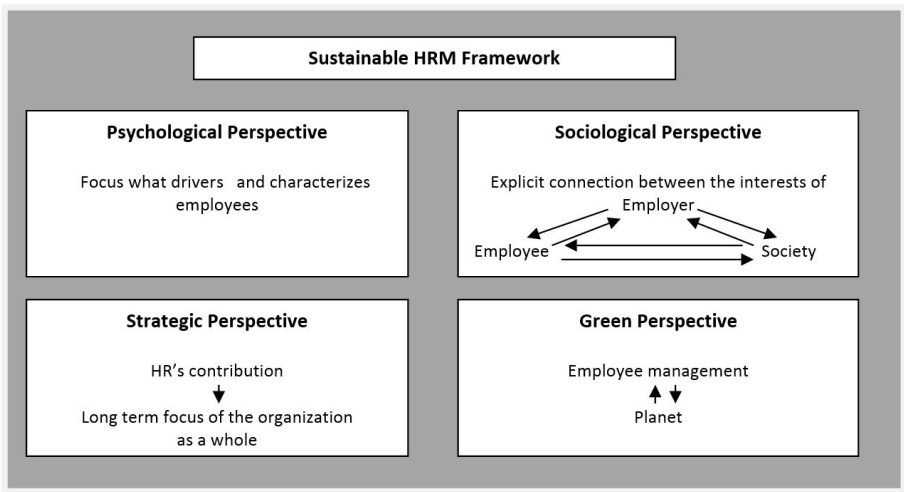

Fig. 1. Holistic model

Source: author's elaboration on the basis of (De Prins, 2011).

De Prins (2011) argues Sustainable HRM focuses on optimally utilizing and respecting human workforces within the organization, in which an explicit relationship is built between an organization's strategic policies and its environment. Long-term vision and integration with an organization's strategy and CSR-policy are key. Sustainability transported to the business level is referred to as Corporate Sustainability. Even though Corporate Sustainability used to put most emphasis on the effects businesses have on the environment, while Corporate Social Responsibility also incorporated a social dimension, their separate paths have been noted to grow into convergence.

De Prins distinguishes four approaches to the concept, of which the first, second and fourth are exhibited in concrete policies; sociological, psychological, strategic human resource management and green approaches.

Sustainable Human Resource Management framework including all those approaches is depicted on the Fig. 1.

2. The sociological approach to SHRM as exemplified by Diversity Management

Diversity has been an evolving concept. Many writers define diversity as any significant difference that distinguishes one individual from another - a description that encompasses a broad range of overt and hidden qualities. Generally, researchers organize diversity characteristics into four areas: personality (traits, skills and abilities), internal (gender, race, ethnicity, I.Q., sexual orientation), external (culture, nationality, religion, marital or parental status), and organizational (position, department, union/non-union). The trend in defining diversity seems to favor a broad definition, one that goes beyond the visible differences. One of the first researchers to use this inclusive definition, R. Roosevelt Thomas, Jr., was crucial in moving diversity thinking beyond narrow categories. He argued that to manage diversity successfully, organizations must recognize that race and gender are only two of many diversity factors. Managers and leaders must expand their perspective on diversity to include a variety of other dimensions (Thomas, 1992, p. XV). Workplace diversity management, in his model, is also inclusive, defined

as a "comprehensive managerial process for developing an environment that works for all employees" (Thomas, 1992, p.10). This general definition also enables all staff to feel included, permitting them to connect and fortify relationships that enable employees to deal with more potentially volatile issues that may later arise.

Creating and applying effective diversity management concepts is one of the main challenges in modern organizations (Mazur, 2009, pp. 13-14). Comprehensive diversity management is a strategic approach and attitude towards understanding differences in organizations and teams.

Diversity strategies use diversity as a strategic resource for complex problem solving (Aretz, Hansen, 2003). By planning and implementing corporate organizational practices in leadership and team work, potential advantages of diversity can be maximized and disadvantages, like conflict potential, are minimized. This is achieved by increasing "the ability of all employees to contribute to organizational goals and to achieve their full potential unhindered by group identities such as gender, race, nationality, age, and departmental affiliation" (Cox, 1993, p. 11). In light of this, implementing strategy-oriented diversity measures will not only raise the acceptance towards diversity but also increase the acceptance and appreciation of new perspectives (Aretz, Hansen, 2003). Strategic diversity measures act on various levels: on a "surface-level" (Harrison et al., 1998) and a "deep-level". Aspects at the surface-level-age, ethnicity, or physical abilities- are highly visible, easy to control, to measure, and to explicate. In contrast, the deep-level characteristics "values" or "attitudes" are only expressed through behavior and behavioral patterns in communication situations (Harrison et al., 2002). A more detailed category system was developed by Aretz and Hansen (2003). They describe several diversity dimensions and connected management measures based on four systems:

- the social system describes the aspects of ethnicity and gender. Connected measures are aiming at building trust and strengthening equality,
- the organizational system provides measures for managing different age and ability levels,
- the cultural system contains aspects like ideologies or persuasions which are reflected in the corporate vision, mission, and values within a company. This system level is best managed by clearly defining diversity management concepts and actions which are communicated to all employees. Promoting a culture that values critical dialogue, creating awareness for the connection between diversity and complexity, or measures to overcome stereotypes may be included in such concepts and actions,
- the fourth system - the psychological system - is characterized by aspects like education, personality as well as the work style and mindset of people.

These characteristics can be directly linked to leadership practices within the organization. Consequently, leading persons are responsible for implementing and monitoring diversity processes, for clarifying requirements within this processes, and for taking needed measures. Successful implementations of adequate diversity management concepts can lead to higher creativity, better problem solving, and higher system flexibility. Heterogeneous teams may generate more creative and innovative solutions and higher employee satisfaction due to intense and effective collaboration. Still, inefficient diversity management could trigger negative impacts and lead to manifestation of stereotypes, communication issues, and consequently lower efficiency and effectiveness. As organizations and teams are both systems that are depending on individuals working towards a common vision or goal, diversity management should not only be a focus on a management level but also on a project management level.

Diversity means dissimilarity, variety, and individuality that emerges from various differences between people. Diversity of individual abilities, experiences, competencies, and qualifications of human resources builds a success factor in organisations, which enables entrepreneurial strategies of increasing flexibility and continuous learning. Managing Diversity is more than a program. It is an attitude and a new understanding of how enterprises function and how to manage human resources in a sustainable way.

3. The psychological approach to SHRM as exemplified by Work-Life Balance

Work-life balance is about creating and maintaining supportive and healthy work environments, which will enable employees to keep balance between work and personal responsibilities and thus strengthen employee loyalty and productivity. Numerous studies have been conducted on work-life balance. According to a study (Lowe, 2000; Lowe, Schellenberg, 2001), 1 in 4 employees experience high levels of conflict between work and family, based on work-to-family interference and

caregiver strain. If role overload is included, then close to 60 percent of employees surveyed experience work-family conflict. Of all the job factors that influence work-life conflict, the amount of time spent at work seems to be the strongest and most consistent predictor. The higher levels of work-to-family conflict reported by managers or professionals often are a function of their longer work hours. Other reasons include: job security, support from one's supervisor, support from coworkers, work demands or overload, work-role conflict, work-role ambiguity, job dissatisfaction, and extensive use of communication technology that blurs the boundaries between home and work (Higgins, Duxbury, 2002). Today's workers have many competing responsibilities such as work, children, housework, volunteering, spouse and elderly parent care and this places stress on individuals, families and the communities in which they reside. Work-life conflict is a serious problem that impacts workers, their employers and communities. It seems that this problem is increasing over time due to high female labour force participation rates, increasing numbers of single parent families, the predominance of the dual-earner family and emerging trends such as elder care. It is further exasperated with globalization, aging population, and historically low unemployment.

Long work hours and highly stressful jobs not only hamper employees' ability to harmonize work and family life but also are associated with health risks, such as increased smoking and alcohol consumption, weight gain and depression. Work-life conflict has been associated with numerous physical and mental health implications (Cichorzewska, 2011, pp. 155-163). Women are more likely than men to report high levels of role overload and caregiver strain (Duxbury, Higgins, 2009). This is because women devote more hours per week than men to non-work activities such as childcare, elder care and are more likely to have primary responsibility for unpaid labour such as domestic work. Furthermore, other studies show that women also experience less spousal support for their careers than their male counterparts. Although women report higher levels of work-family conflict than do men, the numbers of work-life conflict reported by men is increasing. Work-life conflict has negative implications on family life. Employees, especially the younger generation who are faced with long hours, the expectations of 24/7 connection and increasing pressure of globalization are beginning to demand changes from their employers. Also, people in the elderly employee segment are working longer now than in the past and are demanding different work arrangements to accommodate their life style needs.

Employers are becoming progressively aware of the cost implications associated with over-worked employees such as: operating and productivity costs, absenteeism, punctuality, commitment and performance. There are five main reasons why companies participate in work life balance programs: high return on investment, recruitment and retention of employees, legislation, costs and union regulations. There are a wide variety of practices currently being used to help employees achieve work-life balance. Some work-life balance programs help employees handle stress and otherwise cope more effectively while other programs help to reduce the absolute stress levels by rebalancing work life. A growing number of employers have implemented wellness programs or pay for their employees' gym membership as part of a benefits package. Some companies invite fitness trainers or yoga instructors into the office to hold lunchtime sessions. Some companies undertake initiatives to improve employees' healthy eating habits. Others offer stress management programs which include stretching, yoga, counseling, as well as bringing in Registered Massage Therapists to work. Many employers are offering longer vacation times than the mandatory 2 or 3 weeks per year imposed by legislation. Additionally, some companies will offer "flex" days. Interestingly, sick days tend to go down once some is "entitled" to three weeks or more a year of holidays. Human resources policies that can be used to increase work-life balance include implementing time off in lieu of overtime pay arrangements, providing a limited number of days of paid leave per year for child care, elder care or personal problems, or having policies around weekend and evening use of laptops.

There are some issues that arise when employees have flexible work hours such as lack of facetime with other staff and not being as available to clients; these issues can be solved by ensuring employees discuss scheduling with supervisor and let clients and other employees know their hours of availability. Sometimes in order to accommodate workers need for work life balance, firms may need to reduce the amount of work given to each employee. To accomplish this, employers can hire new people, reduce time spent in job-related travel, allow for job sharing, or reevaluate the work itself and how it is structured and organized with work process improvements and/or reengineering of work. Flexible scheduling is the benefit valued most by employees. However, increased flexibility, if implemented without conditions and used to facilitate business ends without provision for worker consent, could compromise instead of enhance work life balance.

4. The strategic approach to SHRM as a source of sustained competitive advantage

In Strategic HRM literature, attention centers on the resource-based view of the firm as a means to explain how people (human resources), as well as HRM practices, can provide a sustained competitive advantage. Organizations achieve a sustained competitive advantage by implementing value-enhancing strategies that differentiate them from their competitors and are difficult for competitors to duplicate. The resource-based view asserts that an organization's competitive advantage and thus its success depends on its supply and effective use of resources. If resources are valuable, rare, non-substitutable, and inimitable, they are considered as important and strategic and enable the organization to gain a sustained competitive advantage (Barney, 1991). Wright and McMahan (1992) thus argue that human resources have the potential to be sources of sustained competitive advantage, though they also note that to do so, the employees must be both highly skilled and motivated - that is, a high-quality workforce.

Other research offers evidence that HRM can contribute to a sustained competitive advantage by establishing suitable HRM practices to create and develop a high quality workforce (Lado, Wilson, 1994; Delery, Doty, 1996). Although Wright et al. (1994) posit that most HRM practices can be imitated and/or substituted, such that they might not be a source of sustained competitive advantage, Lado and Wilson (1994) refute this claim and assert instead that it is difficult to imitate HRM practices. Because they often are firm specific and reflect the organization's particular circumstances, HRM practices are not easily transferable from one organization to another.

This view seems well established in current Strategic HRM literature. Consequently, human resources and their management by organizations likely are important sources of competitive advantage, and it becomes crucial to identify ways to attract, develop, and retain high-quality employees.

5. Increasing employer attractiveness through "Green" HRM

Potential employees' positive perceptions of an organization's reputation influence their desire to pursue employment with the organization. Turban and Cable (2003) show that organizations with better reputations attract a larger pool of job seekers and then can select employees from an applicant pool that includes more high-quality employees. Support for a prediction that Sustainable HRM positively influences employer attractiveness also appears corporate social responsibility (CSR) literature. CSR pertains to some organization's voluntary environmental activities in its business operations and in interactions with stakeholders. A few studies note a positive association between CSR and employer attractiveness; for example, Greening and Turban (2000) show that applicants are more likely to seek employment with environmentally responsible organizations.

Thus an employer brand contains multiple facets, all of which should express what the organization, as an employer, represents. By establishing an employer brand, organizations aim to provide a unique employment offering that positively differentiates them from competitors. If they can create an image as a green place to work, they likely can attract and retain a skilled and motivated workforce (Moroko, Uncles, 2008). Turban and Cable (2003) show that potential employees are willing to accept a lower salary to pursue employment with an organization which has an environmentally positive reputation.

Finally, the organization's employer brand image reflects the perceptions of existing and potential employees, so an employee perspective must be adopted to effectively position an employer brand. As argued previously, a substance-oriented understanding of Sustainable HRM indicates that organizations themselves should secure the long-term supply and "reproduction" of their human resources and not rely on supply from labor markets. From an employee's perspective, this securing involves investments in the human resource base, to create value for existing and potential employees, and there-fore enhances the organization's attractiveness as an employer. Including Sustainable HRM in the employer brand thus might be a promising route to employer attractiveness. Sustainable HRM also enhances the organization's ability to attract and retain high-quality employees.

Conclusions

The paper is an attempt to present the HR's role in sustainabilizing the organization. Its aim was to examine the role HR can play in contributing to the sustainabilization of their organizations from two different perspectives: sociological and psychological.

The Human Resource Department of an organization is said to have the capability to play a significant role in the creation of company's sustainability. Using such concepts as diversity management and work-life balance programs seems to be crucial in achieving the far-reaching goals of sustainable development.

Evidence suggests that improvements in people management practices, especially work time and work location flexibility, and the development of supportive managers, contribute to increased work-life balance. Work-life balance programs have been demonstrated to have an impact on employees in terms of recruitment, retention/turnover, commitment and satisfaction, absenteeism, productivity and accident rates. Companies that have implemented work-life balance programs recognize that employee welfare affects the "bottom line" of the business. Parameters are required to ensure that programs are having the desired effect on both employees and the company. Six parameters that can be used to evaluate work life balance programs are: extent of management buy-in and training, how programs are communicated to employees, corporate culture, management controls, human resources policies and employee control. Finally, self-management is important; people need to control their own behaviour and expectations regarding work-life balance.

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Measurement of business performance in relation to competitors

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Žaneta Rylková

ABSTRACT
Business performance in the general form can be descripted as the essence of existence of the whole enterprise. Business performance is closely linked with the choice of indicators. Indicators should involve quantitative and qualitative measures in a company. Each organization should monitor and analyze the indicators to understand its performance and identify opportunities for improvement and development. Some indicators can be used to compare with competitors or market requirements. The aim of this paper is to analyze the performance measurement and management of companies based on primary research and highlight the indicators measuring performance in relation to the competition.

KEY WORDS
business, performance, competition, measurement, indicators, development

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Introduction

Today´s business world is much complex and has uncertain conditions which influence the companies to create effective strategies for the dynamic market. Strategic management has now developed to such a point that its primary value has evolved to help the organization to operate successfully in competitive environment (Hunger, Wheelen, 2011). Strategic planning is said to result in a better match between external environment variables and the changing internal organizational conditions of the company (Schmidt, 2010). Theorists usually have the same opinion that strategy is about the long term future of the whole company, not its parts. Moreover, it is also usually accepted that strategy is about achieving "unique positioning of a company in the market" (Gonzalez et al., 2012).

Considering these complicated conditions and processes, performance measurement has become a popular concept in strategic management (Aracioğlu et al., 2013) and it is worth outlining that management of business development is associated with four components, which is necessary to support, implement and improve. These are (Rylková, Antonová, 2013):

- a management folder - applicable authorities of the founding documents of the companies (General Meeting, Board), including classic and flexible organizational structure,
- an executive folder - the component responsible for ensuring and innovative activities,
- an initiation folder (development and coordination) which means implementing steps leading to the development of enterprises (management of changes, advisors, external consulting companies),
- strategic folder – it involves performance management and measurement. It also includes a structure of a broader cooperation of various entities and individuals with long-term planning and implementation of innovative activities, corporate innovation projects (entrepreneurs, customers, suppliers, schools, regions).

The paper points out the contribution of drivers, which have a significant impact on the competitiveness and development and highlights the indicators measuring performance in relation to the competition.

1. LITERATURE REVIEW

Business life parameters, such as size, strength, activity and success, characterized in various ways,

usually grow rapidly soon after the establishment of the company until maturity, when the business reaches the best performance values and integrity (Skokan, Pawliczek, 2014).

In complex conditions in which the interests and needs of different stakeholders are in conflict, there is a need for a systematic framework for enterprise development (Sargut, Gunter McGrath, 2011).

General rules of sustainable development of business are: openness to complexity and diversity, ability to find balance between economic, social and environmental aspects of business and management of conflicting interests of stakeholders (Witek-Crabb, 2011). To improve the sustainability rules in strategic management, there is a need to review the strategic management process (participants and methods), and the strategy content (mission statement/core values, and goals).

The relative market effectiveness was defined through company´s: perceived competitiveness, ability to influence the markets and perceived attractiveness for cooperators (Witek-Crabb, 2012).

In order to compete with the global players, businesses run in emerging economies need to pay greater attention on evaluating their business performance. Business managers have recognized that new strategies and competitive realities demand new measurement systems (Vaidya, Chitnis, 2012).

Business performance, innovativeness, proactiveness, risk-taking, competitive aggressiveness and autonomy are the crucial factors to ensure the success of a business (Arshad et al., 2013). Entrepreneurial orientation is important to the growth of a company and also to the growth of the economy of a country (Chen et al., 2011). In fact, few scholars agreed that entrepreneurial orientation is a significant contributor to a firm´s success and healthier business performance (Mahmood, Hanafi, 2013; Zainol, Ayadurai, 2011).

Performance is a word that in economy or industry indicates the entity's ability to achieve certain results comparable, on the basis of certain given criteria, with the results of other units. These results are expressible in positive terms. Performance is also considered with the ability to achieve such results for a certain period of time.

The word performance may be related to a number of specific examples however in conjunction with the concept of enterprise, it largely loses its concreteness. Business performance encounters the basic problem - how to measure it and how to objectify it. In addition, the performance can be seen from different angles and perspectives and therefore this expression will have different content for the owner of the company, another for employees, a competitor, or managers of the company.

Performance indicators (Key Performance Indicators = KPIs) are indicators that measure progress towards the target values either directly or indirectly. For all of these needs it appropriate procedures and methods that are measuring relevant ratios and relationships have been developed. In the last twenty years, we experienced a certain retreat from traditional internal financial success criteria or business performance, such as profit, revenue from sales of own goods, services, and the relationship of profit before tax to sales and return on assets.

Performance measurement systems are concise sets of metrics (which may be financial and/or nonfinancial, long and/or short term, internal and/or external, ex post/or ex ante) that support the decision-making processes of an organization by gathering, processing, and analysing quantified information about its performance and presenting it in the form of a succinct overview (Bisbea, Malagueno, 2012; Gimbert et al., 2010). Previous studies have looked at other roles of strategic performance measurement, such as: promoting specific behaviours and attitudes at different organizational levels; responding to rules and regulations; providing greater accountability within and between organizations; communicating financial and non-financial results to key stakeholders (Micheli, Manzoni, 2010).

Business performance is measured by various methods, some of them are essentially very simple, other methods are extremely sophisticated and complex, both conceptually and mathematically. Kaplan and Norton propose a balanced set of financial and non-financial indicators. Strategically aligned performance indicators should bring improvements in organizational out-comes (Grafton et al., 2010)

Tools (indicators), which are used, vary according to a sector. The largest users of big number of indicators are companies operating in the consumer goods market, mining, processing chemicals, metals and healthcare. The smallest users are, on the contrary, enterprises in construction, retail and manufacturing (Janeček, Hynek, 2010).

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

development should evaluate employees options, their motivation, and the capacity of information system. The dimension of scales for the future must evaluate the depth and quality of strategic planning, forecasting and preparing for the unexpected changes of external environment, the possibility of joint ventures and strategic alliances and investing in new market development (Maltz, 2003).

The traditional approach to the competitiveness measurement (focused on the use of the financial analysis) includes mainly the absolute indicators (net profit/loss per the period, turnover amount), ratio indicators (profitability, liquidity, indebtedness, productivity) and difference indicators (profit increase/decrease, turnover increase/decrease), (Wagner, 2009).

A decision of using one of the methods of competitiveness measurements is usually a part of the more advanced stages of the company development. In many cases, especially regarding more complex methods, investment in this tool is costly and time-consuming ant its return is represented by features which are different to quantify (Kožená, Chládek, 2012).

2. Methods

Strategic management and business performance have become important in recent years due to significant contributions to company success.

Competitiveness is a complex, multi-dimensional, multi-face, relative and very confusing concept. There are numerous definitions and models for this term, but still no universally agreed or widely adopted definition, nor a universal model of competitiveness (Dimoska et al., 2012) can be found.

If we focus on the competitiveness of the company in terms of market demand, it can be a considerable degree of abstraction stated that it is determined by the combination of price and quality (Black, 2002). This definition corresponds, in substance, to the argument that the fundamental guideline in determining customer value is provided, which is given by the ratio between quality and price. To support the sentence mentioned above, it can also refer to academics and practice presented strategic market concept of C - Q - T (Costs - Quality - Time). In this conception time is allocated as one of the key factors (Veber, 2002). Such a view includes not only technical and economic performance of the product, but also other areas such as uniformity of quality, environmental friendliness, level of after-sales service, ease of operation and maintenance and finally design (Veber, 2002). In relation to the competition businesses should measure and evaluate indicators such as annual market growth, annual growth in sales of the company, market share, customer retention rate, new customers, dissatisfied customers, relative product quality, relative service quality, relative sales of new products, indicators of market performance (Kislingerová, 2010).

Department of Management and Business Administration of the Silesian University in Opava, School of Business Administration in Karvina carried out research entitled "Adaptability of enterprises (SMEs) in the years 2010-2012".

The primary objective of the research was to examine the impact of the economic situation in period 2010-2012 on the competitiveness and strategic management of companies in the Czech Republic on the basis of the potential correlation.

The questionnaire survey was done in the winter term of 2013 by students of the Silesian University in Opava, the School of Business Administration in Karviná. 450 respondents were approached; and 290 questionnaires were duly filled and usable for the purpose of this survey. Polling took place in the whole area of the Czech Republic, mainly in small and medium-sized enterprises. Respondents' selection was random.

A sample 290 respondents were selected within the Czech Republic. The ratio of small, medium, large-sized enterprises is 178:73:39. The criterion was the average staff size over the past three years.

The questionnaire form relied largely on closed-ended questions with an option to specify the answer in more detail. The questionnaire was split into these topic sections:

- strategic company management,
- economic trends within company, crisis/risk management,
- company policy for human resources,
- production, services and innovative activity,
- research activities and cooperation,
- business performance measurement,
- company priorities in terms of sustainable economy.

The data of questionnaire was subsequently entered into Microsoft Office 2007 Excel application. In order to evaluate the survey there was used the SPSS program. Outputs were achieved with using several methods, for the purposes of this study there were selected three methods: the Rotated Component Matrix (factor loadings after rotation, arranged by size), the Communalities (part of variability explained by variables common factors) and the Correlation Matrix (mutual dependence of two questions).

One of the objectives of the research carried out by the Department of Management and Business Administration was to analyse and evaluate which factors and drivers had impact on the competitiveness of organizations and strategic management in the years 2010-2012.

From the questionnaire survey conducted by the Department of Management and Business Administration it was possible to point out the areas that can have high impact on the competitiveness of organization and strategic management.

Using the correlation analysis by the SPSS program, there was found a structure of questions which join the links with other questions and they are most responsible for the results that came out after the evaluation of the specified number (sample) of 290 questionnaires. The coefficient of questions correlation higher than 0.5 was found 17 times in the research in the period of 2010-2012, but in order to keep the contribution clear and concise, the table number 1 involved just 5 of the most important issues with a correlation coefficient higher than 0.8.

In the primary research of the period 2010-2012, the following hypothesis H1 was determined: Performance measurement is one of the drivers affecting competitiveness.

3. Results, discussion and limitations

The most important issues with a correlation coefficient higher than 0,8 are innovation of products and services, written strategy, performance measurement, cooperation, measures in relation to competitors. Recognition of the potential importance of intangible performance drivers is shown in the Tab 1.

Tab. 1. Drivers for competitiveness

No	Categories	Initial	Extraction
1.	Innovation of products and services (D1)	1,000	0,872
2.	Written strategy (A4)	1,000	0,865
3.	Performance measurement (F3)	1,000	0,814
4.	Cooperation (G2)	1,000	0,811
5.	Measures in relation to competitors (F5)	1,000	0,806

The categories which have the significant impact on competitiveness and strategic management are shown in Tab. 1 (there was used an own evaluation by the SPSS). Regarding the results mentioned above, it is possible to confirm the hypothesis H1: Performance measurement is one of the drivers affecting competitiveness.

For the question, which method is used to performance management - 11% of enterprises stated the TQM method, 3% - EFQM method, 16% - the ISO 9000, 5% - the six sigma, 3% - the MBO method, 4% - the BSC method, 8% - the SMART, 4% - the BCG, 22% - the SWOT analysis, 2%- PESTLE and 22% of respondents stated that they use other methods (Kaizen, ABC).

Regarding the characteristics of the performance measurement system in the enterprise, 40% of companies stated from the sample of 290 companies stated that they had established the performance measurement system and they use it. 8% of companies stated that they had assembled the performance measurement system, but they did not use it, 14% of businesses reported that a performance measurement system was in the phase of forming or implementation and the remaining 38% reported that they did not measure performance.

In answer to the question what system of performance measurement companies use – 44% stated that they use financial ratios, 27% use comparison with plan, 13% - the system with standards, 4% of companies - the BSC, 6% stated that they use the TQM, 6% - other performance measurement systems (there were recorded responses such as the KPI or none).

To the question about the indicators of performance measurement, 68% of companies stated that they use just financial indicators, 6% - non-financial indicators and 26% of companies stated that they use, both financial and non-financial indicators to measure business performance.

The indicators of the competitiveness measuring are shown on Fig. 1. In relation to the competitors, the 56% of 290 asked companies measures or would like to measure the market share, 21% measures or would like to measure the customer satisfaction in relation to competition, 14% measures or would like to measure product and service quality in comparison with competitors and 9% measures or would like to measure the delivery conditions.

If we summarize the results of the primary research we can state that innovations, strategy, performance measurement and cooperation are the categories which influence competitiveness. Tsuji and Minetaki (2011) in their study postulated three factors which

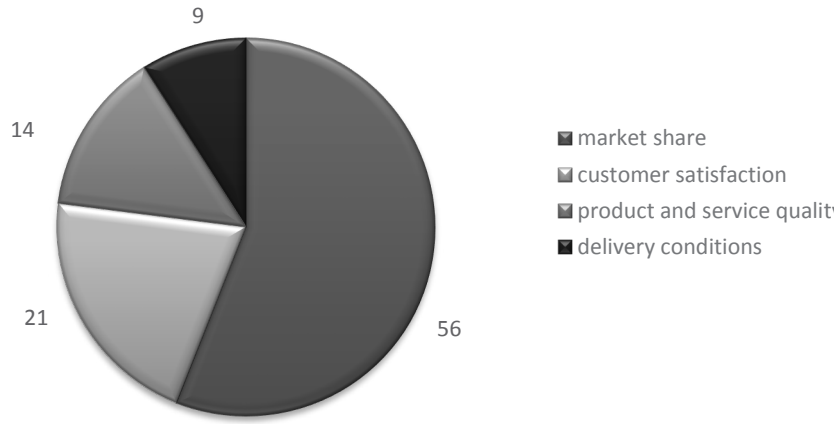

Fig. 1. Indicators of the competitiveness measuring [%]

contributed to innovation: technological factor, managerial organization, human resources. Existing literatures concerning cluster effect on the relationship between firm´s innovation capability and business performance are focused on industrial clusters (Dhewanto, 2012). The paper proves that firms have a superior performance where the market share has shown improvements and the number of new products, services and processes has increased (Rodrigues, Raposo, 2011). Cooperation between enterprises based on strategic alliances could contribute to more effective measurement of competitive strength of businesses and thereby improve their competitive position (Kožená, Chládek, 2012). The most commonly used methods for company competitiveness measurement are Balanced Scorecard, EFQM Excellence Model, Benchmarking and Altman Z-Score (Kožená, Chládek, 2012). But according to the primary research these methods are not used for performance measurement. Benchmarking is a process of continuous improvement based on the comparison of an organisation´s processes or products with those identified as best practice. Benchmarking is influenced by the development of management systems, statistical methods and information technology (Jetmarová, 2011).

The effects of performance measurement systems were examined with regard to aspects such as their specific creation, implementation or use. However, there is still a lack of consensus about the real consequences (Speckbacher et al., 2003; Rousseau, 2006). It does not exist a study on better understanding of possible effects of various performance measurement systems (Franco-Santos et al., 2012). In general, the performance measurement and competitiveness measurement is not well-established practice in companies. The conceptual framework in this paper needs to be followed by future empirical research in order to find a methodology for performance and competitiveness measurement. The paper is a preliminary work before the future survey to the companies in Czech Republic.

Conclusions

The company which wants to be successful and competitive needs to measure its performance. Effective performance measurement is the key factor to ensure that the strategy was implemented successfully in the enterprise. It monitors the effectiveness of decisions and actions on its own goals, or predefined stakeholder requirements. The organization must perform well in terms of cost, quality, flexibility, value and other dimensions. Performance measurement system, which allows the firm to fulfill these requirements successfully, is essential (Harvey, 2008).

It is obvious that the current turbulent environment seems to be a competitive challenge for management of companies. External manifestation of competitiveness is to achieve better financial results, contributing to the higher market value of the company, which is currently seen as a major business object. Effective shaping and maintaining of competitiveness, however, is an unique process for every company. The question is how to establish monitoring and evaluation system in order to contribute to the development of the company. It is a difficult task, as the performance should be evaluated not only in relation to the results achieved

(such as achieved market share, sales and financial performance), but also in relation to the potentials in the maintenance and further shaping competitiveness. Undeniable reality is that current excellent results will be by no means a guarantee of such results in the future (Brychta, Benda, Knápková, 2010).

It is very important that the company has a set of performance indicators (measurements), which are in line with its strategic objectives. The indicators should be selected in order to express the values that are important for the company and are in the areas: strategy - from top to bottom, the results of processes - from the bottom up, in the area of control and improvement, evaluation of opportunities and initiatives. Indicators should be defined in the following categories: time (how long the activity lasts), costs (whether resources are used efficiently), quality (if it corresponds to the result of the demand), customer service (whether the company fulfills and exceeds the expectations of its customers), growth (whether the growth rate of the company or enterprise's share on the market is increased), finance (if the sales and profits grow).

The survey Modelling of performance measurement and management of enterprises (2011) and the literature mentioned in the paper indicated that customers, internal processes, innovation, health and safety and the use of information systems are important areas of performance measurement. As far as management and performance measurement are concerned, indicators in relation to the competition based on the primary research are also important. Exploring the performance of enterprises in the future will focus on determining which specific indicators are used by companies to measure performance in relation to the competition.

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Compilation of operational and strategic agility for ensuring the highest efficiency of company operations

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ABSTRACT
The author of the article, using the analysis of the literature, presents the two perspectives of company's agility – the strategic and the operational ones, and tries to make the compilation of them in order to obtain the highest effectives of the company's performance. The article shows that on the strategic level an outwards-oriented attitude is required which involves scanning the environment and assessing the likely impact of the trends in a given industry, as well as the technological possibilities, competitive forces, market changes, and market segment dynamics. Referring to the literature the operational level agility refers to changes which occur within an organization, particularly with regard to the processes of manufacturing and innovation. Adopting an agile strategy involves a new type of activity - a transformation of internal operations. The practice shows that only the implementation of both presented perspectives of agility may lead the company to the outstanding results and ensure competitive advantage in the unstable market. The aim of this article is to identify the determinants for strategic agility and the operational agility of companies as well as attempting to combine the two areas in order to ensure the highest efficiency of enterprises.

KEY WORDS
operational agility, strategic agility, adaptation, flexibility, efficiency, change

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Introduction

Modern enterprises make strategic decisions in extremely difficult conditions, not only because of unpredictability and a turbulent environment, but mainly because of the dual nature of enterprises that is necessary to succeed in today's business reality. On the one hand, they are required to define a long-term vision, the mission of the company and create strategic plans; on the other hand, they are expected to react quickly and come up with alternative solutions to unforeseen events. Thus, companies strive to reconcile ensuring operational stability, survival and creating the necessary strategic plans with the chaos in the environment, which is both a source of threats and concerns for businesses as well as providing endless possibilities for innovation and using the opportunities which emerge (Sajdak, 2014).

A synthesis for an increase in environmental turbulence can be based on four key trends in the environment which were first presented by Ansoff (1985) in the late 1970s and which are still valid (Trzcieliński, 2011):

- a growth in the novelty of change, which means that past experience becomes less useful,
- a growth in the intensity of the environment, where the intensity can be measured through the volume of resources allocated to marketing and innovation activities,
- an increase in the speed of environmental change, manifested in a shortening of the period of time between the emergence of a new technology and its commercialization,
- the growing complexity of the environment, manifested in the blurring of boundaries between an enterprise and the environment as well as an interactive and synergistic impact of various factors on different areas of companies' operations.

This complexity, resulting from the relationships between events, processes and the activities of enterprises, is imperative for making key decisions within the business enterprise.

Thus, achieving agility by companies has a direct impact on creating a competitive advantage in order

to meet faster and more efficiently the demands of the market in a turbulent environment. If a company is capable of quick responses and has the appropriate competences, it can exploit the opportunities which appear in the business environment, thereby attaining a privileged position in relation to its competitors.

There are two separate aspects of agility: strategic and operational (Meredith, Francis, 2000). On the strategic level an outwards-oriented attitude is required, which involves scanning the environment and assessing the probable impact of the trends in a given industry, as well as the technological possibilities, competitive forces, market changes, and market segment dynamics. On the operational level agility refers to changes which occur within an organization, particularly with regard to the processes of manufacturing and innovation. Adopting an agile strategy involves a new type of activity - a transformation of internal operations. An example of this dimension of agility is Dell Computers, a company, which through its innovative use of IT tools and organizational procedures, has achieved agility in many organizational aspects such as customer orientation, cooperation with suppliers, customisation, just in time production, and creating a virtual enterprise.

Strategic agility is fundamentally different from manufacturing agility in that the former one is knowledge-based and proactive, while the latter one is flexibility-based and reactive. Strategic agility relies on gaining knowledge to anticipate market changes through interfirm collaboration, while manufacturing agility relies on manipulating the speed (number of products) or nature of products (product mix) offered once a change is detected in the market (Ojha, 2008).

The aim of this article is to identify the determinants for strategic agility and the operational agility of companies as well as attempting to combine the two areas in order to ensure the highest efficiency of enterprises.

Literature studies in the area of agility were conducted within the research project "The agility of enterprises in the process of adapting to the environment and its changes," financed by the National Science Centre (funds allocated on the basis of decision No. DEC-2013/11/D/HS4/03858). The research assumes that the concept of an agile enterprise requires a holistic approach which combines the strategic and operational spheres because only such a broad scope of analysis can ensure the highest efficiency for business enterprises.

1. Financial market determinants of operational agility

Agility which involves a reactive approach to meeting the needs of customers (exploiting opportunities) has been recognized as the first level of a company's agility. The distinguishing feature of this level is the response of a company, particular in its qualitative aspect that is the extent to which the expectations of the market are reflected in the quality of a product. Another feature is reaction time, which relates to the development and manufacturing cycle of products. Trzcieliński indicates three groups of methods and technologies which support operational agility; these include identifying the needs of the market, shortening the technical cycle of developing a product, and shortening the cycle of manufacturing a product while maintaining the flexibility of the production system in terms of product range (Trzcieliński, 2011).

The objective of an agile enterprise is the satisfaction of its customers and employees and through acquiring the necessary skills a company can appropriately respond to changes in the economic environment. To achieve the desired level of agility, organizations usually use agility enablers which allow them to acquire and retain the necessary agile skills (Dahmardeh, Banihashemi, 2010). The most common agility enablers include Total Quality Management (TQM), Continuous Improvement (CI), Outsourcing (OS), Supply Chain Partnering (SCP), Team-Based Working (TBW), Just in Time (JiT), Empowerment (EMP) and Integrated Computer Based Technologies (ICT). The implementation of these practices promotes the agility of enterprises and helps them to satisfy the requirements of modern customers faster and more efficiently.

Nowadays, companies are expected to be able to adapt to the changes originating in the business environment as well as being proactive in terms of the offerings marketed to consumers. Thus, the emerging paradigm is agile manufacturing, which is understood as the ability to deal with changes and finding in them the opportunity to gain a competitive advantage. This is possible through the implementation of appropriate methods and tools necessary to achieve manufacturing agility (Zhang, Sharifi, 2000).

The term agile manufacturing (AM) was first introduced in 1991 by the Agile Forum at the Iacocca Institute, Lehigh University, USA. The manufacturing agility paradigm is based on encouraging manufacturing companies to prepare an offering which would satisfy the changing requirements of individual customers.

Agile manufacturing is a new manufacturing model which is the result of changes in the environment (Goldman, Nagel, 1995). Gunasekaran (1998) defines agile manufacturing as the ability to survive and cope in a competitive environment full of unexpected changes, which requires swift and efficient responses to market changes. In order to meet customers' requirements in a constantly changing market a company must undertake swift actions aimed at maintaining their competitive advantage; companies introduce innovations in the manufacturing process as well as information and communication technologies, which require a reorganisation of the company and new marketing strategies.

The origins of the agility paradigm can be traced back to the theory of lean enterprises, which comprises concepts and methods which aim to minimise waste and consequently maximise efficiency and cost-effectiveness as the company uses fewer resources (capital, financial, human, organisational) and less time to achieve the same goal. As Trzcieliński (2011) points out, leanness is a precondition for a company's agility.

An agile manufacturing process is characterised by six attributes:

- producing to order, as opposed to the traditional manufacturing process where large quantities of goods are produced and stored,
- meeting customers' specific needs, as opposed to the mass manufacturing process where goods are produced for the "average" customer,
- ensuring speed and flexibility in the manufacturing process,
- mobilizing and managing all kinds of knowledge intelligently in order to support an agility strategy,
- adopting new ways of working which facilitate agility (moving from functional to team working),
- creating "virtual" projects and ad hoc organisations in order to utilise the requisite capabilities when necessary (Meredith, Francis, 2000).

According to Dove and Kidd, the concept of enterprise agility involves two principal aspects:

- responding to changes (anticipated or unexpected) in proper ways and in due time,
- exploiting changes and taking advantage of changes as opportunities (Dove, 1996; Kidd, 1995).

Agility is a company's response to changes in the business environment and is a function of changes in the environment and the situation of the company.

A company's ability to come up with a strategic response to any new criteria of the business environment in practice involves the use of methods, manufacturing and organisational processes, practices and tools, the majority of which have already been developed. The available tools and methods are usually used in manufacturing companies for specific tasks, while others have to be altered or enhanced to develop the skills necessary to achieve agility. One of the major differences between an agile and a traditional enterprise is that the former one uses an integrated information system (one of the enablers of agility) intensively which provides the most up-to-date information, effective communication, wealth of data (Sajdak, 2013).

The objectives behind creating and developing an agile enterprise include: achieving a faster response to different patterns of demand; more effective customer and market orientation; a better understanding of customer needs and a closer relationship with customers; manufacturing flexibility for different product batches; manufacturing flexibility for unique products; manufacturing flexibility for a broad range of products; the ability to respond quickly to new market opportunities and to create virtual corporations; as well as coping with changes and being more inclined to take risks (Rudnicki, 2014).

2. Determinants of strategic agility

In a chaotic environment in which markets emerge, collide, split, evolve, and die, one of the primary determinants of a firm's success is strategic agility - the ability to remain flexible in facing new developments, to adjust the company's strategic direction continuously, and to develop innovative ways to create value. The competitive landscape has been shifting in recent years more than ever. Globalization, rapid technological change, the codification of knowledge, the Internet, talent and employee mobility, increased rates of knowledge transfer, imitations, changes in customer tastes, the obsolescence of products and business models have all caused a turbulent environment and accelerated changes and disruptions. These trends are expected to continue, producing ever more rapid and unpredictable changes (Weber, Tarba, 2014).

Companies which through creativity and innovation can create market opportunities represent the second level of agility. Creating market opportunities through generating new needs is a qualitatively different approach than responding to opportunities by identifying and satisfying the needs which appear on the market. This is a proactive model of enterprise agility, in which research and development is a key function (Trzcieliński, 2011). It requires from employees a broader and deeper knowledge, new ideas, systematic research and creativity. Such a company

not only keeps pace with the needs of customers, but it can also create new needs which customers have not been aware of before (Maskell, 2001).

Traditionally, strategic management has been commonly associated with the ability to ensure long-term security for an enterprise. However, as observed by Banaszyk (2013), the notions of 'long-term' and 'security' are gradually becoming degraded and obsolete. Thus, strategic management ought to focus on identifying opportunities in a nexus of random phenomena. The basic instrument is no longer preparing plans but recognizing the probability for the occurrence of various events. It is very important to find or create a market opportunity. The most valuable employees are those characterised by a very high degree of creativity and innovation. What is needed, therefore, is a culture conducive to learning collaborative forms of work and knowledge management.

Weber and Tarba (2014) claim that strategic agility is not about one particular change that an organization deals with – for instance, as a response to a major threat or crisis. Instead, strategic agility implies that a firm possesses a constant ability to effectively change its course of action in order to sustain its competitive advantages. Agile organizations have the ability to initiate continuous renewal that includes adapting existing competencies to an ever-changing environment and simultaneously reconfiguring themselves in order to survive and thrive in the long term.

Strategic agility requires inventing new business models and new categories rather than rearranging old products and categories. To cope with growing strategic discontinuities and disruptions, scholars have suggested the creation of strategically agile companies including: new ways of managing business transformation and renewal; developing dynamic capabilities; creating imitation abilities; maintaining a high level of organizational flexibility; developing learning and knowledge transfer skills; using adaptive corporate cultures; and devising post-acquisition integration approaches.

Attention is also paid to management levels, distinguishing the strategic level which involves strategic flexibility, i.e. the ability of an organization to actively anticipate the allocation of resources, modification of business partnerships, market opportunities, changing environmental conditions, and technological needs (Krupski, 2005).

According to Doz and Kosonen, strategic agility results over time from the combination of three major meta-capabilities that provide its foundations:

- strategic sensitivity (both the sharpness of perception and the intensity of awareness and attention) combines early and eagerly the awareness of incipient trends and converging forces with intense real-time sense-making in strategic situations as they develop and evolve. Strategic sensitivity is fostered by the combination of a strong externally orientated and internally participative strategy process, a high level of tension and attentiveness, and a rich, intense, and open internal dialogue,
- leadership unity involves the ability of the top team to make bold decisions fast. The leadership team's unity allows decisions to be reached at lightning speed once a strategic situation has been understood and the choices it opens or closes have been intellectually grasped,
- resource fluidity involves the internal capability to reconfigure business systems and redeploy resources rapidly, based on businesses processes for operations and resource allocation, people management approaches, mechanisms and incentives for collaboration that make business models and activity system transformation faster and easier.

The authors emphasize the importance and compatibility of all these three competences. Making good decisions is not enough; only the possibility of their implementation will produce the desired effect. Companies should intensively develop all three areas as only then can they achieve strategic agility and gain a competitive advantage over their rivals.

Also, Mavengere (2013) presented a strategic agility construct. His research expanded the dimensions of strategic agility to include strategic sensitivity, strategic response and collective capabilities. According to this author, strategic sensitivity is the ability to draw usable data from the environment, convert data into information, interpret and analyse it to acquire knowledge and then detect opportunities and threats in the business environment. Strategic response is the ability of an organization to reconfigure precisely and quickly its resources and processes to react or proact to the demands of the business environment. Collective capabilities include the ability of an organization to take advantage of the synthesis of its resources, for example employees, infrastructure or partners, and to derive benefits from working together, which are likely to be greater than the sum of individual benefits from each resource.

3. A COMPILATION OF PROACTIVE AND REACTIVE ACTIONS

It is obvious that strategic agility requires operational agility, only a combination of both of these perspectives creates an agile enterprise and ensures its highest efficiency. Reactive measures alone do not create a new business model and thus will not

ensure a privileged competitive position for a company. Enterprises need to develop the necessary skills in terms of strategic sensitivity as well as the competences related to strategic leadership. In this way, by going far beyond the boundaries of the enterprise, they are able to better understand and take advantage of changes in the environment.

Operational agility is the ability to adapt a company's business processes so that it can quickly, accurately and effectively exploit market-driven innovation. Operational agility enables companies to reconfigure existing processes quickly and create new ones to take advantage of dynamically changing market conditions. Therefore, in order to meet this requirement, companies should exhibit the capability to reconfigure existing resources and the ability to initiate and modify the necessary measures as well as appropriately control their implementation (Trzcieliński, 2011). This ability is related to a company's flexibility and in particular to the so-called flexible manufacturing system. This is a system in which the manufacturing processes of a wide range of products with varying production programmes has been automated in conditions that can be considered similar to mass production, with a lower or similar prime cost and higher productivity (Krupski, 2008). Information technology enables modularization and integration of business processes as well as their configuration and reconfiguration in order to create new processes. Operational agility enables a company to reduce information asymmetry between buyers and sellers by immediately providing comprehensive information, often through the use of electronic distribution channels (Sambamurthy et al., 2003). Another important feature is the ability to assess the adequacy of resources and to obtain them from the environment. The ability to identify the necessary resources in order to exploit market opportunities involves assessing the adequacy of a company's own resources (development of existing resources) as well as a possible decision to acquire resources from the environment. Through the use of the knowledge and competences of suppliers, distributors, manufacturers and logistics operators in the process of seeking the necessary resources, a company builds strategic networks or virtual strategic partnerships in order to find opportunities for innovation and competitive actions. However, reactive actions alone are not sufficient to create the same added value that companies, which also use a level of strategic agility, can achieve. Enterprises with a high level of strategic agility are characterised by high levels of acuity – the ability to perceive market opportunities and risks resulting from the environment quickly. They are able to categorize them, allowing them to be classified as opportunities or threats. Because of the innovativeness and creativity of employees, they can also create their own opportunities. Thus, strategic agility is manifested in the ability to perceive quickly any market opportunities and threats resulting from the environment, as well as the ability to classify situations as favourable or unfavourable. This feature is also based on the ability of companies to identify market opportunities through conducting strategic analyses, the use of early warning systems, or developing their own effective methods of seeking opportunities for their operations in the economic environment (Trzcieliński, 2011). It also involves the ability of enterprises to create their own opportunities through innovation and creativity. An extremely important component is also working with customers to explore and discover opportunities in the environment for the use of market-driven innovation and rapid competitive actions (Sambamurthy et al., 2003). It involves cooperating with customers in order to achieve market acuity (noticing events in the environment and categorizing them as favourable or unfavourable situations) and identify opportunities for competitive actions. Information technology (e.g. CRM – Customer Relationship Management) enables companies to build and improve a virtual community of customers. Not all opportunities can be used; therefore it is crucial to be able to prioritize market opportunities, bearing in mind the resources and capabilities that a company possesses or is able to "generate from the environment".

Conclusions

It is necessary to conduct further research with regard to the impact of operational agility and strategic agility on the efficiency of enterprises as well as building a competitive advantage. The studies conducted up to date are rather general in nature, and they do not clearly indicate which type of agility, or rather what combination of different types, is crucial for improving performance. The existing research output ought to be used as a basis for further explorations into the impact of operational and strategic agility on the processes of building assets and attaining a favorable competitive position. It seems vital to identify those areas from both these perspectives, which through the use of agile competences, are likely to result in the better performance of a company. Finally, it is also necessary to improve the operationalization of the issues under discussion because the measures of agility proposed in the literature are initiatory in character and do not provide a set of precise tools which would make it possible to measure the agility.

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Strategic management schools and business negotiation strategy of company operations

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ABSTRACT
In order to develop a reasonable negotiation strategy, it is necessary to rely on strategic management principles and techniques. This article examines the issues on the application of strategic management theory in negotiations. The article presents an overview of strategic management science researches, are presented scientific positions on the substance of strategic management process, its structure, and prospects for studies in this area. In the article, there are examined worldwide scientific approaches to strategic management and different schools of strategic management. A survey of the key provisions of strategic management schools showed that not all of them may be useful in practice of negotiations. However, merging and adapting their individual elements for specific cases can be an excellent tool for strategic analysis of the negotiating situation, but also for development and implementation of negotiation strategy. The most applicable theories of strategic management in preparing and implementing of negotiation strategy seem to be the ones developed by the following schools: Entrepreneurial, Cognitive learning, Environmental and Power. Considering theincreasing internationalization of negotiations there are important theoretical and practical concepts of strategic management culture school. This paper will provide an overview of the main theoretical perspectives on strategic management of negotiations.

KEY WORDS
strategy, negotiation, negotiation strategy, strategic management school, strategic management

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Introduction

Strategic management is a set of managerial decisions and actions which determine the long-term performance of the company (Tseng, Hung, 2014; Candemi, Zalluhoglu, 2013; Asan, Soyer, 2009; Altiok, 2011; Senturk, 2012; Chou et al., 2014). One of these solutions is to determine the components of the negotiation actions. In order to manage company effectively it is vital to monitor the activities of the company and its environmental changes continuously, responding the events that require developments. Negotiating with suppliers, investors and consumers is a challenging process that requires thorough preparation and excellent knowledge about the competitive environment. The results of negotiations have a huge impact on the success of each company, so this must be taken into account when preparing its negotiation strategy. Therefore, in this article we shall overview the schools of strategic management and their relation with negotiations.

In order to form a reasonable negotiation strategy, the basic reference must be made on strategic management principles and techniques. The starting point in formation of effective negotiating strategy is the knowledge of the basic concepts and schools of strategic management. The paper analyses the investigations conducted in the field of strategic management over the past few decades, with the emphasis of their application in preparing negotiation strategy and its implementation. Reviewing the history of strategic management it can be seen that the subject of scientific study over the past few decades, evolved from strategic goals of small companies towards large corporate targets. The increasing globalization has also impact on negotiations, as performance of company is less restricted by barriers of geographical distance.

In particular, it was revealed by Mintzberg, who described ten schools of strategic management presenting various viewpoints on methods and techniques of strategic management. The overview of literature has shown the lack of research on application of strategic management theories and concepts in negotiations. The object of paper is strategic management in negotiations. The purpose of this paper is a comparative analysis of world literature on applicability of strategic management in negotiations. Research methods, include systematic analysis of scientific literature, comparative analysis, logical analysis, critical literature review.

While analyzing scientific researches of strategic management issues, the following scientists can be noted: Molina-Azorín (2014), Mintzberg et al. (2003), Rialp-Criado et al. (2010), Hijji (2014); Vasiliauskas (2004), Guerras-Martín et al. (2014), Pricop (2012), Martinet (2010), Morita et al. (2011), Colovic (2012), Nixon and Burns (2012), Modell (2014), Hatif et al. (2012), Uygun and Altın (2011), Tseng and Hung (2014), Okumus (2010), Kwon (2012), Chou et al. (2014), Bitmiş and Ergeneli (2011), Ackermann and Eden (2011), Luo et al. (2011), Erdil (2013), Çınar and Karcıoğlu (2013), Kuosa (2011) and others. In order to reveal applicability of strategic management theories and concepts in negotiations it is appropriate to review the development of strategic management researches, to present scientific results in this field and to give forecast of current research perspectives.

1. The concept of strategic management

Strategic management research topics have been developed in the 5-6 decades of 20th century - moving from the research of financial planning in the 50's to globalization and learning organizations today. In the 60's, strategic management dealt with business planning and formalization of the planning process (Jofre, 2011). At 70's market positioning has become a major problem facing companies with expertise in growing economy – the research and theories mostly focused on market's dynamics (Tseng, Hung, 2014; Jofre, 2011). Next decade, attention has been addressed on acquiring resources, their development analysis and enterprise skills, as well as focused on different problems of competitive advantage. After 2000 year strategic management focused on the new coming economy, based on the growth of knowledge and the role of communication in business. Therefore, the interest has arisen in new themes - innovation and technological changes (Ackermann, Eden, 2011). Today (Tseng, Hung, 2014; French, 2009), it is proposed to focus on the very essence of globalization where such topics as business ethics, standardization of the international market, global strategy are relevant. Within the strategic management as a field of study and practice, attention changed from specific internal problems of companies to wide (complex) system dynamics outside the organization (Ackermann, Eden, 2011).

Strategic management has been proposed in the 80's in Pittsburgh conference, which was organized with a specific purpose - to define business policy paradigm (French, 2009; Jofre, 2011). Business policy concept was reframed as a strategic management and was defined as (Jofre, 2011, 49 p.): "... a process that is linked to the organization's entrepreneurial activity is innovating and growing, and more is associated with the development and implementation of the strategy, which is the activity guide of organization". This brief description defines that the discipline of strategic management implies both strategy development as well as implementation. The scientific literature includes a variety of definitions of strategic management:

- strategic management is a process of analysis where strengths, weaknesses, opportunities of an organisation and its threats are used to develop its mission, goals and objectives" (Çınar, Karcıoğlu, 2013, p. 837),
- strategic management is disciplined effort to produce fundamental decisions and actions that shape and guide: what is an organization, what it does, and why it does it? (Rokooei et al, 2011, p. 175),
- notes that strategic management is understood in most general sense, is related to the organization – teamwork uniting the team, with its own goals and means to achieve those objectives (Vasiliauskas, 2004),
- strategic management is the ongoing process concerned with the identification of strategic goals, vision, mission and objectives of an organization along with an analysis of its current situation, development appropriate strategies, putting these strategies into action, and evaluating, modifying or changing these strategies up to demand (Hijji, 2014, p. 10),
- strategic management is the concept of enterprise management ability to manoeuver properly the forces acting between the environment and the strength with which it competes. This manoeuvring requires the investments into competitive techniques of management which can produce the maximum financial benefits to the enterprise. Companies are winning or losing depending on their ability to manage companies development process (Senturk, 2012, p. 12).

In light of these definitions of strategic management it can be stated, that strategic management is an ongoing development and implementation of strategic plan, which is carried out by subject, using available resources, in order to influence the organization to adapt to changes of the environment, which is a key factor in the existence of the organization.

Reviewing the history of strategic management research, it can be noted that the scientific interest of the authors varied from small businesses to broad problems going out of organization boards. The researches were also influenced by the increasing globalization of the world, when the company's activities were less restricted by distance barriers. While analysing scientific literature, it can be seen that the definitions of strategic management have similar points of views. In terms of business negotiations, it should be stressed that the company's negotiation strategies can not intersect with the company's strategy.

In the negotiations, it is difficult to make strategic decisions in advance, because of external context and turbulent changes in the environment – they usually emerge in the course of negotiating. However, it is possible to prepare in advance alternatives for strategic decisions, tactics, alternative and complementary negotiating steps by providing for possible future situations and thus to be prepared for possible challenges in negotiations. The heads of organizations are taking part in strategic management of organization, creating alternatives for strategic decisions in order to adapt to the competitive environment. They also participate in defining the mission and goals of organization, make internal and external analysis, research competitors, allocate resources, and so on. It is particularly important for organizations, where the negotiating activity takes an important position, so the inclusion of negotiators in strategic management of organization, can provide useful insights, because they have the chance to see the dynamic changes in the market, actions of competitors. Next section will include the review of strategic management schools and their relation with the negotiation activity.

2. Approaches to strategic management schools and their application in the negotiations

This chapter will include the review of the concepts of strategic management schools and their application to the creation and implementation of negotiation strategy. Mintzberg studies enable to see the strategic management process from ten different angles of views. His work was prolonged by Jofre (2011), who provided those approaches in the current and future perspectives. Strategic management process in the company is based on its management and staff perspective to the company's vision, mission and long-term goals, operational plans, constant adjustment to its strategic objectives. On the basis of research made by Mintzberg et al. (2003), it can be stated that strategic management and strategic thinking are two different processes. Mintzberg et al. (2003) suggest that strategic management theory and practice are focused on three main perspectives and involve ten different schools of thought. The main perspectives of strategic management are (Jofre, 2011): normalizing perspective, descriptive perspective, configuration perspective.

Each of perspectives covers concepts and insights of a few schools of strategic management. Normalizing perspective of strategic management focuses on how strategy must be formulated (Çınar, Karcıoğlu, 2013; Luo et al., 2011). Descriptive perspective of strategic management focuses on the strategy profile - how the strategy is formulated (Jofre, 2011). Configuration perspective of strategic management integrates the essential approach to normalizing and descriptive perspectives and focuses on how strategies are formed and how they operate.

Mintzberg carried out taxonomy of ten strategic management schools assigning each school of strategic management to one of three perspectives: normalizing (design, planning, positioning school), descriptive (entrepreneurial, cognitive, learning, power, cultural, environmental school), and configuration (configuration school).

Strategic management and management strategies schools were analyzed by these researchers: Mintzberg et al. (2003), Rialp Criado (2010).

These authors argue that the strategy of design, planning and positioning schools are mainly focused on what will be the company's strategy-making process, taking into account that it is rationally oriented, formal and planned (deliberate strategy), (Rialp Criado et al., 2010; Luo et al., 2011). The organization-oriented approaches (entrepreneurial, cognitive, learning, power, cultural, environmental) are focused on the research, which analyse how creation and implementation of strategy acts in real life (emergent strategy). Finally, integrated configuration approach as a holistic, argues that both deliberate and the emerging strategy can be combined together (Rialp Criado et al., 2010). Not all concepts and insights of strategic management schools are applied in practice of negotiations. However,

combining a number of their elements and taking into account the specific situations, their fundamental scientific ideas can be a great tool of strategic management in negotiations. In light of these facts the most applicable schools of strategic management in negotiations are: entrepreneurial, cognitive, learning, environmental and power. Furthermore, for examining some aspects of international negotiations there are valuable ideas in culture school, which will be described in more detail below.

Entrepreneurship school treats strategy as a manager's perspective or vision. For this reason, vision can be understood more as a manager's inspiration than a detailed plan. Here strategies are flexible, they give directions, which can be settled and changed depending on experience of manager (and vision) (Jofre, 2011). The concept of entrepreneurship is related to the fact that entrepreneurship is said to be the engine of the market economy. One person - an entrepreneur - has the ability to identify opportunities to transform something mundane into something different. Therefore, this ability can be called a vision. Even in the first half of the last century, Joseph Schumpeter – the influential scholar and economist - argued that the ability to make new combinations, doing new things or doing things that are done in a new way, is the main feature of entrepreneurship. Under the entrepreneurial perspective, strategy is defined as the process of creating and achieving vision, in which business leaders establish a common framework to generate and implement strategic decisions. Vision intuition and innovation capabilities play key roles there. The strategy can be created only when leader directs his ideas into real things. Every company or organization may have a vision of a creative leader, who controls the implementation of strategy. The strategy shift from the precise project plan or positions, as it is proposed in other strategic approaches, to the vague visions and broad prospects, mostly useful in a specific context (start-up, business niches, etc.), when the idea is developed by a powerful leader (Rialp Criado et al., 2010).

Key statements of entrepreneurial school in strategy formulation are seldom related to personal leadership strategic vision and mental properties of the leader (Çınar, Karcıoğlu, 2013; Mintzberg et al., 2003). Strategy of the company or organization is determined by such elements as a vision, direction, identity and integration, which are not easy to formalize and quantify. These things are very important for small businesses, strategies, processes in which the leadership role is more critical than in larger companies. Systematization of such strategies is very limited, because the personal characteristics that determine leadership cannot be easily replicated and consolidated (Çınar, Karcıoğlu, 2013). The leader provides the company his own vision and wisdom. If leader leaves a company or an organization may become strategically blind. The contribution of strategic management schools to the practices is high, but their contribution to the theory is too poor. School of entrepreneurship admits that the leader is an architect of a strategy. Most of business executives or senior employees are responsible for managing of strategic negotiations in their enterprise. Negotiation strategy is based on their bargaining power and mental qualities: intuition, solution, experience and wisdom. The analysis of approaches of Entrepreneurship school of strategic management showed, that there were a lot of similarities of the negotiation strategy, design and implementation. The head of negotiation team is an important component. He determines further negotiating progress and preparation to it. Leadership of manager is one of the negotiating power, which influence is significant for formulation and implementation of negotiation strategy. The leadership skills of team head of negotiations can help to manage effectively the negotiating process itself. However it is not sufficient to use only ideas of this school of business negotiations. Therefore, the author of this paper is going to explore ideas and concepts of other schools in next paragraphs.

The Cognitive approach in strategic management argues that strategy formulation is a mental process, developed in people's minds by models, charts, definitions, and other forms (Luo et al., 2011; Mintzberg et al., 2003). Cognitive knowledge is information processing when structural maps of knowledge are formed and all concepts are found, which are required for the preparation of the strategy. New branch of this approach is a neutral approach, based more on subjectivity than constructiveness (Rialp Criado et al., 2010). In this case, strategy development and implementation process depend on the experience of major player and his past subjective knowledge. The emphasis is placed on the qualitative data, for example, managerial experience – is trial and error analysis (Rialp Criado et al., 2010). Cognitive school focuses on creative thinking of a strategist. In terms of this school manager (strategist) develops strategies based on their own experience and understanding of life. Cognitive approach school claims that the strategist has the experience, which he uses in his job. As the literature review has shown, the works of Cognitive school have been very productive in research of strategic groups and non-strategic investment (opposed to investment), providing that business will reduce/liquidate the company's assets

under ethical or financial reasons. For example, the company's sales department will be repealed, which has not been sufficiently concerned with things that the company does best (Jofre, 2011). Scientific results of Cognitive strategic management school constantly grows and it is believed that in future it will have even more influence on strategic management. The context of negotiation and cognition of the other side of the negotiations are essential elements. The deeper negotiating context and another side of the negotiation will be known, the more bargaining power you can create, which is the basis to the negotiation strategy. The works of representatives of Cognitive approach school in strategic management have practical advantages in forming negotiating team, whose activities in negotiation experience has a great importance.

The managers have everyday work maps or cognitive models, which encourages them to perform certain actions in appropriate circumstances (for example, competitor actions in response to the price reduction), (Chou et al., 2014; Jofre, 2011). These cognitive models can be more detailed in terms of different relationships between many variables - suppliers, needs, price, time, etc. They can affect manager's conduct and become the decisive action map under uncertainty (when map is followed despite obstacles). This approach to strategy formulation has a number of modifications. An innovative approach is described as a learning activity. During the period of environmental changes strategies, which occurred successfully, are maintained but other inappropriate strategies are eliminated. According to another point of view (called adaptive strategies model), the strategy is concentrated on developed combination of perspectives between opportunities and threats in the external environment and the organization's set of resources and capabilities (Çınar, Karcıoğlu, 2013; Rialp Criado et al., 2010). The adaptive strategy develops itself in the context of decentralized organizations that work as an open environment systems. The third approach is dynamic capability perspective. It is oriented on development and improvement of unique capacities, which are difficult to simulate or replicate by other competitors, for whom company's strategy can be sustainable. This learning and dynamics-based approach to strategies development, policy-makers participate in the management of a company or organization, strategy formulation and implementation, as all these elements are interrelated (Rialp Criado et al., 2010). The strategy process is also a process of cognition and the dynamics of the process is complex and still unknown. According to this approach, there is a need for further investigation of human cognitive processes and cognitive psychology. Understanding people's thinking is critical for understanding formation of the strategies. However, the role of human cognition and psychology as a conceptual framework has been poorly tested from the managerial side until now. Furthermore, the learning requires specific conditions, certain environmental stability and durability of the trends. If everything is changing too fast, an organization or company may be unable to cope with increasing demand and rapid flow of new information. But scientists say that learning is also possible in disordered conditions. Based on chaos theory, which was proposed by physicists in order to understand complex systems and environments, chaos in the management theory is opposed to organizing, planning and policy. It implies dynamism and unpredictability, but eventually dynamic organization balance was recognized not to have been stable condition, but rather the changeable one. In this context, negotiating strategy is formed by learning. Operational problems take place because of the crisis or unexpected changes. Some scientists, who support this theory, state that problems can deliberately arise to enhance the creation of new knowledge and learning (Jofre, 2011). Otherwise, we can create chaos under the order. And chaos could lead to a new order. The development of such orders (for example, production schemes or methods, products, technologies, services, resources and assets) acquire in getting a certain strategic advantage (Mintzberg et al., 2003). Critics of this school argue that though the importance of strategic learning is undeniable, focusing too much on learning may eventually lead to the disintegration of the strategies (Chou et al., 2014). Learning is important, requires time and certain formalities in the organizational system. However, as many things arise spontaneously, therefore the leader cannot rely on learning in all cases. The crisis is probably the most appropriate model describing this situation. In this situation, a strategist cannot wait for the new learning, which will come in appropriate time. The company is required to make decisive, preventive actions, during crisis, often in advance, which already can be covered by a particular vision of leader.

Companies are represented in negotiations mostly by their authorized representatives. Therefore, in order to set the limits in negotiations, it is helpful for these representatives to follow negotiations with existing schemes (provide a response to possible opposing steps). These schemes may be changing and need improvement taking into account their application and experience. The applicability of this school has great potential in negotiations - particularly in the negotiation support systems.

Representatives of this school argue that the environment is not a major external force, but is a major determinant of strategy process (Jofre, 2011). Under this approach, company or organization is more passive while the environment gives strategic direction. Representatives of this school argue that in extreme cases, policy is dependent on external forces and organization's ability to make a strategic choice is limited (Chou et al., 2014). The outside context of organization shows the different dimensions in which the strategist can build strategy of the organization. The Environmental school arose from the Contingency theory - behavior theory, which concludes that there is no best way to organize and manage the company. Theory postulates state that the optimal treatment strategy depends on the balance of internal and external situations. The representatives of Environment school conclude that the more stable environment becomes, the more formal can be an internal structure of the organization. The company naturally finds its position (niche) in the environment (Chou et al., 2014), and if the company fails to do so, it would perish as a natural ecosystem. The environment of companies and organizations may vary by degree of stability, complexity, diversity, hostility and a variety of combinations. In terms of this school, strategy is a response to the forces acting in order to adapt company or organization properly to the changing characteristics (Mintzberg et al., 2003). This school suggests the strategy should be aggressive (at risk), in response to a dynamic environment (for example: greater diversity and complexity of the market). The theory considers unforeseen cases which can cause the response collision between companies or organizations and relevant environmental conditions, which results in limiting the preparation of strategy. These approaches are related to the environment and can be grouped according to the choice-driven perspective (or limitation) school, which describes the formation of the strategy as a passive, reactive process, with a number of environmental factors. Here strategy-making process is designed to improve coordination and accuracy. Max Weber saw organizations formed on technical and managerial logic. When logic increases, the bureaucracy also expands. The modern scientists developing Weber ideas proposed Institutions theory, emphasizing the institutional pressures (pressures with which organization faces in their environment) (Jofre, 2011). This theory states that the organization faces pressure from other organizations and from organization itself. According to this vision in the environment there are two types of resources: economic and symbolic (Chou et al., 2014). Economic resources are material, such as money, land or machinery. Symbolic resources are intangible - such as goodwill, good reputation, honorary and so on. According to this vision, strategy is focused on searching for the best ways in order to obtain economic resources and their transformation into symbolic resources. The purpose of such strategic vision of organization is to protect organization as much as possible from environmental uncertainties (Jofre, 2011).

Environmental approach school is mostly criticized for that the organizations do not have a strategic choice (Chou et al., 2014). This approach completely ignores the organizational skills to choose the direction or position. In real life, the environmental impact is recognized, and is assumed that it is not the strongest factor. Modern management claims that environmental limits are less visible for a variety of environmental mergers and networking (Jofre, 2011). Therefore in such conditions it is almost impossible to define the limits of the environment and its components. The relationship between the organization and the environment in the view of strategic management is more mutual, not unilateral, as formulated in the environmental school. These ideas can be adapted to formulation and implementation of negotiation strategy with representatives of other cultures and necessity to recognise the context of negotiations better. The better we can discover another culture and context of negotiations, the higher negotiating power we will be able to form. Knowledge can help to avoid a wide range of uncertainties and misunderstandings during negotiations. Adapting to a different cultural environment, it can create better context especially intercultural. Therefore, it is appropriate to examine in detail the cultural school approach to strategic management.

According to the ideas of the cultural approach school, preperation of strategy is seen as a social process associated with culture, a system of shared values and norms which influence can be sometimes important in deterring major strategic changes (Rialp Criado et al., 2010). Managers when developing company's strategy can be affected by the dominant organizational culture, based on common interests and integration. The values of culture can have a significant impact on policy-making, as they allow to make decisions that are meaningful and provide references to the relevant behavior. In contrast to the power school, culture school assumes that the strategy formation does not seek profit for itself but seeks to effect community (Jofre, 2011). Strategy formation is based on social cultural force, which includes individuals and their features in whole. Such force can have impact on strategic stability, and sometimes

promotes actively strategic changes. Cultural approach school concludes that culture is everywhere, but it is unique. Culture affects everything and makes each organization unique (Mintzberg et al., 2003). Strategic management today recognizes the dual nature of culture. History of this school has started from the mid-80s, when culture became important part in management. Up to that time, Japanese companies, which were quite successful in the international arenas, were able to do a variety of other things than the United States and Western European companies - it was treated as a result of the Japanese culture (Jofre, 2011). Many management concepts and ideas are based on the culture. Practitioners in USA applied culture for each element. However, such efforts did not help to understand the strategy better. Culture in this context represents motivation of a company or organization. Paradoxically, Learning school can be more easy to understand by examining the cultural differentiation, when comparing Japanese corporations and their cultural differences with Western companies (Jofre, 2011).

From an economic point of view, culture requires a competitive advantage of companies or organizations (Chou et al., 2014). In this case, culture is not just a group of people acting through social activities, but rather an interaction between both. The material culture requires material resources (for example computer) or intangible resources (for example scientific knowledge). Attitudes and values create objects, which create and shape the values, in turn. The ways, in which organizations develop their skills and resources, are the results of culture, while social environment allows them to act and manage the available resources. The logic of this school is simple, and it is valuable for management, but it has been criticized for the lack of the concept clarity. Promoting of strong culture can deny the possibility of occurrence of necessary changes. Changes can take place when culture opposes. Culture with dominant values faces stagnation. Culture can promote resistance to changes. This approach, which is criticized for uniqueness of influence to the competitive advantage, states that if company is successful, it is unique (Jofre, 2011). In the real life, the uniqueness is an important strategic advantage, but in economy not all businesses are unique: many companies may just do what others do, but more efficiently. From a theoretical point of view, the contribution of this school to strategic management is large – the culture is considered as a strategy guide. However, the less scientific knowledge is available in the field of cultural changes of companies or organizations - you should change the organizational culture in order to improve the organizations strategy (Chou et al., 2014; Mintzberg et al., 2003).

Speaking about negotiations through the prism of the uniqueness, negotiation itself is unique, since equal negotiating situations almost do not occur. It is especially noticeable in the interaction between representatives of different cultures, as in such case various inconsistencies occur in negotiations: language comprehension, ethics, and so on. Ideas of this school may be useful in developing and implementing international business negotiation strategy.

Schools mentioned above, does not deal with the role of power and politics. The Power school of strategic management pays special attention on politics and power. Power theory is used in negotiating strategy in order to define opportunities of the negotiating parties. This school treats strategy process as clear impact on the process. Power is the impact of technique, which is based not only on economic instruments, but also on political pressure (Mintzberg et al., 2003). However, using the power only for the benefit of organization, both as in politics, has illegality side. This means that the use of secret operations which weaken its competitors (for example, the cartel), or open actions in order to achieve cooperation agreements (alliances) - can be considered of uncertain legality. Political games in organizations promote the recognition of individual characteristics such as emotions, dreams, fear, jealousy, hopes, aspirations, expectations, and other (Jofre, 2011). The role of these characteristics in the processes of strategy formulation and implementation is evident. Thus, contribution of the Power theory to strategic management is significant.

Power and political perspective to the strategy formation concerns the negotiation process between different interest groups and stakeholders, both internally and in its relations with the outside world, where each part has its own goals and objectives (Mintzberg et al., 2003). According to this view, the strategic decision-making process is related to the power. Political orientation, micro-power, describes the development of the strategy within the organization as essential political process, involving negotiating, persuasion and confrontation between domestic players, who share the power. Other orientation - macro power - describes organization as a unit, which uses his power to get benefits from others (partner alliances, joint ventures, and other network connections) in order to negotiate collective strategies for satisfying the own interests (Kuosa, 2011; Rialp Criado et al., 2010). According to this model, strategy can be defined as focus on definitions, which allows the organization and its environment to be understandable by various stakeholders. According to this policy-making model, the reality is socially

created and defined in the social exchange process, in which perception can be approved, changed, modified depending on its overlap with perception of others (Rialp-Criado et al., 2010). The organizations tend to seek lower dependence on other players and the environment (formation of a monopoly), or sometimes make cluster in order to interact with the environment (partnership), (Kuosa, 2011; Jofre, 2011). The environment can also be a national market in which companies and organizations try to present themselves as competing entities (Tseng and Hung, 2014). The Government determines the conditions and guarantees to companies or organizations. Companies will adapt to these conditions or try to change them, either individually or in groups. Companies or organizations often use their political influence - the power - for example to do promote, offer, support for legal changes to open new market opportunities and reduce the competitiveness of competitors (Jofre, 2011). It is suggested that the most effective way to control power of the external player or pressure groups, is to control their behavior. This is the main objective of the strategic maneuvering. Of course, this mean, that it is encouraged the use of politicians, as not causing the physical (depleting) confrontation (Kuosa, 2011; Mintzberg et al., 2003). The main idea of criticism of Power school is overestimation of the role of power and policy strategy (strategy formation covers power, but is not limited) (Jofre, 2011). In the light of the roles description on tricks, games and moves in strategic processes, it is possible to say that they are instant, frivolous factors for strategic management.

The approach of this school to the effects of power on strategy formulation are very suitable for the development and implementation of business negotiation strategy. In the negotiations, the power of negotiating side is one of the most important keys of negotiation strategy. Therefore, in terms of negotiation, strategy should be analysed and relied on the bargaining power. There can be identified some of the key elements of the negotiation power: preparation, communication terms, ethics, emotion management, time management, expectation management and other. These elements of negotiation power are the most important factors in success of the negotiation strategy. Therefore, in further studies it is appropriate to examine their influence on the negotiation strategy development and implementation.

Conclusions

In the article there were analysed changes of strategic management theory over the past decades and the methodology of strategic management. The article emphasized the importance of management staff in the preparation of company strategy. However, the opposition of those, who prepare and implement strategies of companies, can result in the failure of company. Formulation and implementation of the negotiation strategy, depend also on staff position since one of main factors of success in negotiations is their motivation, which makes impact on the effectiveness of future negotiations. Moreover, the employees during negotiations can notice the changes of environment and activity of competitors - thus in preparing strategy of company it is necessary to consider the recommendations of the negotiators, as they have the nearest relationship with market developments.

This article presents the overview of main ideas and concepts of strategic management schools, based on suggested typology by Mintzberg, which allows to see the same process from different angles of view. The analysis of the management schools shows, that the Power school is the most appropriate for development and implementation of negotiation strategy. The Power and Policy approach is consistent with the nature of the negotiations, as the bargaining power has a significant impact on the formulation and implementation of negotiation strategy. Other negotiation aspects, such as internationalization, context-awareness, negotiating activity limitation, experienced bargaining power and the uniqueness were revealed and can be found in the ideas and concepts of Entrepreneurial, Cognitive, Educational, Environmental and Cultural schools of strategic management. Since negotiation is dynamic process, it is appropriate to use the approach of Configuration school - integrating the conceptual variations of several schools.

The ideas and concepts of the Power school considering power effects on strategy formulation and implementation are the nearest for negotiations. The negotiating practice shows that negotiating power is strictly combined with the negotiating strategy. Therefore, in terms of negotiation strategy formulation and implementation, more attention should be paid on the analysis of negotiating powers of both sides of negotiations and composition of their configuration.

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The assesment of the effectiveness of selected innovation support instruments used in Poland in 2007-2013

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ABSTRACT

The international competitiveness of the national economy largely depends on the innovative abilities of companies and domestic industry. In this context, adequate shaping of national innovation policy is of crucial importance. It is essential to direct innovation policy in such a way that it should lead to the development of opportunities associated with current and future competitive advantages of the economy. The article contains an assessment of the impact of selected public support instruments used in Poland in the period 2007-2013 for the intensification of the innovation processes in the domestic economy. The purpose of the research is to analyse and assess the effectiveness of selected public support instruments implemented in Poland in the 2007 – 2013 period. This leads to the following research hypothesis: public support instruments implemented in Poland in the years 2007 – 2013 had an impact on the level of innovativeness of Polish economy when compared to 2004 – 2006 period. The research method included the evaluation of: 1) the compliance of the aims of the investigated instruments with the general and detailed objectives of "Dynamic Poland 2020" strategy and 2) the influence of the investigated instruments on the changes of the indicators that measure innovation performance (innovation enablers and innovation results).

KEY WORDS

innovation policy, public support instruments, national innovation system

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1. Innovativeness – a conceptual analysis

The issue of innovativeness of economies is a frequent subject of analysis in the literature on the subject. The founder of the theory of innovation is considered to be J. Schumpeter (1950). The research in this field has been continued by a.o. R. Solow (1956), M. Kalecki (1962), Ch. Freeman (1982), P. Drucker (1985), B-A. Lundvall (1992), Etzkowitz, Leyesdorf (2000), B. Godin (2003), X. Salai-Martin, S. Artadi (2004), D. Chen, C. Dahlman (2005), T. Hollanders, S. Tarantola (2011), S. Dutta (2012), S. Borras, Ch. Edquist (2013), T. Baczko (2005-2012), S. Marciniak (2010), A. H. Jasiński (2010), W. Janasz (2006), S. Lis, K. Rybiński (2011), and others.

Some authors have analysed both the aspects of innovation and of the competitiveness of economies. This is due to the interconnectedness of these issues. For this reason, analysis of the innovation policy (implemented using public support instruments) as one of the factors that determine these two areas of study requires their precise definition.

Competitiveness is a result of the efficiency with which a company, located within a given geographical area, takes advantage of its investments in economic activity and the competitiveness of a nation depends on the innovation abilities of the domestic industry (Porter 1991).

Innovation is an implementation of a new or significantly improved product (good or service) or process, a new marketing method, or a new organizational method in business practice, workplace organisations, or an interaction with the environment (Podręcznik Oslo 2008).

Innovativeness is a tendency and an ability to create new and improve existing products and technological processes, new systems of organization and management, as well as other changes (creative and imitative) that lead to the creation of new values in the economy and the adaptation of domestic and foreign scientific and technical achievements (Marciniak, 2010).

The subject of research in innovation theory has been evolving. It initially involved the enterprise, then its environment and the industrial sector in which the enterprise operates, and further on, the scope of the study included, for example, the system of laws and regulations, and institutions in a given country (Niosi et al., 1993, p. 210). This systemic approach to the subject of innovation theory is most fully presented in the concept of a national system of innovation.

A national innovation system includes the entirety of interconnected institutional and structural factors that have an impact on the generation, selection, and absorption of both technical and extra-technical innovation (Freeman, 1982).

A complementary definition was suggested by S. Metcalfe, who defines the national innovation system as a complex of separate institutions that jointly or individually contribute to the development of the knowledge economy, simultaneously creating an environment within which the government formulates and implements innovation policy (Metcalfe, 1995).

In turn, innovation policy includes research and technological policy. Its purpose is to support the process of the introduction of new products, services, processes, and management techniques into economic practices. This is supported by creating a climate conducive to innovation, the promotion of an innovation culture in business, the development of services for innovation [Innowacje i transfer ... 2011], for example, with the aid of public support measures. The main area of impact of innovation policies are enterprises.

The innovation support measure is a tool (co-) financed by the state budget promoting research and innovation initiatives in organizations. The support measure is most often implemented for a multi-year period. According to this definition, the following types of intervention are identified (Izsak et al., 2013; Reid, Peter, 2008):

- directing financial support of innovation processes in enterprises,
- creating, disseminating, and coordinating knowledge transfer among the participants in the national innovation systems (public and private research organisations, enterprises, intermediary bodies, etc.),
- establishing new institutions and law for the development of innovative processes in enterprises.

2. Origin and purpose of research

Belonging to a particular political and economic structure, for example - the EU, largely determines what kinds of support instruments are implemented in a given country, at least within the scope that results from contracts signed with the European Commission that regulate the use of EU funding.

In Poland, this is reflected in the structure and the subject of the national implementation of the operational programmes co-financed by the European Structural and Investment Funds in 2007-2013 and 2014-2020.

Another example of such unification of innovation and competitiveness policy is the development of national and regional strategies of smart specialisations (Kardas, 2011), according to the methodology proposed by the EC, which will determine the direction of regional support instruments to be implemented in the countries of the Community in the upcoming financial perspective (2020).

The mutual resemblance of the array instruments for the support of innovation in EU countries serves the global trend of the internationalisation of business and research. In response to that, the instruments for strengthening international cooperation of the participants of the national systems of innovation gain in importance. This results in the formation of international programmes, which are joined by the support agencies located in different countries of the Community, allowing (by funding) national research institutions and businesses the implementation of business projects in international cooperation. These programs include, for example, era.net action, Programme COST, Programme Eureka.

At the same time, the dynamism of the national innovation systems and the specificity of the economic circumstances of individual countries justify the absence in the literature on the subject of an optimal model of innovation policy, or an optimal set of public support instruments (Izsák et al., 2013).

Nevertheless, those involved in creating innovation policies often use best practice concerning the implementation of these support instruments, which have proven successfull in cooperating countries. It takes place across the EU as a whole, which has implemented an SME Instrument as part of the

Horizon 2020 Programme, http://ec.europa.eu/research/sme-techweb/pdf/SME%20Instrument %20in%20WP%202014-2015.pdf, accessed on 28.02.2015) which reflects an instrument used for many years in the USA called SBIR (Small Business Innovation Research) http://www.sbir.gov accessed on 28.02.2015). Such a replication of patterns also occurs at the level of individual countries. For example, in 2004, the Netherlands introduced a program – STW Valorisation Grant inspired by the American SBIR, while the United States made use of the EU standard concerning the regional focus of support instruments by implementing in 2013 Program National Network for Manufacturing Innovation (NNMI) (http://manufacturing.gov/nnmi.html, accessed on 28.02.2015) (Sacio-Szymańska, 2013a).

The adoption of this direction of innovation policy seems to be justified; however, it often does not lead to the expected effects from the use of a given support instrument. This is mainly due to the specific social, economic, and cultural conditions of a country and the related challenges for individual innovation policies, which cannot be resolved by a mere transfer of an instrument itself. It will not work in other conditions than those in the reference country, with a different education system, a different financial system, a different structure of the industry, with a lower level of economic development, or in a different social culture, which can stimulate or hinder innovation activities, or with limited relationship that occurs between the actors of the national innovation system.

Therefore, the mission of those who create innovation policy is to ensure such a configuration of instruments, so that it is harmonized with the other elements forming the national innovation system. Moreover, the selection of instruments is a continuous learning process, because national innovation systems are dynamic structures, where the application of specific support measures results in changes of strengths and weaknesses of the system, and which in turn require changes to the structure of the implemented set of support instruments.

For these reasons, the solutions that were used in other countries should always be tailored to the specific needs of the economy and should take into account its strengths and weaknesses, and their implementation should be preceded by the following steps:

- a diagnosis of the state of innovation in the economy with an indication of its main issues,
- a formulation of key objectives of the innovation policy and its priorities.

These were the assumptions adopted in the conducted analyses. The research objective was to analyse the innovation processes of the Polish economy, including its strengths and weaknesses, and to prepare recommendations for areas that require attention and support from the government.

The main stages of analysis include the following:

- the analysis of the condition of innovation in the Polish economy according to international rankings (Sacio-Szymańska 2011),
- the acomparative analysis of innovation trends of selected economies (Sacio-Szymanska 2013b, Sacio-Szymańska 2014),
- the comparative analysis of innovation support instruments of selected economies (Sacio-Szymanska 2013c),
- the evaluation of the effectiveness of innovation support instruments applied in Poland in the period 2007-2013 (Kosztowniak 2014a).

The subject of this article is to present a methodology for the final stage of the research on the effectiveness assessment of national instruments supporting innovation. In the article the results of an analysis are presented and recommendations with regard to the possibility of effective application of tools to support innovation in Poland.

3. Methods

In this research, the following thesis was assumed: Research tools to promote innovation implemented in Poland in the period 2007-2013 changed the level of innovation in the economy compared to the years 2004-2006.

The analysis included 46 instruments promoting innovation implemented in Poland in the years 2007-2013.

The following criteria were adopted in the selection of the innovation support instruments:

- implementation period: start - 2007 and end – 2013,
- budget value per instrument, i.e. more than 5% of the share of the instruments in the global budget of the EU support in the instruments analysed, amounting to 8,517,977,130.00 euro,
- the number of projects included in the support, indicating a large target group of beneficiaries.

In accordance with the adopted selection criteria, the scope of research includes eight innovation support instruments:

- support for target projects (I1),
- strengthening and development of teaching staff

and an increase in the number of graduates with majors that have a key role for a knowledge-based economy (I2),
- support of R&D projects for the benefit of businesses carried out by research organizations (I3),
- new investments with high innovative potential (I4),
- support of the implementation of the R&D results (I5),
- the development research centres with high potential (I6)
- support for scientific research for building a knowledge-based economy (I7), and
- technology Loan (I8).

The key features of these eight researched instruments for innovation support for the period 2007-2013 are the following:
- the total budget was EUR 5,433,782,763, i.e. 63.80% of the total subsidy value (a total of 10 billion Euro, including 8.65 billion Euro of EU subsidies, while the remainder is financed from the national budget (http://www.poig.gov.pl, accessed on 03.05.2015)) scheduled for the period 2007-2013,
- the relationship of budgets per analysed instrument to the value of the global budget for innovation support oscillated around 5% and above,
- The number of projects that have received funding amounted to more than 2,800.

Efficiency of the Economy - "Dynamic Poland 2020," and the EU classification of innovation policy priorities;

II. Empirical verification of the impact of innovation support instruments on the change of the key and supplementary indicators significant for the creation and performance measurement of innovation - evaluation ex post;

III. Determining the impact of the innovation instrument on the identified strengths and weaknesses of Polish innovation, and opportunities and threats; and,

IV. Evaluation ex ante of the innovation instrument - formulation of recommendation.

The article presents the results of analyses concerning points I and II.

4. Research Results

Stage I. Verification of the compliance of the studied instrument for innovation with the general and specific objectives of Innovation Strategy and the Efficiency of the Economy - "Dynamic Poland 2020" and the EU classification of innovation policy priorities.

The main objective: "Highly competitive economy (innovative and effective) based on knowledge and cooperation" delineated in the Innovation Strategy and the Efficiency of the Economy - "Dynamic Poland by 2020" (SIEG) developed by the Ministry of Economics is implemented through four specific objectives (Tab. 1).

Tab. 1. The correlation between the thematic orientation of the analysed support instruments with the objectives of the SIEG

SIEG specific objectives	Analysed instruments							
	(I_1)	(I_2)	(I_3)	(I_4)	(I_5)	(I_6)	(I_7)	(I_8)
Objective 1. Adapting the regulatory and financial milieu to the needs of an innovative and efficient economy *(Directions: 1.1-1.4)*	1.2 1.4						1.2	1.1 1.2
Objective 2. Stimulating innovation through the increase of efficiency of knowledge and work *(Directions: 2.1-2.6)*	2.1 – 2.6	2.1 2.2 2.5	2.1 2.2 2.3 2.5	2.1	2.1 2.3	2.2 2.6	2.1 2.3 2.5	2.1 2.3
Objective 3. Increasing the efficiency in use of natural resources and raw materials (Directions: 3.1-3.2)	-	3.1.	-	3.1	-	-	-	3.1
Objective 4. Increasing the internationalisation of the Polish economy *(Directions: 4.1-4.3)*	4.1	-	4.1	4.1 4.2	4.1	4.3	-	4.1 4.2

The evaluation method of innovation support included the following four stages:

I. Verification of compliance of the studied instrument for innovation with the general and specific objectives of Innovation Strategy and the

The analysis of the eight instruments under investigation in relation to the ability to implement

the objectives of the Strategy point to the following conclusions:

- the analysed instruments primarily addressed two of the four specific directions within Objective 1 (that is 1.2. Focusing public expenditure on the pro-development and pro-innovative activities; 1.4. Facilitating access to capital for companies at all stages of their development) with a particular focus on high risk capital and the SME sector,
- directions referred to in Objective 2 (Stimulating innovation through the increase of efficiency of knowledge and work) were fully supported by the instruments for innovation support, including directions 2.1. (Increasing the level and effectiveness of science in Poland, strengthening its links with the economy and increasing international competitiveness of science) and 2.3 (Promoting cooperation in innovation),
- the studied instruments only indirectly and to a limited extent support Objective 3 (Increasing the efficiency of using natural resources and raw materials) by addressing priority: 3.1 (The socio-economic system transformation towards "a more green path"), and in particular by reducing energy and material consumption of the economy (by stressing the role of innovation in the area of biotechnology),
- the analysed instruments supported Objective 4 (Increase in the internationalisation of the Polish economy) mainly in Direction 4.1 (Promotion of Polish export and Polish investments abroad through the implementation of joint projects with companies developing innovative product and process solutions).

Moreover, the analysis was conducted whether the main priority objectives of the eight innovation instruments operating in Poland in the years 2007-2013 addressed the development of the EU strategy Europe 2020, including the EU classification of innovation policy priorities (Cunningham et. al 2008). In accordance with this classification, the instruments are allocated to the areas of strategic intervention, reflecting the main priorities for innovation policy requirements in the five areas (actions) presented in Tab. 2.

The analysis shows that these objectives in the specific priorities of the EU innovation policy were supported unevenly, as was the case in the adequacy of the priority objectives of innovation instruments in the period 2007-2013 in Poland to the strategy of "Dynamic Poland by 2020."

The most strongly supported area in terms of the number of available instruments and the value of the subsidies is the Research and Technology area (specific priorities: 2.1.4. Research infrastructures; 2.2.3. R&D cooperation (collaborative projects, public-private partnerships with research institutes), and 2.3.1. Direct support of R&D in enterprises (grants and loans)), including such instruments as Development of Centres with High R&D Potential, Support for R&D Projects Carried out by Scientific Bodies for Businesses, and Support for Target Projects.

The least supported area among the eight examined instruments is the area in the EU classification as Markets and Innovation Culture. The verified impact of the eight researched innovation instruments does not guarantee direct support in this area. Indirectly, this aspect of the innovation process was addressed by instruments directed at enhancing other strategic areas of intervention (e.g., Implementation of R&D, R&D Staff, and Entrepreneurship). In particular, the aspects of intellectual property protection was a specific priority in the framework of area 2 (Implementation of R&D), priority 2.2.2 (Transfer of knowledge (contractual research, licensing, research and protection of intellectual property in public research, academic, non-profit institutions)). However, the development of innovation culture was included in the specific priority 3.1.1 (Building awareness and initiating a dialogue between the

Tab. 2. The correlation between the thematic orientation of the analysed support instruments and the areas of strategic intervention of the EU innovation policy

Priorities of EU classification of support instruments	Analysed support instruments							
	(I_1)	(I_2)	(I_3)	(I_4)	(I_5)	(I_6)	(I_7)	(I_8)
1. Innovation policy, horizontal research							x	
2. Research and technology	x		x		x	x		
3. Human resources (education and skills)		x						
4. Enterprises				x				x
5. Markets and innovation culture								

public and representatives of the world of science and research of the strategic area of intervention Human resources for R&D), and in the priority 4.2.2 (Support for the development of organizational innovation including new forms of work organisation, etc. of the Strategic Area of Intervention – Entrepreneurship).

Stage II. The empirical verification of the impact of innovation support instruments on the change of the key and supplementary indicators significant for the creation and performance measurement of innovation - evaluation ex post.

The process of empirical verification of the instruments for supporting innovation employed creating indicators and measuring the effects of innovation in terms of macro-economy – at the national and international level. These indicators have enabled an assessment of both the level and trends of innovation in the Polish economy, and the research included mainly the 2004-2006 and 2007-2013 periods.

The complete list of indicators included 26 positions (Appendix 1). In this article, only the following results of the analyses in terms of key indicators are given:

Indicators of innovation creation:

- business expenditure on R&D (% of GDP),
- industrial companies that cooperated in the field of innovative activity in % of businesses active in innovation (share in %).

Performance measurement indicators for innovation:

- the number of patent applications to the USPTO (per million people),
- net income from the sale of high and medium-high technology products in industrial processing companies (in % of net income). Indicator taking into account both the creation and measurement aspects of innovation:
- the number of companies that have bought and sold: licenses, research and development work, means of production processes automation, consulting services, and other technologies.

Business expenditure on R&D

A very important issue to be addressed in the economic literature is the structure of expenditures for research and development (R&D). This structure determines the ability of the economy to transform the R&D results into new technologies and products, which are characterized by a high level of innovation. From the point of view of the usefulness for the economy, the optimal proportion of private and public funds is considered to be 65 to 35 (Janasz, 2006). However, in the structure of national gross expenditure on R&D, the expenditure of enterprises ranged, on average, at the level of 40-30%. This, unfortunately, has not increased in spite of the continuation of the privatisation process in the Polish economy since the 1990s. The lowest share - 20.34% - was reached in 2002. The first period of the EU budget, 2004-2006, brought a slight increase in the participation from 28.68% to 31.54%; the second period was influenced by the financial crisis, and the participation dropped from 30.36% in 2007 to 30.13% in 2011 to increase to 37.21% in 2012 (Fig. 1).

Industrial companies cooperating in the field of innovative activity (% of innovation active enterprises)

Efficient business relationships with the scientific and research sphere are a prerequisite for the efficiency of the innovation system, which in turn translates into increasing the competitiveness of the

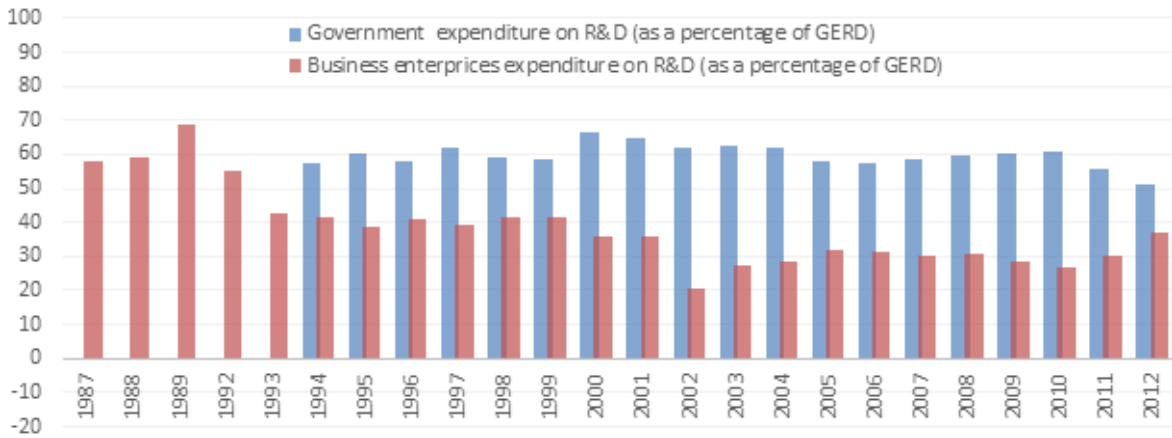

Fig. 1. Government and companies expenditure on R&D in Poland in the years 1987-2012 (in % of the domestic expenditure on R&D, GERD)

Source: OECD.StatExtracts, Factbook Country Statistical Profiles - 2014 edition, http://stats.oecd.org. (06.02.2014).

economy. An analysis of the type, scope, and intensity of links between enterprises and the sphere of research and development in Poland is a frequent subject of analysis. The conclusions are clear: The scale of the cooperation has remained unsatisfactory for a many years (Szultka, 2008; Górak 2007).

The GUS (Central Statistics Office) data concerning statistics used for monitoring tendencies of industrial companies to cooperate in the field of innovative activity (% of enterprises innovatively active[2]) for the years 2002-2012, clearly shows that, after an increase in this activity to 46.2% in the years 2004-2006, this cooperation dropped down to 33.7% (in 2007-2009) and 33.8% (2010-2012). While in the first period of applies to a greater extent to the public sector than the private sector. The greatest activity in the cooperation in innovation was evidenced by large companies (that is, those employing more than 250 people) in their 65.1% share in 2006-2008, and 58.6% in 2010-2012.

The cooperation of small businesses, which constitute the largest group of companies in Poland (about 70%), showed a much lower activity in this realm at 25.8% and 22.1%, respectively. Another group, the medium-sized enterprises (50 to 249 employees) showed a reduction in the activity during the investigated period from 44.6% in 2006-2008, down to 35.7% in 2010-2012.

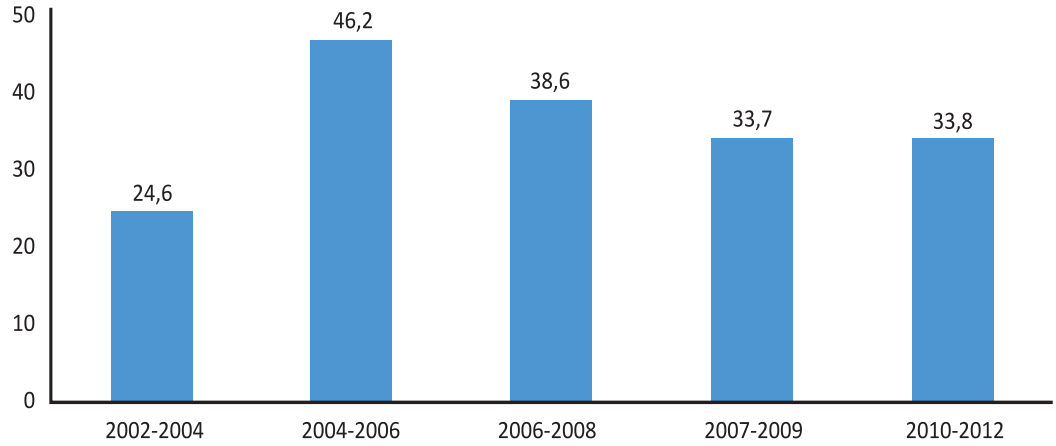

Fig. 2. Industrial companies cooperating in the field of innovative activity in Poland during 2002-2012 (in % of innovation active businesses)

Source: Działalność innowacyjna przedsiębiorstw w latach 2002-2004, 2004-2006, 2006-2009, 2010-2012, GUS, Warszawa 2013.

EU budgeting, there was indeed a significant improvement (since this ratio increased almost two-fold from 24.6%, in 2002-2004, to 46.2% in 2004-2006), and the second EU budgeting period the activity of cooperation definitely decreased and remained at a low level of 33.7% and 33.8% (Fig. 2) (Działalność innowacyjna…, 2012, p. 21)

The statistics presented in Fig. 2 refers to the general population of industrial companies; however, the most relevant information in this area becomes apparent only after the analysis of industrial enterprises, according to the company's size.

The tendency to cooperate in the field of innovative activity in the period 2006-2008, 2007-2009, and 2010-2012 was most visible in enterprises employing more than 249 employees, and, what is more, it

2 An innovation active enterprise is a business that introduced at least one product or process innovation in the period under investigation, or carried out during this period, at least one innovation project , which has been interrupted or abandoned during this period (concluded without a success) or hadn't been completed before the end of this period (i.e. is being continued).

The number of patent applications

A good measure of the country's involvement in the global technological development is the number of patents obtained at simultaneously in Europe, USA, and Japan. The need for such a broad patent protection arises for unique, breakthrough inventions (Weresa, 2007).

For Poland, the years 1985-2003 were characterised by a fairly large variation of patent applications in this group. Upward trend started from 2004, showing the dynamic annual increase of about 10-15%. However, concerning the Polish share of patent applications in this group, despite the upward trend, their share in the global applications was below 1.00% (Fig. 3).

The analysis of the number of entries in the triadic patent families shows the number of applications per million inhabitants in the years 1985-2011 indicated a very low level, fewer than 1.00 application per million inhabitants - 0.7. In other countries, much

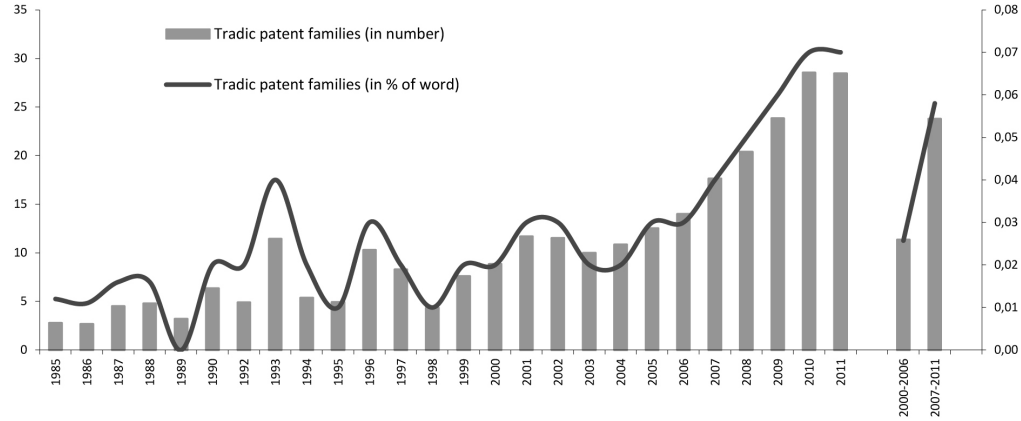

Fig. 3. The number of (triadic patents families) reported by Poland in the years 1985-2012 (in number, in % of world)*
Source: OECD.StatExtracts, Factbook Country Statistical Profiles – 2013 edition. KeyShort-Term Economic Indicators, http://stats.oecd.org (02.06.2014).

*Triadic patent families-inventions patented in the patent offices of the United States, the EPO and Japan.

higher ratios were achieved (for example, Czech Republic: 1.8; Hungary 4.4; United Kingdom 26.0; USA 44.0; Sweden 94.0).

Net income from the sale of high and medium-high technology products in industrial processing companies (% of share).

The high-tech sector is characterized by high levels of expenditure on R&D and scientific and technical employees, intensive cooperation with research and scientific centres, a short life cycle of product and process development, high dynamics of the resource exchange in the technical infrastructure, and the effects of innovative activity in the form of numerous patents and licences (Grudzewski, Hejduk, 2008). An analysis of the structure of the sales income according to the level of technology indicates that, in Poland, high technology products have very low participation in the total value of sales (Tab. 3).

The share in the net income from the sale of the products belonging to high and medium-high technology 31.6% in 2005, then increased to 34.6% in 2010, and in 2012, it dropped to the level of slightly lower than in 2006 and was 32.4%.

However, a positive trend was noted while analysing an additional measure, namely, the share of high-technology export in the total export. It was found that it grew gradually from 2.6% in 2003 to 5.9% in 2012 (the value of this indicator in 2012 in the Czech Republic was 16%, in Hungary - 18%, in the United Kingdom - 22%, and in Sweden 13%) (http://data.worldbank.org/ indicator /TX.VAL.TECH.MF.ZS accessed on 28.02.2015).

The number of companies that have bought and sold: licenses, research and development work, means of production processes automation, consulting services, and other technologies

When purchasing technology in the years 2004-2012, Polish companies focused on the means of automation, consulting services, and licenses, while the sale of technology concentrated on automation, consulting services, and R&D work. There was a significant excess of purchases over sales in

Tab. 3. Net income from the sale of innovative products for high and medium-high technology entities and exports share of high-technology in Poland in the years 2003-2012 (in %)

Description	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
The share in the net income from the sale of the products belonging to *high* and *medium-high technology* in companies with more than 9 employees (%)	.	.	31.6	32.8	32.7	33.2	34.2	34.6	32.9	32.4

Source: GUS, *System* Monitorowania Rozwoju, Strateg.stat.gov.pl, http://strateg.stat.gov.pl/Home/Strateg (accessed 08.06.2014).

technology, which unfortunately did not decline, which indicates an existence of a technological gap in the Polish economy (Fig. 4). Until 2008, purchase dynamics of licenses, research and development projects, the automation of production processes, consulting services, and other technologies showed

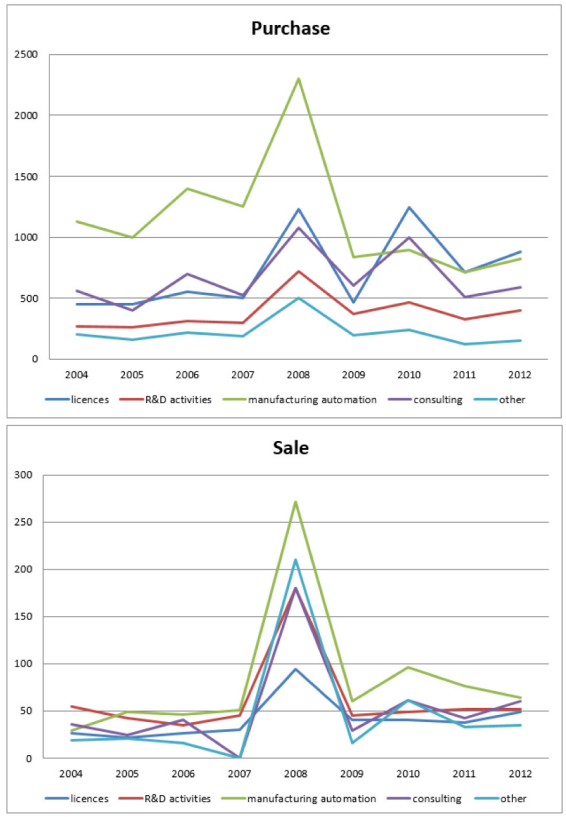

Fig. 4. The number of industrial companies, which purchased/sold technologies in Poland in the years 2009-2012 (in numbers)
Source: Author's elaboration based on Nauka i technika za lata 2006-2012, GUS, Warszawa 2006-2012.

a slightly increasing trend. The highest increase was reported in 2008 (three-fold in absolute value). This was due to the favourable economic situation in Poland during the analysed period. The primary cause of the collapse of the trend in 2009 was a global economic crisis and the associated reduction in the turnover of goods and services. For this reason, despite the available public support, companies significantly reduced their investment budgets.

The increase in the number of production process automations in industrial enterprises is undoubtedly a positive phenomenon, which is conducive to the transformation of the Polish economy into a more technologically advanced one.

However, the disparity between the number of sold and purchased new technologies indicates, among other things, the following:

- a low level of competitive capacity of many Polish products on the global market,
- a clear competitive advantage of foreign products, sometimes coming from countries with no more than an average level of development,
- a low productivity of many foreign technologies used in the Polish industry,
- an excessive consumption of resources, raw materials, and energy,
- an excessive diversity in manufactured products within one company, making it difficult for specialization and reduce unit costs (Grudzewski, Hejduk, 2008).

In conclusion, the analysis of the empirical impact of instruments in support of innovation (I1 – I8) on the five key component groups in 2007-2012 compared to 2004-2006 shows that the following can be said about the effects of this impact (Tab. 4):

1) They can be observed in different timeframes:
- they can become apparent already during the implementation process of the instrument (current impact),
- they may become apparent later (future impact),
- they can be observed both during and after the implementation period of the instrument to promote innovation (current and future impact),
- the can affect other areas of innovation and through the dissemination effect (technology, know-how, etc.) become apparent only later in the future (multi-area, multifaceted impact), for example, in the third period of the EU budget - in 2014-2020.

2) They may be positive or negative and may exhibit different levels of intensity:
- within Component I (Business expenditure on R&D) there has been a reduction. The impact of the instruments on this component has been interpreted as a strong, ongoing (X3) stemming from the I1, I3-I8 instruments, and it is predicted that a moderate impact (Y2) stemming from the I2 instrument will continue,
- within Component II (Industrial companies that cooperated in the field of innovative activity) there has been a clear decline. For this component, some of the instruments cause current effects, some - future effects, but there are also double effects, i.e. - both current and future. Thus, for example, the current effects (strong and moderate) occur mainly on the part of I1, I3, I5,I7 instruments, while future effects are caused by the I2 and I6 instruments, and dual effects: current and future, from the I4 and I8 instruments.

Tab. 4. The matrix of the relationship between instruments to support innovation activities carried out in Poland and key components (indicators) for creation and measurement of the innovative and competitive position of Poland[1]

Instruments for innovation support Key components	Support for target projects (I_1)	Strengthening and development of teaching staff and an increase in the number of graduates with majors that have a key role for a knowledge-based economy (I_2)	Support of R&D projects for the benefit of businesses, carried out by research bodies (I_3)	New investments with high innovative potential (I_4)	Support of the implementation of the R&D results (I_5)	The development research centres with high potential (I_6)	Support for scientific research for building a knowledge-based economy (I_7)	Technology Loan (I_8)
I. Business expenditure on R&D in GDP (%).	X3	Y2	X3	X3	X3	X32)	X3	X3
II. Industrial companies that cooperated in the field of innovative activity (% of innovation active enterprises	X2	Y23)	X3	X2/Y2	X2	Y2	X2	X2/Y2
III The number of patent applications to USPTO (per capita, per million inhabitants)	Y3	X2/ Y2	X2	X2/Y2	X3	X3	X3/Y3	X0/Y0
IV. Net income from the sale of high and medium-high technology products in industrial processing companies (% of share).	Y3	Y1	X2/Y2	X3/ Y2	X2/Y2	Y2	Y2	X3/Y3
V. The number of companies that have bought and sold: licenses, research and development work, means of production processes automation, consulting services, and other technologies.	X3	Y2	X2/Y2	X3	X3	Y2	X2/Y2	X3/Y3

Explanation:

[1)] The current impact of the instrument impact on a component (index) was defined as: strong - X3; moderate - X2; weak -X1; none-X0.. Future impact, including the result of the spread of positive effects of promoting innovation, respectively: strong-Y3, moderate-Y2; weak-Y1; none-Y0.

[2)] Research centres expenditures on R&D.

[3)] By future employees, i.e. graduates of the targeted curriculum programmes), the instrument can contribute to the development of cooperation, innovative activities between companies.

- within Component III (The number of patent applications to the USPTO), there was a decline in their number in 2007-2008, in comparison their number in 2001-2006 in the triadic patent families reported to Patent Cooperation Treaty. For this component, the I3, I5, I6 instruments indicate current impact, for I2, I4 and I7 - current and future impact, additionally, future effects are expected from I1, in the absence of influence from I8,
- within Component IV (Net income from the sale of high and medium-high technology products in industrial processing companies) a small increase in net income was noted in businesses with more than 9 employees, and those with more than 49 employees. This is interpreted as having simultaneously current and future impact on this component by the I3-I5, and I8 instruments, and the future influence of the innovation instruments - I1-I2, I6-I7,
- within Component V (The number of companies that have bought and sold: licenses, research and development work, means of production processes automation, consulting services, and other technologies) the increase in the gap in Polish economy was confirmed, i.e. an increase in the difference between the number of purchases (import) and sales (export) of technology. This is interpreted as having current influence from the I1, I4-I5 instruments, simultaneously current and future influence from I3, I7, I8, instruments, and a future impact from the I2, I6 instruments.

Conclusions

The analysis and the interpretation of the results of innovation changes in Poland seems to indicate the following conclusions concerning the EU measures for financing innovation support instruments during the implementation period 2007-2013:

- they did not result in a significant increase of R&D expenditure in business, which ranged on average, at the level of 40-30%,
- they did not contribute significantly to the increase of the dynamics of the cooperation between the research sector and business,
- they did not result in an increase in the overall number of patents, both per million inhabitants and in the global application share,
- they merely allowed maintaining the level of industrial products sales of high and medium-high technology at the level of the corresponding to years 2004-2006,
- they did not result in an improvement in purchase dynamics of licenses, research and development projects, automation of production processes, consulting services, and other technologies by the enterprises.

Certainly, the effects of the use of EU funds are distributed over time. It is possible, therefore, that the positive consequences of the implementation of projects financed from European funds will become apparent in later years. A synergy effect may be expected, to which the financial support provided for Poland in the 2014-2020 will certainly contribute (See for more detail: Kosztowniak, 2014b). Achieving these effects will be possible if the instruments to stimulate an increase in innovation have a greater focus on the following:

- developing cooperation between enterprises (SMEs and large) and scientific and research units in the form of consortia, public-private partnerships, and other forms of cooperation,
- reducing the financial gap that is apparent at the intersection between research and implementation projects, that is, during the period between project testing and its commercialization – by extending the system of securities and guarantees, that is to say, non-financial instruments supported at earlier stages by financial instruments (preferential loans, extended time for due payments) loan and grant instruments for radical investments,
- using the existing R&D infrastructure in Poland extensively,
- boosting the operation of companies specialized in the preparation and implementation of EU projects (investment and research and development),
- increasing awareness (among beneficiaries of EU and national support instruments) in terms of methods of commercialization and implementation, including the income aspects and means of funding at earlier stages of development.

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13. http://www.sbir.gov
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Appendix 1.

Indicators of innovation and competitiveness creation	Performance measurement indicators for innovation
1. Business expenditure on R&D (% of GDP). 2. Industrial companies that cooperated in the field of innovative activity in % of businesses active in innovation (share in %). 3. Gross national expenditure (GERD), government expenditure, and the expenditure of enterprises R&D (BERD) in Poland in the years 1990-2012 (set prices in USD millions, PPPs). 4. Government and companies spending on R&D and expenditure financed by the domestic industrial sector in the years 1987-2012 (in % of the domestic expenditure on R&D, GERD) 5. Expenditure of branches of foreign companies on R&D operating in Poland in the years 2000-2009 (in percent of total business expenditure). 6. Government spending on research in Poland in 2004-2011 (in percent the national total expenditure). 7. R&D gross national expenditure (GERD) Poland in the years 1992-2012 (annual percentage changes). 8. Gross national expenditure on R&D in Poland in the years 2001-2011 (in % of GDP). 9. Sectoral sources of funding business expenditure in Poland in the years 1994-2011 (in million USD, at set prices, PPPs). 10. Expenditure of the enterprises according to the type of research funded in Poland in the years 2005-2010 (in million USD) at set prices, PPPs). 11. Gross fixed capital spending in Poland in the years 1994-2013 (in percent of GDP, annual change in %, in set prices). 12. Enterprises in the sector of SME introducing product innovations or process in terms of innovative activity in Poland in the years 2003-2012 (in percent). 13. Industrial companies undertaking expenditure on innovation activities - number of companies with 50 employees and more in Poland in the years 2003-2012 (in percent).	1. The number of patent applications to the USPTO (per million people). 2. The number of companies that have bought and sold: licenses, research and development work, means of production processes automation, consulting services, and other technologies 3. Net income from the sale of high and medium-high technology products in industrial processing companies (in % of net income). 4. Position of Poland in the international rankings 5. The number of technological ICT patents registered by Poland in the USPTO (ICT patent grants) from 1980 to 2010, per number of inhabitants (number per million inhabitants). 6. The number of patents (triadic patents families) registered by Poland in the years 1985-2012 (number). 7. The number of patents (triadicpatentsfamilies) reported by Poland in the years 1985-2012 (in number, in % Global applications). 8. The total number of patent applications (tradicpatentsfamilies) in 1985-2011 in Poland per number of inhabitants (number per million inhabitants). 9. The number of patents (triadicpatentsfamilies) reported by Poland in the years 1984-2010 to the Patent Cooperation Treaty, PCT) (number). 10. The net income from the sale of the innovative products belonging to high and medium-high technology 11. Share of high technology exports in Poland in the years 2003-2012 (net income from the sale of the total sales in industrial enterprises in manufacturing (in percent) in the number of enterprises and in the total exports (in percent). 12. The structure of exports of industrial products of high, medium, and low Polish technology in 1994-2011 (in percent). 13. Market structure of innovative enterprises in Poland in the years 2003-2012 (in percent)

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Product-Service Systems in a manufacturing company strategy - a review paper

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ABSTRACT
Fierce competition among entrepreneurs, the process of global economy servicization and increasing customer demands force manufacturers to introduce new business models and new solutions such as Product-Service Systems (PSS). In this paper, the Product-Service Systems concept is reviewed, on the basis of the latest academic literature. The classification of PSS types is also presented. Benefits that accrue from systems of integrated products and services implementation, as well as barriers and challenges that a manufacturing company faces in this process, are indicated. The successfully applied Product-Service Systems in industrial sector firms at global market are also presented. The author made a review of research that have been conducted in recent years in many academic institutes worldwide.

KEY WORDS
Product-Service Systems, Industrial Product-Service Systems, integration of products and services, manufacturing industry, servicization

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Introduction

Fierce competition among entrepreneurs, along with changes occurring in the global economy (the shift into servicization of the economy or Functional Economy) and increasing customer demands force manufacturers to introduce new solutions into their entities. Delivery of combination of services and physical products is not only a possible solution for a manufacturing company, but become a necessity in order to increase their revenues and to ensure a competitive position on the market place. Product-Service Systems (PSS) is a solution that integrates intangible services and physical products into offering that deliver value in use (Baines et al., 2007). Although an idea of offering products joined with services is not a novelty (e.g. apartments' or cars' rental), first formal definition of PSS was formulated in 1999 by Mark Goedkoop, who stated that the Product-Service System is a "marketable set of products and services jointly fulfilling user's needs" (Goedkoop, 1999). Its author underscored less environmental impact of the PSS in comparison to the classic business model, which focuses only on physical product, its manufacture and sale. Academic scientists have become increasingly interested in studying different aspects of PSS in recent decades. Fig. 1 represents findings (Ostaeyen, 2014) from searching the scientific databases (Emerald Insight, Elsevier Science Direct, Springer Link and Ingentaconnect) for articles published between 2000 and 2013 that contained the PSS term in the title, abstract or keywords. As it can be observed – the number has augmented considerably in last few years.

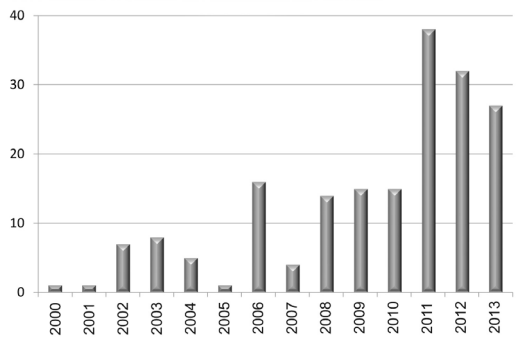

Fig. 1. Number of academic journal articles with the term Product–Service System(s) in title, abstract or keywords, published between January 2000 and July 2013.
Source: (Ostaeyen, 2014)

However, in many scientific publications the authors point out the lack (Meier, Roy, Selinger, 2010) or limitations (Beuren, Ferreira, Miguel, 2013) in methodological or standardized support for PSS introduction in company's strategy, therefore the subject area seems to be insufficiently explored.

In this paper the main idea of Product-Service Systems is presented, as well as the reasons for application of such a solution in a manufacturing company. The author made a review of the academic literature on the PSS and research conducted worldwide in the field in question - few examples of which are presented in the third section of the article. Finally, the case studies of successfully implemented integrated products and services are given. The relative novelty of the Product-Service Systems concept and growing importance of services in the industry business brought the author to consider this topic.

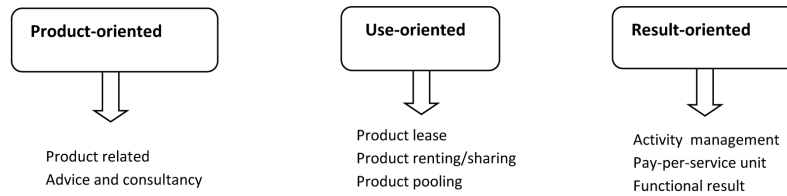

Fig. 2. Categories of Product-Service Systems
Source: (Tukker, 2004).

1. The concept of Product-Service Systems

The Product-Service Systems idea has been expounded in the north of Europe in the 1990s (Beuren, Ferreira, Miguel, 2013). A shift from selling products to providing services as a trend which aims at adding value to a business (ibid.) has been observed globally in recent years. As the economy based on purchasing product has been under transformation into the economy based on the use of product, the providers of "pure physical goods" have to respond and adjust to changing market conditions. On the other hand, a "pure service" provision may become not sufficient for a society of demanding customers. Thus, integrated products' and services' offerings are much more satisfactory from the client's perspective, and also more profitable and cost-effective from provider's point of view. The first definition of a Product-Service System was formulated by Goedkoop in 1999 (cited in the previous section). Mont defines it as "a system of products, services, supporting networks and infrastructure that is designed to be: competitive, satisfy customer needs and have a lower impact than traditional business models" (Mont, 2002). A few other definitions appeared afterwards (e.g. Baines, 2007), nevertheless more of them convey the same idea of the integration of tangible products with intangible services into system which continuously strives for delivering value to the customer and reduces the environmental impact of economic activity at the same time. When including the PSS into business strategy, one can choose an optimal solution from different types (Tukker, 2004) categorised at the Fig. 2.

The three main categories of the PSS types, namely product-oriented, use-oriented and result-oriented services, are widely identified in many scientific publications. Tukker (2004), however, proposes eight types of Product-Service Systems in the frame of these three key categories, considering different economic and environmental characteristics of each. The first category – product-oriented services – is when a business model is based on physical product's sale but some extra services are added. Here two subcategories are indicated: product related services (such as: a maintenance contract, a financing scheme or even a take-back agreement) and advice and consultancy (like: trainings in the usage of the product, advice on optimizing the logistics aspects of its usage). The next category is use-oriented services. It involves the change of a classic business model and it posits no shift of ownership. The provider holds the property of the product. In all three subcategories it is the provider who is responsible for maintenance, repair, control and disposal as well. The product lease involve the lessee payments with unlimited and individual access to the product. The product renting or sharing subcategory differs from the previous one on the access mode, which is limited and sequential (the users shift in time). Product pooling, the least popular for the moment, distinguishes from others only with a simultaneous use of the product. The last main category is a solution based on the mutual contract between the provider and the client on a result or capability and no pre-determined product is assigned. The activity management/outsourcing subtype is when an activity or its part is outsourced to the third party (e.g.: catering or cleaning offices). The pay-per-service unit subcategory embraces a number of PSS examples where the output of the product is sold on different level of use. The user pays for availability and the real-time utilization of the product. The last sub-

type of this group, namely functional result, contains the solutions applied in companies whose offerings are based on delivery of the result including abstract terms such as "pleasant climate" (instead of office furniture sale) or "minimum harvest loss" (in place of pesticides sale).

A Product-Service System can be also defined as 'an innovation strategy, shifting the business focus from designing (and selling) physical products only, to designing (and selling) a system of products and services which are jointly capable of fulfilling specific client demands'(Manzini, Vezoli 2003). This definition seems more useful from the manufacturer perspective. It points out the direction of the shift of activities when the application of integrated product-service solution in manufacturing company is considered. Industrial application of PSS is somewhat specific in many aspects, hence the term Industrial Product-Service Systems (IPS2) is define as "characterized by the integrated and mutually determined planning, development, provision and use of product and services shares including its immanent software components in Business-to-Business applications and represents a knowledge-intensive socio-technical system" (Meier, Roy, Selinger 2010), what means in details:

- an IPS2 is an integrated product and service offering that delivers value in industrial applications
- IPS2 is a new product understanding consisting of integrated product and service share
- IPS2 comprises the integrated mutually determined planning, development, provision and use
- IPS2 includes dynamic adoption of changing customer demands and provider abilities
- the partial substitution of product and service shares over the lifecycle is possible
- the integrated understanding leads to new customer-adjusted solutions
- IPS2 enable innovative function-, availability- or result-oriented business models (ibid.).

Integration of products and services in manufacturing industry requires also the integration of manufacturer's and client's product lifecycle perspective, which was previously separable and the second one started in the point of the end of the first one. The manufacturer originally dealt with the product in the stages of: product design, then manufacturing, servicing and occasionally remanufacturing afterwards. From the industrial customer point of view the management of the product starts with purchasing, then product use stage and disposal at the end of its lifecycle. In the Product-Service System solution, the manufacturer supports and assists the client and take other actions by the means of intangible services provision, continuously during the other stages (that is: purchasing, use and disposal). Therefore, the Industrial Product-Service System accounts for two subsystems (the manufacturer's and industrial customer's) that are related, and mutually determined and directly interactive (Fig. 3).

2. IPS² BENEFITS AND BARRIERS

On the basis of literature review and the analysis of examples from global market, the benefits, challenges and barriers that manufacturing company can face during the process of PSS implementation were recognized and are presented in this section.

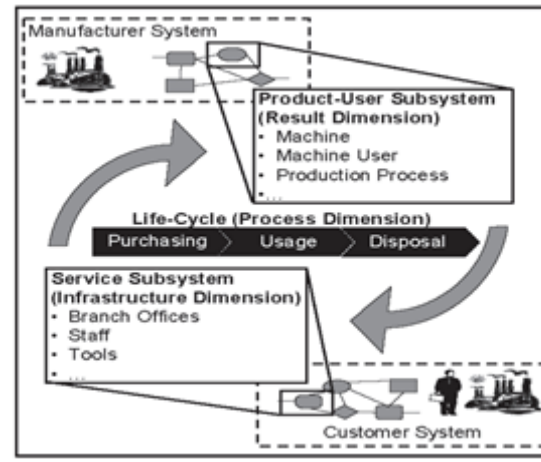

Fig. 3. Product-Service Systems in industrial application
Source: (Aurich, Schweitzer, Fuchs 2007).

Integrating industrial production of physical goods with service providing poses many innovative challenges for the manufacturing industry at the technological, organizational and even human level. Nonetheless, in a result, an implementation of the Product-Service System brings substantial benefits for the manufacturing company, such as:

- competitiveness enhancement – the PSS introduction is a new source of competitiveness, which is difficult to obtain and copy in a short time; the manufacturer may leave the price competition and shift from leadership in technology to leadership in utilization,
- reduction of production costs – e.g. through reuse of parts from the products that reached its end of life and optimal use of materials (likewise knowledge and/or technology) in a production process,
- new means of exploitation of knowledge and human resources,
- increase of productivity – through the savings made on costs' reduction and new source of incomes based on the use of the product during the all lifecycle,

- higher customer loyalty and satisfaction – due to stronger, more frequent and/or continuous contacts with the client, deeper and more intense relationships are established,
- accessibility to product thorough all lifecycle – which provide information about the product at all stages of its lifecycle and thereby enhance its innovation potential,
- easier recycling management – by the accessibility to the product and possibility to forecast and plan the recycling process.

The nature of profits are therefore economic, ecological and social as well. The sustainability issues can also arrive. Less environment impact can be obtain through: reduction in consumption by alternative of product use, reducing waste by the prolonging of the product lifecycle and refurbishment, reuse of materials disassembled from products that achieved the end of life and responsible recycling. From the customer point of view, integrated product-service offerings guarantee the continuous satisfaction, contain a flexible and personalized service and ensure quality advantages in products and services (Beuren, Ferreira, Miguel 2013).

However, as mentioned above, the shift from manufacturing products into delivering a product-service mix is relatively demanding and involves a lot of challenges and tasks to be accomplished. Several, but certainly not all of them, are listed below:

- risk assessment – complexity and unpredictability of costs along with uncertainty involved in the IPS2 and difficulties in identification of all risks sources influence the assessment process,
- cost and productivity analysis –all costs at various stages of product lifecycle (design, delivery, adaptation) have to be considered, and, additionally, services costs that include hidden values (such as: relationship management costs, communication costs, costs of reverse logistic etc.) are somewhat problematic in identification, measurement and assessment,
- cost forecasting – if cost analysis causes difficulties, the forecasting is thereby harder and more complicated to proceed,
- system approach – the integration of products and services requires the change of company approach from "product thinking" into "system thinking";
- planning and designing of integrated products and services –not only do different methods and tools should be applied (whereas still in practice product design methods are used only) but also both design processes should complement each other and take place simultaneously,
- product Lifecycle Management – the manufacturer have to deal with the product and service through their all lifecycle, from planning and designing to the recycling or disposal,
- new business model application – the business model should be carefully chosen on the basis of in-depth analysis of company capabilities, product features and customers' expectations,
- customer relationship management – the relationships with clients achieve an extended and higher level than in traditional product-focused business models, therefore their management poses an additional challenge for organization,
- information management – in IPS2 the information system has to integrate the management of product and service information as well as client's database information.

Thus, the process of product-service integration engages employees of different departments and specialist of different fields such as: service designers, product designers, analysts, production engineers, managers and economists, marketing experts. The Product-Service System implementation is then a multidisciplinary undertaking.

Analysis of these challenges reveals the main barriers that the manufacturer willing to introduce PSS into the company strategy may encounter. The first obstacle is that development, design and implementation of product-service systems are time- and cost-consuming. The risk involved is complex and difficult to assess. Industry companies are not experienced in service provision, therefore they usually need new specialized employees, both for the IPS2 preparation and delivery phase. Also the lack of experience in planning and designing integrated products and services instead of physical good account for a major barrier. However, one of the most impassable obstacle is organizational and structural change that follows employment of the new business model. It is noteworthy that the customers attitude to change may also become a problem, as they may not be excited about the new solution or not ready yet to resign from the product ownership and thereby cause a failure of the PSS implementation.

3. Examples of research conducted on PSS

Academic and business interest in integration of services with products in a system has been increasing since recently. The number of publication has risen over ten times in last few years especially (Ostaeyen, 2014; Bauren, Ferreira, Miguel, 2013). The articles embrace the wide range of topics related to the PSS, from aspects like: PSS definitions, design of

PSS, methods for cost analysis and factors of failure, through the sustainability and environment impact of PSS, ending with engineering aspects of products and services integration. The examples of the projects and research that have been or are currently conducted on PSS has been recognized and few of them are presented below.

The MEPSS (Methodology for Product Service Systems) was a project conducted by international team within 5th Framework Programme of European Union Funds. The project aimed to develop a methodology and toolkit to assist companies in finding, designing, developing and implementing complex innovations in which products and services are combined. MEPSS was conducted by a consortium of eight partners, which where academia and business representatives (more details can be found on the project website). The result of the project is webtool, accessible online on www.mepss.nl, where an organization can learn the methodologies in various fields of expertise that are needed to cover the various aspects to take into account while developing, implementing and monitoring new product service systems. Also the handbook on how to implement clean, clever and competitive strategies in European industries was published as an outcome of the project.

Professor Ursula Tischner in 1996 founded econcept, Agency for Sustainable Design, in Cologne (www.econcept.org). With econcept she carries out research and consulting projects with small and large companies and other organizations on sustainable- and eco-design and innovation including the Product-Service Systems. SusProNet (a European Union network on Sustainable Product-Service Development, conducted in 2002-2004) was one of the numerous projects, in which the econcept agency was involved. The SusProNet focused its attention on the series of industry sector oriented workshops and conferences that aimed to provide examples of "Best Practice", in order to form a platform for information and experience exchange, and to develop training courses for the ideal form of industry-authority interplay. In the final report of the project the conclusions on the lessons learned about the best approaches to PSS development is discussed in relation to responsibilities, differences to regular product development and the main tools and approaches used for analysis. Also an overview of the main drivers, opportunities for PSS, the contribution of sustainability and potential approaches for policy support are given (Charter, Adams, Clark 2004).

GrAT (Center for Appropriate Technology) is a scientific association for research and development of Appropriate Technology operating within Vienna University of Technology. Its representative of chairman, Myung Joo Kang, Ph.D., focuses in his work on product/service systems. Since 1986, GrAT has been proactively responding to a wide range of relevant issues in sustainable development, such as: sustainable building, renewable resources, product service systems (PSS), cleaner production, eco design. In 01.2006-01.2007 the Successful Strategies for Product Service Systems project was carried out in cooperation with econcept and Stenum GmbH (STENUM Environmental Consultancy and Research Company). The main goal of the project was to elaborate a development strategy for a successful PSS example/ case study in the SME (small and medium enterprises) sector in Austria. The factors of success were tested and verified in parallel to the development of the design concept, while scenarios were valued for their relevance to sustainable development. After developing a systematic analysis of Austrian and international examples of successful and unsuccessful PSS, the most important criteria for success and failure were selected according to the chosen fields and target groups. Recommended actions for politic, companies and consumers were developed from the deduced success factors (http://www.econcept.org).

EDITPS (Edutainment for Designing Integrated Product-Service System) is an educational business game developed by Shimomura Laboratory, Tokyo Metropolitan University, Japan. The game is accessible online (http://www.comp.tmu.ac.jp/smmlab/research/ EDIPS_e.html) and enables player to effectively and enjoyably learn the viewpoint of value amplification by combining products and services through active thinking in a simulated environment (Shimomura, Nemoto, Kimita 2014). The game was developed as a tool which enables designers who have only known traditional engineering and find rather difficult to obtain a mutli-disciplinary viewpoint, which is necessary in providing PSS in the manufacturing industry, spontaneously. This tool earned positive feedbacks during the 5th Industrial Produce-Service System conference and now trials of the game have been started in several university in various countries.

Professor Tobias Larsson from Blekinge Institute of Technology, Sweden, is a head of the Center for Sustainable Product-Service System Innovation (SPIRIT). The core of Prof. Larrson's scientific interest is within Product-Service Systems Innovation where the focus is on developing methods and tools for engineering product development and simulation applications in industrial settings to support development of sustainable product-service systems (PSS) that should create value on the market. The SPIRIT centre crucial current project is "Model Driven Development and Decision Support" (2013-2018)

which main goal is to support the rapid expansion of the research within Product-Service Systems, Strategic Sustainable Development, Innovative Product Development and Simulation Driven Design.

Professor's Rajkumar Roy from Cranfield University (United Kingdom) areas of expertise are: manufacturing, product and service design, through-life engineering services, defence and security, operational analysis and simulation, computing, simulation and modelling. He has been researching the concept of products and services integration for many years now and published numerous scientific articles on this subject (eg. Roy, Shaw et al., 2013; Bankole, Roy, 2012; Romero, Roy et al. 2012; Datta, Roy, 2011; Vasantha, Roy, et al.; 2011; Meier, Roy, Seliger, 2010). He studied particularly the defence and aerospace industry and the problems connected with implementing services in these sectors. Currently, he is a director of the EPSRC Centre for Innovative Manufacturing in Through-life Engineering Services, which combines innovative research and engineering knowledge to tackle some major research challenges in through-life engineering services. The centre's core projects are among others: Reduction of no-fault found (NFF) through system design, Characterisation of in-service component feedback for system design and manufacturing and Improvement of system design process for whole life cost reduction (http://www.through-life-engineering-services.org/index.php/research/ core-projects, 30.03.20150).

CIRP (The International Institution for Production Engineering Research) is the world leading organization in production engineering research and is at the forefront of design, optimization, control and management of processes, machines and systems. The Academy has restricted membership based on demonstrated excellence in research and has nearly 600 academic and industrial members from 50 industrialized countries. For last 6 years CIRP has organized International Conference on Industrial Product/Service Systems IPS2, which aims at increasing industrial and academic collaborations. The Conference brings together researchers, industrials and experts in this area, to exchanges ideas, innovations and recent progresses in providing concrete solutions to enhance world-class capabilities in enabling industry transformation towards more services. Since 2009, the CIRP International Conference on Industrial Product-Service Systems (IPS^2) has become one of the most famous international forums to exchange recent developments, research findings and visions in the field of product-service systems (http://ipss2015.emse.fr/, 30.03.2015).

Professor Andy Neely, who is widely recognized for his work on the servitization of manufacturing, carried out a global analysis on trends in manufacturing in 2007. Figure 4 illustrates the percentage of companies focusing on mixed offerings (products and services) which employ over 100 personnel and operate in manufacturing industry (data was gattered from the OSIRIS database, based on US SIC codes 10-39, i.e. from metal mining up to miscellaneous manufacturing) (Meier, Roy, Seliger, 2010). It is noteworthy that the revenue of the enterprises, which offer both services and products, constitutes a major share of all revenues while being represented by a less numerous group. This lead to a conclusion that the integrated product-service offerings produce higher incomes.

Whether Polish companies has not been examined in the survey or if the percentage of manufacturing companies that offer combined product-service mix was insignificantly greater than zero, it is presumable that the level of Polish companies which have the integrated product-service offerings is comparable to Japan's or China'a level and thereby is significantly lower than Belgium's or USA's score. Polish scientific literature on Product-Service Systems is very limited (see: Michałowicz, 2014; Janczewski, 2014; Brzustewicz, 2012) and focused mainly on literature overview and application of PSS in certain market's sector. To the best of author's knowledge, no study on PSS has been undertaken by any polish academic institution or scientist.

4. Industrial application of PSS – case studies/examples

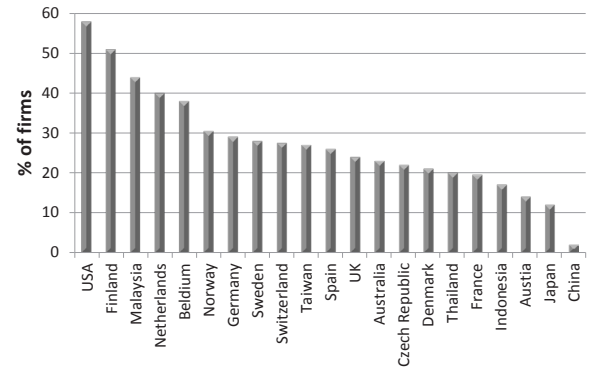

Fig. 4. Percentage of manufacturing companies with integrated product-service offerings
Source: (Meier, Roy, Seliger 2010)

In this section of the paper a few examples of successfully applied PSS are given. Noteworthy is that the success depends on the culture and habits of the clients' population. Some populations are more willing than others to accept the fact of resignation of the product ownership and find the use-oriented or result-oriented services more satisfactory instead. Ad-

ditionally, not every manufactured product can be easily combine with a service and specific services should be matched with appropriate kind of products only. The study of successfully applied PSS examples illustrates that it seems more likely to become a win-win solution if the machinery industry is concerned and/or the products of high price level are manufactured. That is why the decision of implementing the PSS into business strategy should be carefully considered, planned and designed and followed by the analysis of market and clients' preferences. The prototyping of product-service mix as a pilot project is also advised.

Rolls Royce Holding plc is in the literature one of the most commonly presented cases for successful integration of services and products. The company was founded in the 1987, in the process of Rolls Royce Limited privatisation, after the split of Rolls Royce (founded in 1906) into: Rolls-Royce Motor (cars producer) and Rolls-Royce Limited (aero-engines etc.). Over the past couple of decades Rolls-Royce has transformed itself from a lossmaking British firm into the world's second-biggest producer of large jet engines. For this purpose, it has deliberately blurred the lines between manufacturing products and offering services. The turbine blades, that they manufactured, cost about $10,000 each, and were difficult to make because they had to survive high temperatures and huge stresses. Rolls-Royce's main rivals had also mastered the art. In such a competitive field an incremental advance by one manufacturer is usually matched by the others within a couple of years. Therefore Rolls-Royce decided to developed a new product - large jet engine - and explored this way the American market of aircrafts, as the company made engines for European aircraft manufacturers at the time. Innovative ideas that company adopted in new products were: the use of carbon composites to make fan blades and the change of the basic architecture of jet engines by using three shafts instead of two. The technology turned out very costly, but also fuel-efficient and more complex to design, build and maintain in comparison to the rivals' products. Additionally, Rolls Royce realized that in engine-manufacturing business more profits come from selling spares and servicing engines. And the product maintenance is the big pay-off service, which can be performed by independent firms. This is where Rolls-Royce has integrated its technology with a service to make it more difficult for competitors to pinch its business. Instead of selling airlines first engines and then parts and service, Rolls-Royce has convinced its customers to pay a fee for every hour that an engine runs. The company in turn promises to maintain it and replace it if it breaks down. "They aren't selling engines, they are selling hot air out the back of an engine," says an investment analyst. Rolls Royce has been offering the service for more than a decade; more than half of its engines in service are covered by such contracts, as are about 80% of those it is now selling (http://www.economist.com/node/12887368, 29.03.2015).

Xerox International originally only produced photocopiers. Already many years ago, they also have developed their asset management programme, where products are sold or leased under contract, guaranteeing customer satisfaction through functioning machines as a fixed price per copy. Products and processes are designed for re-manufacturing. In recent years, they have developed into document full service and expertise company. They now offer a broad range of services including printing consultancy, document translation, software, support services and outsourcing services (http://www.mepss.nl/). Xerox reports that: "In 2013, 84% of our total revenue was annuity-based, which includes contracted services, equipment maintenance, consumable supplies and financing, among other elements. The remaining 16% of our revenue comes from equipment sales. (..) Our annuity revenue significantly benefits from growth in Services" (Xerox 2013 Annual Report).

Hydro Industries is an UK high-tech company making electro-based products for water purification.

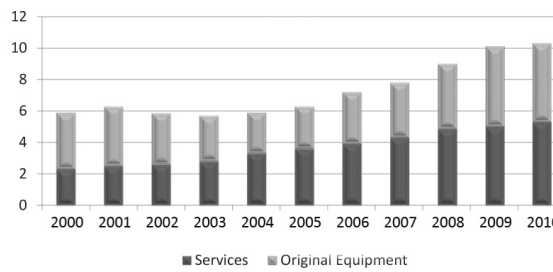

Fig. 5. Rolls Royce income structure form 2000 to 2010 (£ bn).

Source: http://www.economist.com/node/18073351, online, (21.02.2015)

Until 2009 it was focused on intensive development of its products only. Then, the company decided to introduce services related to the product they offered. The integrated product-service solution was carefully design and planned and finally prototyped. In 2011 the company launched a new product onto the market, which was a deployment treatment unit combined with the before- and after-sale services. Nowadays, Hydro's services are designed to provide a seamless working client relationship from initial site investigation through to design, manufacture, installation and after-sales on-site support and service maintenance. The services include also feed water charac-

terisation following the site investigation, the remote monitoring and control and the electrode management service. From six-staff company and £1,5 mln of turnover operating on British market at the beginning, it has grown to 30-employees enterprise with £3,5 mln turnover with an international client database and new factory facility (Thurston, 2013).

Examples given above show the profitability of Industrial Product Service Systems implementation, especially from the manufacturer's point of view. The next and last example illustrates the way that IPS2 may be applied in industry company.

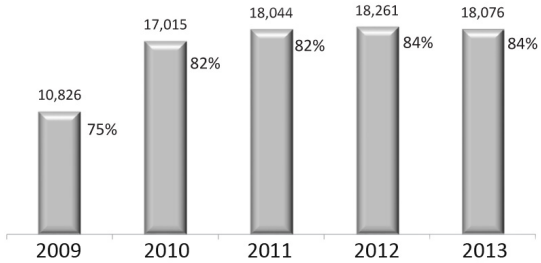

Fig. 6. Xerox annuity revenue from 2009 to 2013 (£ mln).
Source: http://www.xerox.com/annualreport/2013/assets/xerox-oar-2013-full.pdf, online, accessed on 30.03.2015

NILES-SIMMONS is a German machine tool manufacturer, which supplies tailor-made system solutions. With the products, which are machine tools and manufacturing equipment for aerospace industry, truck- and automotive industry, tools and die industry, railway and machine building industry, there are services of proactive maintenance integrated. The services are based on remote equipment observation, wear-analyses and error analysis which aim is to improve operational safety and process security. Furthermore, there are standard after-sale services offered, such as spare parts, trainings for the client's staff and field service, however these services need a customer initiative. The service of remote monitoring is a further step towards IPS2, as it requires the manufacturer (service provider) initiative, thereby it represents the availability-oriented business model (Meier, Roy, Selinger 2010).

Conclusions

An integration of physical products with intangible services become unavoidable even for companies operating in manufacturing sector which originally focused mainly on the product and its sale. Although integrating industrial production with service providing poses many innovative challenges for the manufacturing industry at many levels, the examples of those who already applied such solution in its strategy prove profitability, in some cases of significant volume. The benefits that accrue from introduction of the PSS into business strategy are not only economic, but also ecological and social. The PSS idea development follows the sustainability economic growth concept. Less environment impact can be obtain for instance through alternative of use a product instead of purchase. Customer, on the other hand, receives benefits from a flexible and personalized service and quality advantages of products and services.

The Product-Service Systems (and/or Industrial PSS) is still an emerging scientific field, which is demonstrated by the rising number of articles published in last years. Nevertheless, the subject seems to be neglected in Polish academic publications and research. This article presents the review of a Product-Service System concept and its application in industry sector. The author is particularly interested in the system approach and analysis methods that may be employed in PSS planning and developing. The potential of Polish industry sector in terms of PSS implementation will be studied in details in the future as well.

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Development and the current situation in the financial market in Slovakia

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ABSTRACT
The aim of the submitted paper is to summarize and analyze the current situation, conditions and factors influencing the further development in the financial market in Slovakia. It commences with the fundamental theoretical basis of the financial market area. Afterwards, the development in the last years (2011, 2012 and 2013) are described and the factors contributing to changes that have occurred in the financial-market area during the investment development in Slovakia are pointed out. Consequently, it is obvious that investments are closely associated with changes ongoing in the financial market. In this paper the stress is laid on collective investments, interest rates and income investments which affect the company investments realized in the financial market. For the fulfillment of the main goal of this work, the inductive and deductive methods are used in order to achieve the results enabling the comparison to investments realized in the above-indicated individual years and to point out the changes associated with a development in the European Union.

KEY WORDS
financial market, investment, development in Slovakia

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Introduction

Financial markets are typically defined by having transparent pricing, basic regulations on trading, costs and fees and market forces determining the prices of securities of that trade. Some financial markets allow only participants that meet certain criteria, which can be based on factors like the amount of money held, the investor's geographical location, knowledge of the markets or the profession of the participant.

The financial market can be defined as the market, in which financial participants and mediators ensure, by means of the financial instruments, the movement of the short-, medium- and long-term capital among individual economic subjects at the national and international scale (Chovancová et al., 2006). The segmentation of the financial market is presented in the Tab. 1.

Tab. 1. The segmentation of the financial market

Financial market			
Exchange market	Monetary market	Capital market	Market of precious metals
	Market of short-term credits	Long-term securities market	
	Short-term securities market	Market of long-term credits	

Source: (Zatrochová, 2011).

The financial market can be also defined as a market in which the short-, medium- and long-term capital movement, existing among individual economic subjects at the national and international level, is ensured by financial mediators using financial instruments. This definition underscores three basic aspects, namely:

- the system of financial instruments,
- the system of financial institutions,
- the mechanism which ensures the transformation of monetary surpluses of one economic sector to a deficit economic sector in order to finance its needs (Mishkin, 2011).

The financial market functions according to the mechanism based, on the one hand, on market principles ensuring the meeting of an offer with a demand, which results in the balanced prices of financial instruments and services, and, on the other hand, on regulative state elements determining the general rules of the financial market in operation. The aim of these rules is to achieve the market functionality and also the protection of investors. For companies the crucial external financial source is the financial market. The financial market is a "heart" of the financial system performing its life functions. It estimates the volume of useable sources, stimulates savings, imposes interest rates and the prices of securities (Chovancová, 2014).

In advanced market economics, active participants are financial organizations and institutions involving, for example, banks and insurance companies. The bank sector belongs to the most important branches of the national economy which ensure the functioning of the economic system in every country. This is valid also for the Slovak Republic where, in recent years, the bank sector has played an important role in developing the transforming economics. The inspection of the bank sector activity is effected by the National Bank of Slovakia (NBS) within the integrated inspection of the financial markets which are one of its un-separable parts. The NBS is oriented to the monitoring of risks and its fundamental objective is to take steps to the minimization of various kinds of risks occurring in the bank sector (NBS, 2012, p. 54).

1. Economy Development in 2011

The analysis of the financial sector evaluating the year of 2010 in Slovakia pointed out the relatively favorable trends in the macroeconomic development and indications of the stabilized financial markets. On the other hand, the NBS warned that behind this development were hidden risks which could have a negative impact on the macroeconomic development and the situation in financial markets.

However, the economic situation in the first half of the 2011year became worse in many areas. The uncertainty in financial markets was rising as well as worries about the health of European banks, about the crisis in the euro-zone countries and also about the decrease in the global economic growth. These negative trends influenced each other aggravating the situation in most areas even more. While economic reports in some countries remained positive in the first quarter of the year, in the second quarter of the 2011 the majority of economic blocks experienced the economic slowdown or even recession. The most important factor of the deteriorated economic situation was a growing inflation and the anticipation of the economic slowdown in developed economics. In the U.S.A, the slowdown appeared already in the first quarter of the year of 2011 and in the euro-zone it occurred later, i.e. in the next quarter of the year. The negative trends of a slowdown of the economic growth manifested themselves also in Germany, which might have a harmful effect on the Slovak Republic, the export of which is oriented to this country. Such negative expectations of the economic growth escalated the crisis in the euro-zone increasingly. Both the fear of the sustainable debt service and the deteriorated situation in a bank sector expanded also to other countries. As for the Slovak banks, their profits in the third quarter of the 2011 were still doubled in comparison with the same period of the previous year. The debt crisis and other negative phenomena caused that in global financial markets the uncertainty was increasing and worsening the financial system stability. The International Monetary Fund (IMF) along with the European Central Bank (ECB) are of the opinion that the stability of the global and European financial system is threatened and therefore it is necessary to find a joint solution. Despite this statement, the economic situation in the Slovak Republic and its financial sector have not experienced markedly the negative global trends so far. When considering the first six months of the 2011 the situation was relatively good and neither the uncertainty in global financial markets nor a decreasing economic growth had a damaging effect on the Slovak economics. The next development will depend on the impact of the crisis on Slovak households and companies. Most sectors recorded the growing volume of assets. In some sectors the profitability increased and in some of them even approached a level before the crisis. This can be accounted for mainly the orientation of the national financial system to the country´s economics and also the fact that in the first six months there still

predominated positive data about the economic growth in Slovakia. In the next period the stability of the home financial sector will depend, to a large extent, on the development of macroeconomic foundations in the national and foreign economics. For the Slovak financial sector a great importance will have mainly the situation in export-based industrial branches and also the development in the sector of households, the significance of which is given an increased attention. The households participate, to a large extent, in the growth of credits contributing to the profitability of banks. They constitute the important part of insurance businesses and dominate in the growth of assets within the second- and third pension-saving pillars. The financial position and ability to reimburse commitments to banks, and also the consumption mood in households, will influence considerably the growth of assets and the profitability of the national financial sector. Since the year of 2009 the importance of the company sector in the Slovak financial system has been slightly decreasing. However, its financial position has a direct impact mainly on the bank sector. Now a period of stagnation proceeds between them because the demand for credits from the side of companies is low and meanwhile the banks do not expect any improvement. Consequently, the deterioration of the companies´ performance and negative expectations for future can directly or indirectly influence the stability of the financial sector. The situation in the company sector is important also for the sector of households.

A key event of the year of 2011 was a rise of the debt crisis in euro-zone countries. For its elimination it was vitally important to find a way how to overcome this problem in a short- or medium-range perspective and thus support the next macroeconomic development and financial stability practically in the whole world. Since the beginning of the year of 2011 the debt crisis in euro-zone countries has passed through many phases. When Ireland accepted rescue fund from the European Union and the International Monetary Fund in December of 2010, attention shifted to Portugal. Despite the fact that the leading politicians of the euro-zone concluded in March 2011 an agreement to strengthen the temporary rescue fund EFSF (European Financial Stability Facility) and the future permanent rescue mechanism ESM (European Stability Mechanism), the pressure of financial markets finally necessitated the provision of a financial aid to Portugal. Thus Portugal became the third euro-zone country which received a rescue fund within the rescue programme of the European Union and the International Monetary Fund. At the first half of the 2011 Greece returned again to the centre of the crisis when it was obvious that it was impossible to realize its comeback to bond markets in the initially intended time horizon. As a consequence, it was necessary to provide the second rescue fund to Greece. The revenues into the maturity of governmental bonds and CDS (Credit Default Swap) spreads, i.e. the fees of Greece and also of other inflicted countries, increased to new historical maxima on the background of the complicated and time-consuming discussion about the structure of the rescue fund. The tension in markets arose due to a long-time unsolved question whether the financial burden should be transmitted, at least partially, also to a private sector and if so, in which form it should be done. Finally, the following variant was accepted: private investors will be involved in the process in the form of a relatively comprehensive scheme implying for them the realization of a loss from the holding of these securities. The participation in this scheme was based on the voluntary decision.

2. Methods

In the area of investigation carried out to find out the situation in the financial market many unsolved questions were detected. Their initial status was examined by using basic scientific methods incorporating a cycle of gathered empirical data, their classification and processing. The research methods enable one to formulate the new recognition, its elucidation and classification into outputs in the form of diagrams and tables. In the indicated output (of the paper) the fundamental experimental method based on the current state of the financial market in Slovakia was used. It analyzes the market financial situation, outlines basic problems and subsequently processes outputs by a logical deduction, and, of course, it also summarizes conclusions in the given field.

In 2012, the economic environment of the financial sector went through a continually proceeding uncertain development. Although it is true that in this year the development in financial markets gradually calmed down due to steps taken by the European Central Bank (ECB), the market expectations for a better macroeconomic development were not fulfilled. It was just the macroeconomic development which confirmed the continuation of the uncertain development at the end of the year of 2012. In comparison with the 2011, the situation partially improved, but, on the other hand, a problem of the insufficient economic growth associated with a low competitive ability became more pronounced.

In the course of the year of 2012, various factors influenced the creation of the profit of financial institutions, from among which the most important were

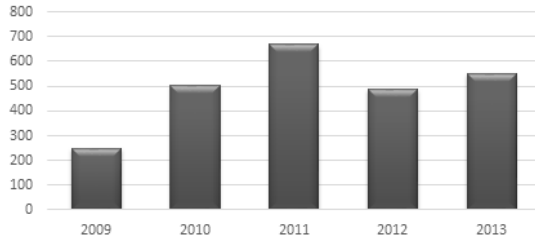

Fig. 1. Profit after the taxation of the bank-sector in Slovakia expressed in mln Euros
Source: own elaboration based on the information of the National Bank of Slovakia.

the following:

- the positive development in financial markets which contributed to higher sales in the collective investment funds and, at the same time, to better profitability in the sector of income savings,
- the mixed effect on the profit leading to the development of interest rates; on the one hand, the positive effect of falling interest rates on the growth of the obligation prices, which was experienced mainly by complementary income funds, and, on the other, low rates complicating the situation in insurance companies and exerting pressure on bank interest incomes.

In the bank sector, an independent negative role was attributed also to the obligatory payments of financial institutions (the so-called bank tax), which resulted in a decrease of the profitability of banks to the lowest values since the beginning of the financial crisis.

Consequences of the economic bank-sector recession have manifested themselves also in the risk reduction, which is illustrated in Fig. 1. According to the NBS data, the Slovak bank sector achieved in 2012 a profit amounting to 488.2 million Euros representing 27%, i.e. less than in 2011. In 2013, the abovementioned bank sector achieved a profit amounting to 552.9 million Euros, which represents an increment of 10.7% in comparison with the year of 2012.

During the year of 2012, the total volume of the company deposits did not undergo any unambiguous trends. The positive phenomenon was a growth of residues in non-term deposits, which might be connected with the sufficient liquidity in the company sector. However, a certain change occurred in the company deposit rates. In the last years an average company deposit rate was at a lower level than the monthly EURIBOR (Euro Interbank Offered Rate). Notwithstanding, in 2012 a decline of the interbank rates manifested itself in the company deposit rates only to a lesser extent. This resulted in higher rates for the company deposits than were monthly rates in the interbank market.

3. Results, discussion and limitations

The development in 2013 was stimulated by a demand of the private sector in the euro-zone as well as by signals for termination of the negative development in the labour market. The improvement of the economic situation was transferred to the Slovak economics which was undergoing an increased rate of the economic growth. This could be observed in the recovery of the industry and civil engineering, which supported a growth of the investment demand. Financial markets were relatively stable, without any turbulences in comparison with previous periods (NBS, 2013).

Tab. 2. The number of bank subjects in Slovakia

A type of bank/year	2008	2009	2010	2011	2012	2013
Central bank (National bank of Slovakia)	1	1	1	1	1	1
Banks without a foreign property participation	1	2	2	2	2	2
Banks with a foreign property participation	15	15	13	13	12	12
Foreign bank branches	9	9	11	14	17	14
All branches in the Slovak Republic	26	27	27	30	32	29
Providers of the free cross-border bank services	190	252	274	296	294	310

Source: (NBS, 2011).

Despite the above-indicated signals of reviving the economic situation, the relatively great risks of the repeated and deteriorated economic conditions in the euro-zone persisted. The risks arose primarily from the excessively high indebtedness of the public and private sector as well as from the potentially overestimated prices of some more risky assets or currencies. The dynamics of the bank sector development in Slovakia is indicated along with the number of bank subjects in Tab. 2 where the number of commercial banks and of foreign commercial bank branches - which started to be active in the range of years of 2008 to 2013 - is incorporated.

After a decline in 2012 the bank sector experienced again a growing profitability. The main factor influencing the development in 2013 was a continual and relatively intense growth of retail credits, which showed itself in the increase of the net interest incomes of banks. Although the before-mentioned growth in 2013 was associated also with an accelerated rate of the growth of failed credits and with a growth of costs expended on credit risks in the sector, the negative trend was compensated by a fall of the aforesaid costs in the sector of companies. A positive trend in the Slovak bank sector was the continu-

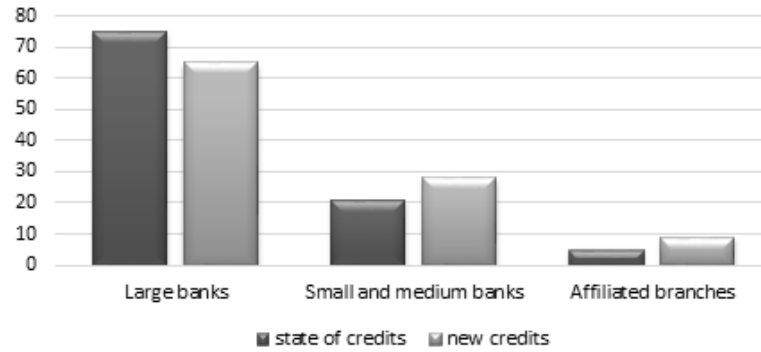

Fig. 2. Analysis of the Slovak financial sector in 2013
Source: (NBS, 2013, p. 21).

al increasing of the capital adequacy which raised in 2013 to as much as 17.2% exceeding an average value in the euro-zone (Jílek, 2013).

Throughout all year the total market share of large banks was decreasing for a benefit of small and medium banks, with the most remarkable effect being evident in the first half of the year. The portfolio size of foreign bank branches increased by as much as one third. The credits with a fixation from 1 to 5 years continued to dominate, while those with a fixation up to 1 year slightly decreased. The individual average shares of banks in the state of existing and new credits are documented by Fig. 2.

A rate of the growth of real estate credits rose in the first half of the year of 2013, then it slowed down and at the end of the year it achieved again the same speed as in the first half of the year. The overall dynamics of the real estate credits could be explained mainly by the historically low interest rates. The other partial cause of this phenomenon could be the stagnation or even the slight decline in real estate prices, which stimulated the real estate demand and subsequently also the credit demand for the financing of immovable assets.

Thanks to the level of adequate own sources and to the ability of banks to generate net interest incomes, the bank sector could be resistant to scenarios of the unfavourable economic development and also to the undesirable development in financial markets.

Conclusions

After monitoring the development of the financial market in Slovakia it is possible to conclude that in recent years the positive and negative trends were alternating and influencing its stability with a different intensity. It was very much alike in the first half of the year of 2012,which brought several new trends in comparison with the year of 2011. While at the end of the 2011 the whole financial sector was experiencing a crisis in the euro-zone significantly, during the first six months of the 2012 its influence was somewhat moderate. In the first half of the year 2013 the development of the global economics and that in financial markets did not allow one to draw conclusions from the aspect of the future trend, not even from the aspect of the potential impact on the Slovak economics and national financial sector. Although the global economics should advance at least at a moderate rate and the recession in the euro-zone was expected to come to an end from the technical point of view, the risks still persisted and, in the case of materialization, they suppressed the activity. Besides other facts, there exist some unsolved questions concerned with potential impacts on the consolidation of public finances in most countries of the euro-zone, or the question of confidence in the future growth and in the positive development of the national demand. Financial markets were positively influenced by a number of realized or half-elaborated measures resulting in the more peaceful period. A growth of several market segments was supported, to a great extent, by historically lowest revenues of the minimum risk assets which created the conditions for a growth of demand for more risky assets in order to achieve higher revenues. Therefore, it is possible to maintain that the European revival emerging in 2013 was transferred also to the Slovak economics, which increased the national economic growth. The improvement was noticeable especially in the industrial and building production. These sectors are traditionally prepared to participate in further economic growth, which reflects also in the improved employment. It follows that in the last year economic condi-

tions for a growth of the financial sector were positive. In addition, the better situation in markets was favoured also by the supporting operations of central banks which helped to decrease the market turbulences to a minimum, to make the revenues of more risky assets stable, but, on the other hand, to assess the conservative investments near to zero.

In view of the financial analysts, the situation in the world economics will improve in the next year, i.e. it will grow more rapidly than in this year. It is expected that Europe would experience the first positive economic results in the last three years. In the euro-zone both the interest rates and the influence of austerity measures is decreased. As a reward, in 2014 a slight growth is anticipated to be approximately 1%. In this way the euro-zone will have a chance to achieve the first positive economic progress since the 2011. However, the main assumption for such a development is also the settlement of all controversial worldwide economic and political questions which would stabilize the system of the international financial market.

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Dimensions of the Function of Information Provision of Tax Authorities in Management of Public Levies

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ABSTRACT

The objective of this paper is to define the dimensions of the function of information provision of tax authorities in public levies management. Accomplishment of the objective is based on the example of Poland, however the outcome may be applied intersubjectively in various models of tax administration all over the world. Critical review of the relevant literature has been employed as a methodological basis in combination with gradual concretization and comparative analysis as part of making inferences. It has also been assumed that the function of information provision of tax authorities is composed of an internal part as well as an external one, which is being developed on the level: tax authorities – tax management bodies. Therefore, a research hypothesis has been put forward stating that the function of information provision of tax authorities is heavily deformed, carried out selectively, and with no reflection on performance. The obtained research results testify to that and allow to indicate that the dimensions of this function overlap and not always co-contribute to subsidiarity in meeting tax obligations and simultaneously state interventionism marked by penalization of criminal offences. An undoubted theoretical contribution is a proposition of the dimensions of the function of information provision of tax authorities, enriched with possibilities for different management of intellectual capital as well as execution of the law on public levies. The results of this study may be of use to broadly defined tax administration, students, and researchers studying socio-economic processes.

KEY WORDS

Management of public levies, the function of information provision, tax authorities, tax consulting, control

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Introduction

The tax system, which includes state institutions with tax administration in the forefront, the applicable legislation, on the one hand, and the real economy, in which taxpayers operate on the other, serves the role of control as well as organisation of socio-economic processes occurring in a country. Taxation itself may serve both the purpose of stirring economic growth and development as well as creation of incentives or deterrents to certain behaviours. Taxes may directly influence improvement of the health of individuals, while ensuring effectiveness of collecting public levies and reducing accumulation of profits, if they are imposed on consumption of addictive goods, such as e.g. tobacco products, which causes an increase in their prices, but they may also be a threat to the health of individuals and budget revenue, if the amount of tax is too high, which contributes to the development of the unofficial economy (Gallant, 2013, pp. 119-125).

Since information is a public good and the function of information provision is the basic determinant of activity undertaken by the state, especially with regard to the whole legal and organizational domain concerning public levies, the present article will elaborate on the dimensions of this function, both internal and external. The framework for discussing the accepted assumptions is a thesis that management of public levies in an ordered manner is only possible, if the internal dimension of the function of information provision is oriented at efficiency of action, and

the external one – at subsidiarity and interventionism at the same time.

Therefore, the purpose of this paper is to define the dimensions of the function of information provision of tax authorities in management of public levies. Accomplishment of the objective is based on the example of Poland, however the outcome may be applied intersubjectively in various models of tax administration all over the world. Research hypothesis has been put forward stating that the function of information provision of tax authorities is heavily deformed, carried out selectively, and with no reflection on performance. Critical review of the relevant literature has been employed as a methodological basis in combination with gradual concretization and comparative analysis as part of making inferences.

1. The function of information provision of tax authorities – practical aspects

The flow of information is a key element of the operation of the tax system (Review …, 2006, pp. 1-45; Council …, 2015). The function of information provision of tax authorities should be performed both in the internal and the external domain of tax administration and the former (the internal dimension) must foster a strong and quite intimate connection on the level: tax authorities – tax management bodies. Theoretically, tax authorities should exercise tax law and tax (or more broadly public finance) management bodies should shape it. In practice, drawing a clear line between those functions is very problematic and sometimes even impossible, at least in Poland. Predominantly, it is a consequence of the fact that tax authorities at the central level (heads of tax offices, heads of customs offices, executives in tax or customs chambers – first instance bodies; executives in tax or customs chambers – second instance bodies, the minister in charge of public finance), (Dz. U. z 2012 r., poz. 749) serve both those functions, often unaware of this fact, or as part of a routine or a plan. Of course, they first and foremost exercise tax law but also issue circulars, guidelines, shape norms of behaviour, or draw up other recommendations which in fact mould tax law. If they also participate in the work of central assemblies in the ministry on top of that and more or less directly shape budget forecasting, planning, or distribution of public funds (to a smaller, often negligible, extent), or control the course of spending public funds, then how is that different from management of public funds (Gaudement, Molinier, 2000)? The answer to this question is quite obvious – it is not. It must be clearly stressed, however, that politicians holding the power at a given moment are the ones who are chiefly responsible for shaping tax law. They are the ones who dictate which election promises shall be honoured and which general decisions on accumulation and spending of public funds should be enacted upon. It is thus clear that broadly defined management of public levies may be shifted upward (the Council of Ministers along with external and subsidiary bodies of the Council of Ministers, joint committees, or codification committees dealing with a given branch of the law) as well as downward (tax authorities). The Minister of Finance also serves a double role in this system. On the one hand, in line with Article 34 section 1 of the Act of 08 August, 1996 on the Council of Ministers (Journal of Laws of 2012, item 392, Dz. U. z 2012 r., poz. 392), the Minister of Finance is the general body managing the whole Ministry of Finance since they manage, supervise, and control the activity undertaken by bodies, offices, and units which are subordinated to it. The Minister of Finance is also entitled to establish or wind organisational units up as well as appoint or remove managers of organizational units from position. On the other hand, in accordance with Article 13 paragraph 2 of the Tax Ordinance Act, the Minister of Finance is a first and second instance tax body (Dz. U. z 2012 r., poz. 749) – so they exercise tax law. Such a model of tax administration along with the whole overlay of political and rarely substantive intervention of the executive branch causes it impossible for tax law to be shaped well, and if this condition is not satisfied, it is difficult to talk about its appropriate enforcement. This impossibility results form insufficient knowledge or awareness of the majority of politicians exercising power with respect to the essence of public finance as well as frequent selection of the decisions which are not only unreasonable from the perspective of the economy and the society as a whole but may also bring about catastrophic consequences for the present and future generations.

Enhancement of the possibility of shaping the law on public levies should take place as part of horizontal lawmaking. The Ministry of Finance, which predominantly acts in line with a given act of law in tax matters, must bear in mind that it is merely an element of the whole system of law and will exert influence over the whole economic and social system. In order to achieve this aim, it is necessary to involve experts on, among other things, financial and commercial law or penal procedures in tax matters as well as economists, experts in organization and management (who should notice and indicate the range of the praxeological function in the socio-economic system of a country and its environment, which is

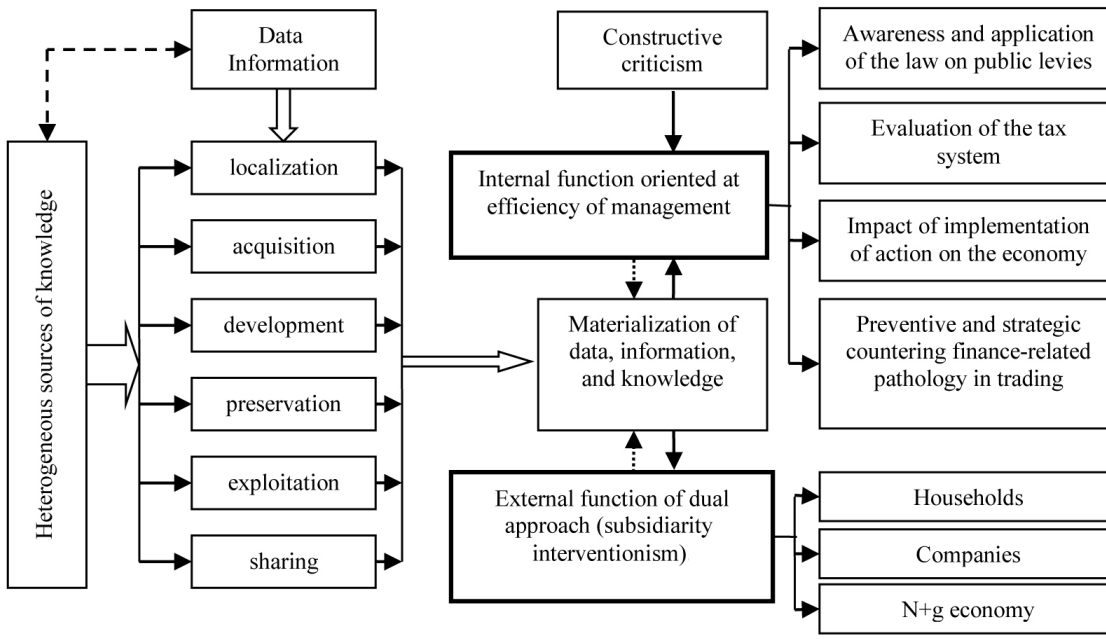
broader than the legal dimension) in the legislative process in particular ministries. It is incomprehensible why the Government Legislation Centre (RCL) has not been offered broader coordination entitlements so far, which could compel and not only suggest such a formulation of draft laws which would be simple and professional. After all, a correct diagnosis has been reached in the Green Papers on the system of lawmaking in Poland, which reads: "improvement to the system of lawmaking may be achieved through expansion of the role of preparing assessment of the impact of regulation, participation of citizens in the process of preparing assessment of the impact, and responsibility held by the author of an act of law for the consequences of its implementation" (System …, 2013, p. 9).

2. Strategies regarding the significance of the function of information provision of tax authorities and its dimensions

The function of information provision of tax authorities, both internal and external (Fig. 1) must contain three essential elements (Intezari, Paulen, 2013, pp. 393-404):

- morality – as an element stabilising the interests and values of various interested parties both when it comes to the established goals of the system of public levies and activity undertaken within its competence,
- awareness of errors in data, information, and knowledge, which translate into incorrect interpretation and distortion of events, relations, decisions, or even the whole trade,
- appreciation that the end does not justify the means and action taken (if those are immoral, illegal, or provoking to commit a crime or an offence).

In the model approach presented above, a broader depiction is necessary. First of all, heterogeneous sources of knowledge denote all possible sources of data and information which allow to carry out the classical process of knowledge management through the agency of a human being as part of its localization, acquisition, development, preservation, sharing, and exploitation. These are all the possible sources of knowledge and not only selected ones, e.g.: internet websites, social networking websites, diplomacy, organisational, economic, tax, or behavioural benchmarks, advanced scientific research as well as pilot studies, knowledge which is an element of observational, surveillance processes or secretly supervised ones. Such sources also encompass practical and real knowledge of economic processes, which lawyers, certified auditors, securities brokers, tax consultants,



N+g – national + global
Fig. 1. Dimensions of the function of information provision of tax authorities

investment funds, or insurance companies have. They are the ones who cooperate and service companies or whole holding companies on everyday basis, which often as part of optimisation forced by their own economic interests establish or subordinate subsidiaries – or less often parent companies – predominantly for a particular or temporary purpose.

Heterogeneous sources of knowledge in Poland are also tax offenders. However, those are not ordinary taxpayers who may become tax offenders even unknowingly in line with the understanding of criminal or criminal/tax liability (which unfortunately happens in Poland and other countries). In particular, those are professional tax offenders who have made all types of, among others, tax fraud (e.g. regarding VAT), an active and stable source of income. Since they know so well what the legal loopholes are and how to employ jurisdiction data and tax strategies in practice and have done so illegally on multiple occasions, why not use their knowledge in order to combat tax crime? Tax offenders could take advantage of the possibility to become a protected witness as defined in the Act of 25 June, 1977 on Protected Witness as a suspect who acquired the status of a protected witness and as a perpetrator not be subjected to punishment for crimes or tax crimes (Dz. U. z 2014 r., poz. 1801). Simultaneously, nothing would stand in the way of making such a suspect holding this status, or even a perpetrator convicted with a legally binding sentence, obliged to work off the penalty in tax administration (or for the benefit of it – if statutory regulations allowed such a solution in the future) in a form of full-time community service – in a specified situation and circumstances – in lieu of serving a term in prison. Everything would be dependent on whether the tax offence or crime committed by a perpetrator were enacted directly by the perpetrator, i.e. by an individual who has expert and exceptional knowledge in this respect, or if they used international tax consulting offices and, in reality, do not know what the process looked like. At the same time, such a substitute for punishment in criminal proceedings concerning financial offences should not relieve the severity of a fine or remit it altogether along with other liabilities on account of loss of state budget revenue. On the contrary, indeed. A fine, calculated on the basis of a perpetrator's income, personal and home circumstances, equity relationships, or possibilities for earning remuneration, in such a case is an equivalent to punishment in some sense. In the case of multimillion tax extortions, the fine may not exceed the maximum of only PLN 1.08 million and in the case of extraordinary restrictions – PLN 1.62 million (Dz. U. z 1997 r., nr 88, poz. 553), which would and is more of an incentive to commit such crimes in many cases, since the income arising from fraud would be (and often is) several times higher. Owing to this, laying down the conditions for imposing a 75% penalizing tax on income from undisclosed sources or ones that may not be confirmed in the disclosed sources (Dz. U. z 2012 r., poz. 361) could create a severe penalty and fair at the same time (obviously assuming that the suspect is guilty and the collected evidence clearly confirms it). It would be very helpful in this respect, if much closer cooperation between tax authorities and the Asset Recovery Office of the General Headquarters of the Police were encouraged, which is simultaneously a point where the Camden Assets Recovery Inter-Agency Network – CARIM and Interpol as well as Europol, which use formal contact means of exchange of information, make contact. Since no benefit for the tax system would be brought about by disclosure of tax offences, if the offender could not be deprived of their illegal incomes. Such actions should even be referred to as preventive measures as the inevitable vision of losing the illegally accumulated wealth compels one to reconsider if it is worth committing such criminal offences at all, if the sum of benefits that could arise from taking the risk involved in intentional illegal activity in the broadly defined domain of taxes will be eliminated.

It should also be noted that a very significant internal function of information provision served by tax authorities should be performed through constructive criticism of action undertaken and decisions made – preferably in the planning phase already. Such a practical and simultaneously performance-oriented approach in serving the function of information provision in the internal dimension would even be the establishment of a separate position of, e.g. a consultant on constructive criticism, who would be responsible for describing and explaining for their superiors (mangers of organizational units) of faults and threats arising from various scenarios of actions or decisions along with preparing justified substitute options. Since nowadays only a few people, and on top of that not always, have the opportunity or willingness to share their negative opinions on a given matter due to the fact that it is wrongly seen pejoratively as negating the option of the superior. And so any exchange of views and ideas, especially regarding opposite stands, is frequently hampered, which results in confidence in infallibility of choice to be made. Such a consultant should be appointed for all the head of organizational units in the Ministry of Finance (the Tax Office [US], the Tax Chamber [IS], the Treasury Control Office [UKS], the Customs Office [UC], the Customs Chamber [IC], the Ministry of Finance [MF]) and be subordinated directly to the head of an office or chamber or the Secretary/Undersecre-

tary of State responsible chiefly for supervision over administration of public levies. However, a prerequisite for the existence of such a position is that it would be held for tenure with no possibility of removal at any point in time. Additionally, such a consultant should have a very broad array of competences, especially with regard to the law and economy and of a particularly interdisciplinary character, i.e. analytical and logically multivalued, as only in such circumstances their work would make sense. Such a consultant could be an individual who has held a managerial position and possess prominent qualifications as well as an individual who has analogous qualifications and skills and works in a given organizational unit on everyday basis.

Secondly, the function of information provision of authorities should contribute – as part of the dual approach – to a broadly defined subsidiarity in meeting tax liabilities and simultaneously to state interventionism penalizing criminal offences. Subsidiarity in this sense should be perceived as helpfulness of treasury administration towards taxpayers in any case in which they have no knowledge on what tax base to use in a given economic activity, what type of a contract to apply, from the point of view of taxes, in order to secure the interests of both parties but also guard against the consequences of ignorance of the law, especially in economic terms. At last, subsidiarity is direct and ongoing consulting support of tax officials who should indicate the paths that may be followed in legal economic activity and what should the taxpayer do in order to guard against, among others, involuntary accumulation of tax arrears or involuntary acting in bad faith. In this process, support from the officials, expressed by means of subsidiarity, should also be orientated at innovative tax consulting characterized by informing the taxpayer about the manners of reducing tax liabilities by way of creating new jobs or developing the business that they conduct. Nothing stands in the way of appointing such consultants advising the taxpayer in tax and customs offices, especially consultants obliged to perform their duties within the first two years of operation of a given business. In such a way, the application of tax subsidiarity of treasury administration proposed by the author to be part of the external function of information provision would be a narrower fulfilment of the fundamental and much broader Community function expressed in Article 5 section 3 of the Treaty on European Union (Dz. Urz. UE 2012 C 326) and in protocol No. 2 of this Treaty on adhering to the subsidiarity and proportionality principles (Dz. Urz. UE 2012 C 326). If European subsidiarity, understood as helpfulness, is applied on the level tax official-taxpayer, it means:

- sharing competences both among different levels of authority in tax administration itself and on the level: tax authorities-taxpayer. The essence of such an approach should be a certain degree of autonomy of self-reliant and well-educated civil servants at the operational level, who would have the capacity to act with authorization from a direct or even the chief superior in some tax-related matters, when it is necessary to take conscious action in order to secure legality of trade as part of risk dispersion,
- a possibility, or, in fact, an obligation, to provide a taxpayer with information or help, if there is a risk that they may not be able to meet their tax liabilities for various reasons, regardless of the size of business conducted or income generated,
- a possibility to eliminate time-consuming and mutually burdening tax inspections owing to effective and efficient bilateral communication channels for exchange of information and knowledge, which would be a preventive measure but friendly too,
- recognition of the fact that neglecting or taking insufficient actions by tax authorities with regard to the taxpayer in terms of informing and advising may fuel mistrust, widen the tax gap, strengthen unfair competition, and simultaneously contribute to the development of the unofficial economy.

By performing the direct advisory function, tax authorities would in fact be exercising informative tax consulting as part of the economic policy. Therefore, tax consultants in tax administration should be appointed from among people possessing the vastest competence and experience. As Shiller, a Nobel prize winner in economics, rightly claims, the average person requires informative financial counselling in a form of direct contact with another human being. This process may not be replaced by even the best websites or information leaflets since the majority of people do not seek necessary information on their own. They simply need someone who can talk to them in person and competently explain what solutions would be beneficial for them in accordance with the law (Shiller, 2013, pp. 21-24). It should not be the case, however, as it is now in the Polish tax system, that tax authorities are not responsible for any information given to the taxpayer, if it is not in written form – the so called individual or general tax interpretation in line with the Tax Ordinance Act (Dz. U. z 2012 r., poz. 749).

On the other extreme of subsidiarity, there is interventionism involved in the external function of information provision of tax authorities concerned. It may be referred to as state interventionism focused de facto on a broader than merely tax-related domain, which is particularly concerned with the fiscal crimi-

nal code, the criminal code as well as a wide array of actions taken by the state towards elimination of pathology in trading. The most important factors regarding this sub-function of information provision ought to be: protection of fair competition, active creation of international tax competitiveness as well as securing tax revenue credited to the state budget. Such interventionism would stand in opposition to the Austrian economic school in this respect, which claimed that economic freedom and the possibility for individual members and organisations within a society to peacefully coexist are only possible, if interventionism is eliminated completely (von Mises, 2010, p. 160). Nevertheless, especially taking into account the practical negative experiences of excessive deregulation, lack of risk management, and insufficient state interventionism before the financial crisis of 2008+, one must admit that reasonable state interventionism, especially exercised through control and repair, should be a universal practice and not an anomaly in normal circumstances. The degree of interventionism will be dependent on public regulation within the existing organizational culture and strategic cooperation among voters, the political class, or competing sectors (Sánchez, Perote-Peña, 2013, pp. 169-181). In point of fact, as empirically evidenced by, among others, I. S. Dinc and I. Erel, governments are not neutral towards business in the contemporary economic processes. They intervene – usually protecting domestic businessmen and large companies against takeover, which influences the functioning of the economy and may deter future investors (Dinc, Erel, 2013, pp. 2471-2514). If they do not protect the domestic economy and facilitate taking over of the largest and most profitable companies, which are of key importance from the point of view of the nation as well as the economy, it is tantamount with waiving the possibility to shape socio-economic processes. As far as taxes are concerned, state interventionism should both encourage direct foreign investment and ensure taxation of the biggest entities or groups of companies. Simultaneously, a clear message should be communicated that all taxable persons and economic entities which choose illegal forms of business activity, including ones, and perhaps those ones in particular, engaged in creative accounting, evading taxation, or extorting rebates of turnover taxes from the national budget will be severely punished.

Intervention is always an external response to real trade while alleviation of demand shocks, supporting lending for companies, especially non-financial ones, or driving internal consumption and export should arouse the interest of the government and the formulated, among others, fiscal policy (Laeven, Valencia, 2013, pp. 147-177). It should be assumed that tax interventionism of a given government should safeguard execution of the planned state budget through the agency of tax administration, and if possible generate budget surpluses on account of economic growth which may be better than expected. Hence it should not be surprising that we are witnesses to an abundance of official information about interventions on the currency, monetary, or even the stock market (Bhanot, Kadapakkam, 2006, p. 963). An example of such an intervention, which was of systemic significance for the global system though supported chiefly yet not only the government and the budget of the United States of America, was the Foreign Account Tax Compliance Act – FATCA passed in 2010 by the US Congress and formally binding since 01 January, 2013 (Public Law 111-147-MAR. 18, 2010), which abolishes bank secrecy and compels foreign banks under penalty to automatically disclose information to the Internal Revenue Service – IRS about foreign bank accounts held by American taxpayers (Grinberg, 2012, pp. 304-383; Zucman, 2014, pp. 121-148).

In Polish circumstances, such automatic solutions do not exist and in some cases tax authorities find it a lot easier to obtain automatic information from foreign rather than domestic banks. It happens because some banks forced to fight against tax evasion have repealed a large portion of bank secrecy. Although tax authorities in Poland do have access to bank accounts of the taxpayer but only if tax procedure is instituted and information is demanded pursuant to a decision of the head of a tax or customs office. First, however (after proceedings are instituted but before issuing a formal request to the bank), a tax body should ask the taxpayer to voluntary agree to disclose the demanded information and if they refuse, a decision is issued (Article 183 in conjunction with Article 182 of the Tax Ordinance Act), (Dz. U. z 2012 r., poz. 749). It is clear that such access to bank information in Poland is absolutely ineffective in case of tax fraud and allows the taxpayer to intentionally transfer financial resources out at any time before audit. It is thus an ineffective solution which is applied in controlling business establishments operating legally and not ones which intend to commit an offence in the domain of finance from the very outset.

Thirdly, the very substance of public levies is of interest as far as (Litwińczuk, 2013) competence of tax administration staff (with respect to the internal and external function of information provision) is concerned, as regards:

- the general character of all taxable persons, especially with turnover VAT (in particular in intra-Community supply and acquisition of goods),
- knowledge of property taxes (e.g. on real property,

forest, agriculture, motor vehicles, civil law transactions, some solid minerals mining) and their significance for the economy,
- manners, methods, and typology of determining an entrepreneur's income,
- the possibilities for determining income of selected groups of taxable persons,
- the construction and principles underlying taxation imposed on income when a company undergoes transformation, a business is wound up, companies merge or split, or accumulated estate is disposed of,
- international design of tax strategies followed by companies within corporations or holding companies as well as of national budgets, and fiscal planning,
- possibilities for taxation of cross-border movements of incomes and its extent,
- possibilities for treating VAT and other taxes – as goods subject to the laws of supply and demand, which entails fictitious invoices and trade, and real attempts (and often very effective) at tax extortions from the state budget,
- the principles underlying taxation and tax exemptions as far as public aid is concerned,
- the capability of distinguishing between the process of tax optimization and the process of aggressive tax optimization within the unofficial economy (Raczkowski, 2013, pp. 347-363),
- possibilities for shaping the economic and social policies through the fiscal policy.

It appears that the very substantive-analytical aspect of tax administration (considered in the light of aggressive tax optimisation pursued as part of international tax strategies) is the Achilles' heel of its operation. As long as this state of affairs is not improved, tax administrative staff will not be aware of what they still do not know and will thus be making erroneous decisions.

Conclusions

The elaboration presented above positively verifies the research hypothesis put forward in the introduction stating that the function of information provision of tax authorities is heavily deformed, carried out selectively and with no reflection on performance. It turns out that this function in the Polish model of the tax system is performed only selectively and in many cases is not served at all. Certainly, in the present form, it does not perform well as good performance is associated with effectiveness, economical thinking, and ethics, while the current performance is often contrary to that.

The dimensions of the function of information provision of tax authorities presented by the author constitute a practical proposal for bridging the cognitive-organizational gap in the analysed respect. Both the function of information provision of tax authorities and the budgetary policy along with all the instruments and tools of the Ministry of Finance may not be an end in itself but merely a means to pursuing the economic policy as part of the global economy. Though the current model of operation of tax administration requires reformulation – even complete reformulation – that will implement the dual approach in practice – which should be extraordinarily friendly and compulsorily informative-advisory for honest taxpayers and simultaneously restrictive with respect to intentional criminal activity. The function of information provision should demonstrate a clearly asymmetric approach to different categories of taxpayers and entities abiding by the law and those who have chosen a different – dishonest manner of operation. Then in the medium term, it will be possible to create certain principles and an organisational culture, which will discourage taxpayers from shifting from tax optimisation to its aggressive form resulting in tax evasion because it will not be profitable and punishment will be inevitable. However, it will only be possible if assets acquired by way of tax fraud may be effectively secured and forfeited, and top management in tax administration in cooperation with the government will support such changes in public finance and the budgetary policy, which will directly encourage innovativeness and competitiveness of companies, ensuring appropriate contributions to the budget and balanced expenses.

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