

# REACHING AN ENTREPRENEURIAL MANAGEMENT SYSTEM OF AMOEBAS. A QUALITATIVE INSIGHT INTO THE EUROPEAN EXPERIENCES

WIESŁAW URBAN, JOANNA CZERSKA

## ABSTRACT

The aim of the study is an assessment of the Amoeba Management System (AMS) introduction advancements in some European companies. The study takes the practically focused research approach. The approaches, achievements and phases whilst introducing the AMS principles by companies are observed and critically assessed. First insight into the challenges of AMS introduction is taken basing on critical study of the literature output. The scientific studies and managerial publications are taken into consideration. The empirical part of the study is based on the qualitative approach. A multiple case study methodology is employed. The research objects are three companies, one of them operates in Sweden, the next two in Poland. Each of them have different experiences in AMS implementation, they also manifest different management styles and habits. The study demonstrates that AMS is a very prospective management methodology which can support companies in employees commitment during their journey towards operational excellence. The analysis results show different motivations for AMS introduction as well as different development paths, these are harmonized with different management styles in companies and culture occurring in countries. The study is particularly valuable because this is one of the first empirical investigations of AMS implementation in European companies. In the field of theory the study proposes the four level scale for amoebas system maturity. This scale allows to classify companies following AMS principles and, at the same time, this scale is also the kind of path of AMS implementation. The study points out basic tools for companies which support AMS implementation. These tools are already known in management literature, but experience of investigated companies shows that they are fundamental for successful AMS implementation.

## KEY WORDS

**Amoeba Management, Kyocera, self-governed units, autonomous teams, employees engagement, employees productivity**

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## Corresponding authors:

**Wiesław Urban**  
 Białystok University of Technology  
 Faculty of Management

e-mail: w.urban@pb.edu.pl

**Joanna Czerska**  
 LeanQ Team sp. z o.o.

e-mail: jczerska@lean.info.pl

## INTRODUCTION

Market challenges and rising customer requirements create the need of faster and deeper improvements of business processes in companies. According to the survey conducted by Aberdeen Group, the remapping and reengineering of business process as well as increased attention on serving customers are the most important present business

challenges (Castellina, 2015a, p. 3; Castellina, 2015b, p. 3). At the same time this research shows that nowadays competitiveness, more than ever, take advantage of real and deep employees entitlement and engagement. According to the Report of Trends in Global Employee Engagement (Hewitt, 2015, p. 3), an engaged workforce have the primary importance for companies financial performance. Companies more often devote attention to measuring

and fostering employees loyalty, seeing it as the key for having deeply involved people in an organization. For example, a global company Tesco measures employees involvement around the world and has the strategy for developing this issue taking into consideration local culture contexts (Hay Group, 2014, p. 20).

Top managers are aware of all these market pressure and fundamental role of workforce engagement, therefore they are looking for appropriate concepts and tools. One of very interesting proposal is the concept of Amoeba Management System (AMS) by Inamori Kazuo. His idea is to lead a business basing on autonomous teams within all the company. Despite this idea has not been widely discussed in the literature, AMS has been spreading all over the world recently, including several introductions in the Europe. Multinational companies have mostly transferred the amoeba concept along countries and industries. Whilst we have basic knowledge of how the AMS operates in Japanese Kyocera, where it was originally developed, and what effects it brought, we do not have reported experiences of how amoeba approach works in different countries, particularly in European ones. Considering there are cultural differences and different approaches in management, substantial variances in AMS might occur.

The study aims at multi-criteria analysis of amoebas system which has being introduced in companies apart the Kyocera Group, particularly in Europe. The study aims to observe and to assess critically the approaches, achievements and phases of introduction of the AMS principles by European companies. The qualitative research approach is employed to this study. This is constrained by limited number of potential research objects, the strive for a deeper understanding of a research problem, as well as limited amount of literature knowledge on AMS introduction. Practical managerial needs form a real focal point of the empirical analysis and theorizing attempts.

## 1. FUNDAMENTALS OF AMOEBEA MANAGEMENT

The concept of AMS has origins in Kyocera, Japanese company. The system had been developed by Kyocera's cofounder Kazuo Inamori who had been its CEO for a long time. When Inamori was starting

with his startup he experienced many adversities; they influenced very much the design of his unique management system and a business philosophy laying behind it. Managers and researchers desire and appreciate effective organizational system, i.e. very productive and leading to continuous growth. The system of amoebas introduced by Kyocera gave this company more than 50 years of consecutive profitability (Adler & Hiromoto, 2012, p. 83). Kyocera reached the yearly revenue 12 billion USD in the fiscal year 2013/2014, the capital group included 230 companies (Sawabe, 2015, p. 11). Takeda and Boyns (2014), who analysed Kyocera's growth path, present many evidences demonstrating market expansiveness, dynamic productivity increase as well as competitiveness improvement. The AMS is equally effective in the manufacturing industry and in the service. The author of amoeba methodology became the CEO of Japan Airline in 2010, at this time the company was threaten with bankruptcy. Introduction of AMS methodology resulted in a profit immediately, within two years (Takeda & Boyns, 2014, p. 318). This is considered that these outstanding results are achieved, first of all, thanks to entrepreneurial teams comprised of highly engaged workforce – the foundations of AMS.

### 1.1. AUTONOMOUS TEAMS

The system developed at Kyocera is based on the independent units of workers; these units operate almost like independent business inside a company. An organizational unit is called „amoeba” because it is very small and very flexible, and at the same time very simple, so this is like biologic amoeba, which is a very simple organism. A company organised according to AMS, even a huge one like Kyocera, is composed of a number of small units focused on the value and their individual profits. Each amoeba works according to a fundamental bussines principle: maximize revenues, minimize expenses (Inamori, 2013, p. 7).

The basic organizational unit, amoeba, is to some extend similar to an independent business. The autonomy of amoebas consist of endowed authority to set and execute their own plans, as well as operating on their own settlement. The size of amoebas may differ, according to Sawabe, Kazusa and Ushio (2008, p. 19) in Kyocera typical size of amoeba is 10-15 members; others inform that amoeba is composed of 3-50 employees (Hamada & Monden, 1989, p. 199).

All functions of a company are organized in amoebas, there are amoebas serving in administration, production, sales and other functions. In the main operations specific amoebas handle successive stages of processes.

The amoeba is managed by one leader, (s)he is responsible for achieving planned targets of an amoeba. Generally the amoeba system is considered as a system governed by all (Adler & Hiromoto, 2012, p. 85; <http://global.kyocera.com>, 21.01.2016). But the amoebas' leaders, without doubts, play the paramount role. Some authors even call amoeba leaders as „feudal lords” supervising his or her unit in his or her own way (Sawabe & Ushio, 2009). According to the architect of the AMS, the amoeba leader acts like a head of small or medium-sized enterprise, (s)he has the same sense of responsibility and sense of mission like a SME's head (Inamori, 2013, p. 51). But first of all the amoeba manager responsibility is concern for the economic efficiency of his (her) unit. Another crucial issue is the ability of leaders to promote their people empowerment (Adler & Hiromoto, 2012, p. 86). Thus, the leaders' managerial abilities and skills are in serious focus of interests in AMS.

The coordination between amoebas are mostly based upon leaders and amoeba's employees. There are meetings at three levels, manager meetings – divisional managers and sectional managers, sectional meetings – sectional managers meet with amoeba leaders, amoeba meetings – within amoeba with its leader (Sawabe, 2015, p. 25). All these meetings are the everyday routine. Adler and Hiromoto (2012, p. 84) inform that machine operators and other amoeba members attended of 30 minutes of meetings a day, leaders and senior managers have scheduled meetings of 45 to 60 minutes. Sawabe (2015, p. 25) observations show that each meeting at Kyocera lasts around 5-10 minutes.

Amoebas, the independent and self-governed units (autonomous teams), need clear rules to work effectively for a company business success. Very strong organizational philosophy and strict economic settlements serve for amoebas as guideposts in every day operations, and help in management decisions.

### 1.2. AMS PHILOSOPHY

Amoebas system founder sees numerous drawbacks of so far-reaching amoebas independence. The solution is firmly rooted philosophy of actions in the whole company (Inamori, 2013). This AMS

philosophy can be summarised as „do what is right as human being” (Inamori, 2013, p. 31). This simple principle makes the cooperation between independent (autonomous) amoebas smooth and flexible, it allows to avoid egoisms and particularisms among amoebas.

Practically the philosophy at Kyocera is more complex and it is consisted of: corporate motto, management rationale, principles and philosophy keywords (Takeda & Boyns, 2014, p. 328). The motto and the rationale jointly are the brother frame and explanation of the central point of the philosophy – respect for divine and people. The twelve management principles allows the dipper understanding of the Kyocera philosophy. These principles are a kind of ethically focussed general tips for behaviours and personal attitudes, they are very similar to believes in their nature. The keywords broaden the meaning and understanding of the philosophy.

The twelve principles refer to two fundamental issues. First one are individual personal virtues, another says of organizational/business philosophy. For example, the third management principle mentions „Keep a passionate desire in your heart” (<http://global.kyocera.com>, 21.01.2016). Additional explanations inform this is not about accidental attitudes but about the permanent and lasting passion which is desired, rooted in the deep levels of human mind. Another principle referring to human virtues says „Strive harder than anyone else” (<http://global.kyocera.com>, 21.01.2016), this is fourth principle. It gives the real challenge to everyone in an organization. At the same time it is very idealistic.

The management principles referring to business/organization are concentrated more on teams' practice, although still to some extent idealistic. The fifth principle is „Maximize revenues and minimize expenses” (<http://global.kyocera.com>, 21.01.2016). This is a fundamental rule of economic rationality. But in this case the interpretation is that amoebas must measure both variables, and not to chase the profit, it should always be an effect of undertaken efforts. Another organizational tip presents the principle number ten: „Always be creative in your work” (<http://global.kyocera.com>, 21.01.2016). This is an encouragement for innovativeness on the work stations and continuous improvement. Each day at work should carry some kind of positive changes.

The philosophy at Kyocera is far disaggregated and conspicuous, it is inbuilt in organizations in many ways. First of all, it is described in printed hard version as The „Kyocera Philosophy Pocketbook”

(Sawabe et al., 2008, p. 88). This book is given to each employee on the first day (s)he come to the company. Additionally, during the morning meetings employees read pieces of this book (Sawabe, 2015, p. 26). The company also prizes all the values comprised in the philosophy. As the founder mentions, Kyocera, as no other company in the world, places so much importance on basic values of justice, fairness courage and perseverance (Inamori, 2013, p. 33). For years this allowed to develop the strong corporate culture. Adler and Hiromoto (2012, p. 85) underline that this ethics and human challenges focused corporate culture serves as the primary mechanism of making sure that the interests of the organization come first.

### 1.3. THE ACCOUNTING SYSTEM

The third pillar of AMS, beside the autonomous teams and meaningful organizational philosophy, is a very distinctive accounting system in a company. In Inamori opinion mentioned in his book (Inamori 2014, p. 24), the traditional accounting system operates on global figures and it reports the historical data, which is totally useless for AMS approach. The idea of AMS is to base on the real economic conditions in each elementary unit forming this system, so that each unit must have real and timely economic calculation. First of all AMS implements internal transfer prices between amoebas. These amoebas transfer prices are determined through a process of bargaining and negotiations, so that reflect market prices (Takeda & Boyns, 2014, p. 340). The selling prices determine the amoebas profits, but whilst setting the selling prices amoeba cannot consider only its own profit but also a profitability of whole company (Inamori, 2013, p. 51). Amoebas compete, subcontract, and cooperate among themselves on the basis of the intracompany market, which is an equivalent of a real market (Blahová, 2013, p. 31).

Having internal transfer prices between amoebas this is possible to calculate precisely value added in each amoeba. Value added, called as amoeba profit, is the balance remaining after subtracting the total expenses, other than labour costs, from net value of production sold to other amoebas (Inamori, 2013, p. 63). The total expenses include absolutely all costs tied to facilities engaged and operations done by amoeba. The internal interests are also calculated with reference to capital as well as inventories. The calculation aim is to determine the „workers” profit’ and „hourly workers” profit’, these two constitute the

main indicators for amoeba management. What is important, labour salaries and accompanying expenditure do not bear the workers’ profit. This is the key element of Inamori’s philosophy, the higher labour costs are not seen, per se, as something bad what has to be reduced (Takeda & Boyns, 2014, p. 339).

The accounting system at Kyocera is referred to as a diagnostic control system (Sawabe, 2015, p. 24). The amoeba results are planned monthly and yearly in financial figures. Each month the reporting meetings are held. During meetings the financial performance of the prior month is presented and discussed in relations to monthly targets and annual targets. Adler and Hiromoto (2012, p. 87) underline that at Kyocera they devote much attention to ensure that this accounting information accurately reflects internal and external transactions of each amoeba on the daily basis. Alike Inamori (2013, p. 53), who mentions the fundamental role of Business Systems Administration Department at Kyocera. This department handles the quantitative information of the entire company. It provides the information necessary to steer all operations. The AMS use this information like an aircraft navigator reads and interprets instrument panels and gauges in a cockpit (Inamori, 2013, p. 53) in real time.

## 2. AMS IMPLEMENTATION NODAL POINTS IN EUROPEAN PERSPECTIVE

Analysis of Inamori (2014) AMS concept shows set of challenges which can be seen in different way from three key positions in organization: worker point of view, amoeba leader point of view and managers point of view. These are presented in Tab. 1.

Taking into consideration 6 challenges mentioned in Tab. 1 and being guided by Smythe (2009), Burns (2005), Levine (2006, pp. 375-380) and by guidelines coming from researches Aon Hewitt (2015) and Hay Group (2014), we can assume that most of them is connected with managers attitude and company management culture based on mission and values of organization. This lead to conclusion that fundamentals of AMS lay in behavioural area of all workers from all levels of organization, what creates the need to prepare the staff to co-create and work in new working environment.

Tab. 1. Challenges of AMS from different points of view

CHALLENGE	WORKERS POINT OF VIEW	TEAM LEADERS (AMOEBA LEADERS) POINT OF VIEW	MANAGERS POINT OF VIEW
Concentrate on work- ers needs and on what motivate him to take responsibility	Worker wants to protect his home budget now and in the future  Need of daily sense of mean- ing and satisfaction of what am I doing	The main target is to work out profits to ensure salary for my workers	To motivate and lead the amoeba team leaders in goals achievement  Win the challenge to break through the conflict between workers and employer
Create mission and give the know-how to fulfil the mission	Worker to be an entrepreneur and care about company re- sults should know the financial result of his amoeba team. Each worker has real influence on a work organization	To be entrepreneur cre- ating long and medium term goals business plans, having the knowl- edge about value stream connected with finance management. Processes and tasks organization is the team responsibility and authority	To be concentrated on human resources management and financial results in the same time. Be a guide (define and protect company values and key rules) for subordinated amoebas' team leaders
No limits rule must be the attitude	There is no limits in cost reduction		
Salary should not be a driver of results achievement	Workers salary should not be depended on short term orga- nization profitability, but on his competencies. Lower results can't have the influence on salary level	Promote and develop competencies of each worker according to com- pany needs	Promote and develop compe- tencies of each amoeba leader
Profit for company is the main target. Profit of amoeba is what is under daily control of leaders and workers		Setting the sales price between amoebas is the mature discussion and profit share between amoebas	Ensure wide access to infor- mation about company situ- ation. Take on the challenge only when its teams are pre- pared for it
Flexible structure of autonomous teams	Organization of the autonomous team can be changed any time		Flat organization structure adopting to current company needs

Source: own compilation based on (Inamori, 2014).

### 3. FIELD RESEARCH METHODOLOGY

Considering the aims of the study the explorative approach is seen as the most appropriate. Moreover, there is an important limitation – number of companies practiced AMS is pretty limited. So that it is decided to employ case study approach for a broad investigations of AMS introduction in European enterprises. As Denzin and Lincoln (2009) underline, the case study methodology is being used in many fields of social research as well as other sciences. Creswell (2007) states that case study is a good approach when the inquirer seeks to provide in-depth understanding of the cases or a comparison of a several cases. As this is a qualitative methodology

the doubtfulness refereeing to the reliability in study validity is quite substantial. Therefore the researcher should use multiple sources of evidence to demonstrate coverage of data from all sources, moreover a chain of evidence that link parts together should be established (Burns, 2000, p. 476).

Considering whole the limitations in the business entities as well as the nature of case study methodology, the multiple case study is decided as the most appropriate approach. Each case will be studied according to the same nodal points.

The investigation of each AMS will follow some substantial issues:

- basic characteristics of AMS organization in a company;
- tasks coordination and decisions;



- manifestations of AMS philosophy;
- shortcomings from systemic point of view.

The objects of multiple case study methodology are three companies, one of them is located in Sweden and other two in Poland. First one is an automatized bottling plant of beverages producer. In this study it is called as „Company A”. The second company is located in Poland. Its business activities are focused on cosmetics production. The company operates in two steps: mass batch production and half-automatized packing. This company will be called as „Company B”. The third company is an electrical equipment manufacturer with manual assembly processes. Its facilities are located in Poland. In this case study its name is „Company C”.

All three companies operate worldwide. All of them have foreign ownerships – they are parts of larger holding companies operating internationally. Each of companies chosen for investigation has experiences with AMS, and what is crucial for this study, their experiences in this system are not equal. They operate in two different European countries with different historical economic background. Polish economy is a post-transition one with still strong and prescriptive management methods. Swedish economy is a high developed one. In terms of working culture and new technologies utilization, it is also very socially focused. Taking into consideration that AMS is not widely spread within European companies the objects selected for this multiple case study look as appropriate representation for studying European experiences referring to implementation of amoebas approach in companies.

## 4. AMOEBA'S SYSTEM IN THREE STUDIED COMPANIES

Each of the three amoeba's systems are analyzed according to the same criteria. The information is obtained from personal visits in production facilities, careful observations and unstructured interviews with managers. During data collection and analysis, the researchers focused on the differences and similarities of the crucial characteristics of AMSs existing in research objects. Particular observations were systematically confronted with the available literature on AMS. Shortcomings and challenges faced in the investigated AMSs in their development paths formed the focal point of the filed investigations.

### 4.1. THE STARTING POINT OF AMS

First of all, the different imperatives to introduce amoeba approach are observed in three researched companies. Company A initiate the kaizen teams approach in the year 2000. They set the goal to improve efficiency of production lines as well as productivity of a workforce. After 1 year management noticed that workers want to take responsibility for their lines' results. First roles as quality responsible operator, technics responsible operator appeared in teams. In 2003 managers noticed a greater responsibility by operators for the processes they working on, so that they decided to establish a team member with a role of a coordinating operator. This was a special moment for this company. A turning point for the company's organizational system. „In this year we broke through stereotypes and the old corporate culture; but we also saw a need to enrich the operators knowledge and skills as well as to change our management habituations and some behaviors of our operators” (CI Director, Company A). The company started to be „employees focused” as an element of its mission. The beginning of AMS in Company A, generally, was line workers driven.

In 2009 Company B appointed to a General Manager position a person described as „an outstanding leader (...) his sense for strategic topics and open mindedness makes him an excellent manager with a vision beyond pure target achievement” (Manager, Company B). GM worked out with his management team values of led company: „trust, courage and care”, which become a foundation of changes in this company. First steps where made in management attitude and leadership behavior fostering. Kaizen actions and kaizen teams were appointed to follow growing targets and to create environment of continuous improvement. „But it was not enough for us, only some of operators had possibility to take part in changes. Rest of them had a role of observers” (Production Manager, Company B). In 2014 the company decided to implement autonomous teams to simplify organization, communication and give all employers real influence on their work environment. The communication of autonomous teams was started with words „our mission is to create value for us (work quality, safety) and for our customers (product quality and on time delivery)” (GM, Company B). The beginning of AMS in Company B was generally driven by management particularly by one strong leader – a General Manager.

The starting point looks differently in Company C, which followed directions derived from their head office. In 2014 head office informed that autonomous teams was the management approach that must be implemented in the strategic perspective of next 4 years. Internal analysis had shown that current Production Manager attitude and behavior would not allow to introduce the expected organizational system. At the end of 2014 a new Production Manager was appointed with the mission of autonomous teams creation. His first steps were concentrated on autonomous teams leaders formation and change of the behavior of supportive departments. „Without leaders understanding of their role for us (management) and for their teams, without development of their leadership skills, without changing behavior of other departments to support team leaders, we can't expect the organization and autonomous teams will support our company growth" (Production Manager, Company C).

#### **4.2. AMS CHARACTERISTICS IN COMPANY A (SWEDEN)**

In Company A the system of amoebas exists in three levels structure, that is: level of top management, department managers and autonomous teams. In each team three typical roles are distinguished in a bottom up manner, these are: a team coordinator, quality responsible and a technician. The qualification to these roles is based on the employees skills and talents. A team size is up to 15 operators, but it differs depending on individual work area needs. In this AMS, managers support autonomous teams. Teams provide systematic performance analysis on a daily basis, exactly like this in Inamori's system at Kyocera. The team results are measured by daily operational indicators, but they do not have a financial nature. The operator salaries do not depend on a team performance but are based on work competences.

In AMS particular attention is devoted to the operators' preparation to their work responsibilities. At the beginning, a team coordinator is provided a cycle of leadership trainings as well as mentorship from an experienced leader or manager. After the preparatory stage, a team coordinator participates in cross functional meetings and workshops which are intended to support him/her in daily decisions and provide with the area expertise knowledge. An ordinary team member, at the beginning, also receives a cycle of trainings closely linked to his/her future

role in a team. This learning process last approx. 3 months. During the work an operator participates in problem solving workshops in area of responsibility (quality or maintenance). Operators are actively engaged in determination of standards and instructions in relevant working areas.

Targets come from company strategy and are cascaded down to all company departments and levels, finally reaching autonomous teams. During the time the system was observed, set operational targets were exceeded up to 10% showing that teams are more concentrated on continuous improvement and looking for unnecessary losses then just a set target. Company A managers report some results achieved thank to the AMS implementation. They are as follow:

- team reduced their workload, this extra time is utilised to make next improvements in team area, during this time also other team areas are supported in improvement actions;
- there were observed noticeable reduction of employees rotation;
- the yearly targets have exceeded by teams each year;
- and finally there are noticeable higher maturity of team members, they manifest a real responsibility for area's performance and are partners in targets setting.

On the other hand as the most important shortcoming to AMS described by Inamori (2014) is not implemented financial indicators for autonomous team.

#### **4.3. AMS CHARACTERISTICS IN COMPANY B (POLAND)**

In Company B the system of amoebas exists in three levels structure, there are: level of top management, department managers and autonomous teams (amoebas). There is no distinguished roles between workers in teams. A team size is up to 50 operators and it differs depending on individual work area needs. The influence on team size have also temporary workers who creates even 25% of production staff in peaks periods. In AMS of Company B, managers support autonomous teams by teams' systematic performance analysis on a daily basis. The team results are measured by daily operational indicators and they do not have a financial nature. As there is no roles in teams, role of manager is important. He is still a leader who support

systematic performance analysis of subordinated teams, he creates next targets and appoints kaizen teams to solve appearing problems in reaching targets. This creates strong role of kaizen teams focused on set goals in areas set by managers. The activities of kaizen teams (not autonomous teams) brings exceeded targets up to 5% each year. The operator salaries are based on working hours with bonus on long term goals achievement. The role of bonus is to support sustainability of improvements prepared by kaizen teams.

Company managers highlight the problem of autonomous teams management. „We eliminated level of team leader what simplified communication but in the same time we (managers) must manage up to 120 people in one time” (Production Area Manager, Company B). At the same time change in managers participation on genba was noticed: „finally they are present on shop floor and understand real needs of their people” (GM, Company B). And yet all managers, basing on current experience, see the crucial need to prepare team members to manage themselves and their results.

The problem which Company B is facing with is also attitude of working in kaizen teams instead of autonomous teams. Kaizen teams are built with „who wants” members. These members are taught to concentrate on targets achievement in set (not always their) area. In fact, the kaizen teams, not members of autonomous teams, are responsible to achieve results, what is considered as a real threat. On the other hand, in each autonomous team there are kaizen teams members who already have skills to work with challenges and targets. The weakness is that all the kaizen targets are set by managers not autonomous teams.

Next challenge for Company B is how to integrate temporary workers into autonomous teams. The temporary workers employment is the mean to follow changes in customer demand and to reduce risk of unnecessary stock levels.

The example of Company B showing that implementation of AMS is not only „to cut” one level of organizational structure. Operational teams are not learnt to be self-governing. Interviews with operators show that they still expect leadership and guidance. The question discussed in management team is which way to choose now: appoint a leader in (not over) a team and develop operators skills to support the leader or teach the team how to work autonomously? Management is convinced to second

option thought assess it as more difficult solution. Training paths are in preparation phase.

#### **4.4. AMS CHARACTERISTICS IN COMPANY C (POLAND)**

In Company C the system of amoebas exists in four levels structure, there are: level of top management, department managers and autonomous teams leaders and autonomous teams (amoebas). There is no distinguished roles between workers in teams. All team members are operators in assembly cells. At this phase of AMS concept implementation Company C is putting high attention to team leader role whose current responsibility is to create autonomy of his area. This goal is reached by slowly retreating leadership of a production manager and change in the role of supportive departments. Each daily performance visual management meeting is led by a team leader who highlight results, gaps and needs of his area. Supportive departments as: planning, maintenance, quality and warehouse, come to this meeting to give the answer on leaders questions, support his/her decisions and agree common action plan. The goal is to support leader in his/her team performance achievement and to find compromise in conflict situations. This daily meeting is also a place where a leader, basing on long term production plan, defines the need of extra workers in his area and need of technical development of area. The only role of a production manager is to react when the team is not able to find compromise.

Each team leader manages a team up to 30 operators. The size of the team differs depending on cells' needs. One team leader is responsible for few cells (sub-teams) to ensure flexibility in moving workers between cells when it is needed. In the same time managing of 30 people is seen by team leaders as difficult and not allowing a real participation in team life as well as in-depth understanding the problems roots.

Team members salary system is based on working hours with discretionary bonus awarded by a leader. Team leaders passed through leadership, communication and negotiation trainings with strong pressure on performance and firmly basing on a visual management tool – Performance Visual Management (PVM). Participation of production manager in PVM meetings allows him to ensure coaching and mentoring of each leader as a reaction on his/her successes and failures.



Concentration on autonomous team leaders left team members behind the autonomy. The only influence that they have on their work environment is to suggest solutions by participation in suggestion programme. All their suggestions are analysed on daily basis and are part of PVM meeting. This solution is a part of operators teaching plan – by getting feedback operators learn which suggestions are valuable for company. The results can be seen. Fast reaction on highlighted problems and implementation of big part of suggestions motivate operators to propose next improvements. But there is still a gap in communication between leaders and their teams. Operators do not participate in formulation of improvement action plan and are not guided to follow targets different than productivity. All other targets as e.g. production plan fulfilment are the team leader responsibility. This gap is seen by management especially in targets achievement (all teams leaders just try to follow targets) and Company C is preparing plan to implement PVM meetings to leader-team level.

The activities of kaizen teams in Company C is almost invisible on shop floor, exactly the same way as it was 3-4 years ago. All improvements are shared between departments and cells or teams and implemented internally step by step. There is still management conviction that the main role of operator is to make products and not „lose time on improvements“. The improvement role is moved to departments to understand suggestion and the need highlighted by operator and implement it. Company C is planning to observe if this solution will be sustained or not, basing on leader-team PVM meetings results.

## 5. DISCUSSION OF THE RESULTS

The observations made in companies should be confronted each other and with the literature knowledge. All three investigated companies decided to eliminate finance analysis from their AMS. „There is no such a will to share with employer detailed information about cost and profits of our organization“ (Production Manager, Company C). „There is a risk to inform them (workers) about difficulties of our business as we want them to feel safe in our organization. From the other side, there is a risk that employers knowing our profits can expect higher salary. And this is the area on which we have really

weak influence as managers of foreign companies“ (GM, Company B). „When is a need to control costs we discuss and control it on teams level“ (CI manager, Company A). Teams are driven by Key Performance Indicators (KPI) which are connected with financial indicators. Thanks to this solution companies eliminated part of conflicts in price negotiation between amoebas. And what is important, by this way they eliminated the risk of instability feeling which job rotation can generate. In the same time they are developing teams responsibility and autonomy. This decision has consequences in indicators definition to put attention of team members on costs. Each company chose different way to solve this problem: some of them defined indicators which has direct influence on costs as for example scrap level measured in measure units (Company B&C), and others showed real costs e.g. scraps in value unit (Company A).

The problem coming from not using financial indicators on operational level can be seen in support areas/departments such as: sales, planning, purchasing, sourcing. Only Company A with well-developed company culture and with a mission of „common goal“ is not facing with a problem of conflict of „which department is more important“ and „whose goals are more important“. Company C reduced the problem by redefining roles of supportive departments putting into centre production area which goal is to fulfil customers' orders on time and with zero complaints. Company B manages inter departments balance on the level of departments managers.

The challenge of finding common language between managers and operational staff companies solved in different ways:

- Company A – company culture and country working culture is based on real respect between workers and managers; sporadic conflicts are solved by labour unions supporting both: employee and employer;
- Company B – runs programmes of „Culture of agreement“ and „Team voice“ to reduce the distance between managers and operational staff and leadership development programs for managers;
- Company C – implements effective PVM solution supported by very simple Workers Idea Programme.

Another very interesting issue is the role of salary system in achieving amoeba targets. Company A and

B show that there is no need to motivate employers by bonus for meeting monthly targets to exceed targets. Company C results confirm that meeting targets is the result of daily targets management by PVM and not by bonus for top operators or even all of them.

Interesting observation is that all 3 companies created autonomous teams only in production area. „This is the field which needs this solution, other departments already work autonomously” (Production Manager, Company B). „The production needs autonomous teams to show they are authorised to define their needs” (Production Manager, Company C).

In all companies there is seen progress in comparison to typical companies not using amoeba concept from their industries located in the same geographic area as well as comparing to the state before AMS has been introduced. The progress is seen in how workers assess management of production processes. „Finally they react faster for our improvement suggestions. Sometimes it takes too long time, but reasons of delay are impartial” (Operator, Company B). „There is a big change in managers attitude. I never believed that maintenance manager will ask me how he can help me” (Team Leader, Company C).

Some significant shortcomings were also observed as regards to people attitudes and self-confidence. Interview made with leaders of Company C shows the fear of taking the responsibility. „We are scared. Autonomy means high responsibility. I am not sure I have enough skills to fulfil all expectations. I don't want to lose my job ...” (Team Leader, Company C). Workers understand the need of taking this responsibility, but they feel the lack of real support from managers. „Our managers don't fully know what problems we are facing with. They are too far from our lines. Having authority to change we can make improvement faster” (Operator, Company B). For the beginners in AMS there is important remark coming from team members: „We will observe our managers, if these long term plans, to change their attitude and way of treating us, will be fulfilled...” (Operator, Company B).

Basing on AMS literature review and the investigations and observations in companies, also having in mind highly entrepreneurial and engaged idea laid as basis of AMS approach, a scale for assessment the maturity of autonomous teams

implementation is proposed as following:

- full: a production manager plays a supportive role in AMS, no team leader level in organizational structure; team members has defined roles in teams; daily communication throughout whole organizational levels, meaningful results referred to targets; implemented financial indicators for each amoeba, flat organization structure ready to be changed any time;
- advanced: in this level are the same like in the „full” level, namely active role of a production manager, appropriate managerial levels and defined roles in an amoeba team, but financial indicators, including transfer prices, do not play as fundamental factors steering amoeba teams;
- medium: a production manager role in amoeba management is still important, no team leader level in organizational structure; team members has no defined roles in teams; daily communication not through all levels of organization, targets achievement according expectations, flat organization structure;
- beginning: important production manager role in amoeba management, organizational structure has more than 3 levels; team members has no defined roles in teams; daily communication between single level of organization, weak results in targets achievement.

The investigates AMSs in the three companies are qualified to maturity levels basing on the systematization proposed above. The AMSs maturity are presented in Tab. 2.

Tab. 2. Studied AMSs maturity assessment

STUDIED COMPANIES	MATURITY LEVEL
Company A	advanced
Company B	medium
Company C	beginning

Source: authors' elaboration.

## CONCLUSIONS

The multiple case studies argued that the real big challenge for companies which would like to follow amoeba approach is to introduce appropriate financial approach including an adequate accounting system, financial planning and targets in the amoebas level as well as transfer prices between amoebas. The literature

insight into the AMS at Kyocera shows that financial planning and financial responsibility of amoebas is an essence of this approach (Inamori, 2013; Sawabe et al., 2008; Hamada & Monden, 1989). Only this enables fully entrepreneurial behaviours of autonomous teams, it lets far-reaching rationalization of business operations in all their dimensions. The study also suggests that the transition to a financial settlements of amoebas is a fundamental shift in a company, this shift is an ultimate one. The two other really important challenges, for those who want to implement AMS to existing companies, are to set a new leadership approach by top managers and change attitudes of operators and leaders. Both challenges need to be supported by wide competencies development.

The transformation from the traditional management system to AMS proposed by Inamori (2014) cannot be done as a revolutionary short term action. Changing convictions, behaviours and beliefs is the long term evolutionary process which can be divided in four steps.

First of all, there is a need to concentrate attention of each organization level to KPIs and teach them methods to reach set targets. This task can be supported by Goals Pyramid (GP) and PVM tools. Whilst creating GP there is an important role of managers to understand the processes led through departments. Creation of departments KPIs must be based on processes and balance interests of each department to reach key company financial targets. The biggest challenge of this tool is to eliminate conflicts of interests between departments. PVM role is to support managers/leaders in creating attention and initiate activities of his team to reach set indicators targets. In this step, the manager is the leader and guide for his team. He makes decisions which are followed by a team.

Second step is to authorize leaders and operators to make autonomous decisions being guided by KPIs. The authorisation of subordinating staff needs a belief that their decisions will be according to managers expectations and entirely approved by them. That is why this step needs competencies development to give the know-how to staff. Competencies development can be reached jointly by trainings, muda walks and participation in kaizen actions concentrated on reaching targets. In the same time team decisions can be controlled by reversed PVM where the manager/leader is a customer of team results. In revised PVM the role of manager/leader is

to give the feedback to decisions and ideas made by the team to teach them expected decision making processes.

Third step is to join interests of different departments and concentrate them on common goals. This step is already supported by KPIs pyramid developed in step 1 but at this stage should be concentrated on natural cooperation between representatives of different departments. This cooperation should be led on operational level and engage operators and specialist. The goal of this step is to work out cooperation rules on operational level of organization which support cooperation based on departments managers. Third step needs widening of competencies on understanding processes led through departments.

The fourth step is to convert the KPIs to financial indicators. This step needs financial competencies development through all organizational structure. Here, the financial system proposed by Inamori (2014) can be implemented.

Proposed by authors, four steps development process is concentrated on set of tools which, step by step, build trust in organization, conviction that operators can be authorized to make autonomous decisions (Inamori, 2014; Smythe, 2009) and create culture of agreement (Levine, 2006; Smythe, 2009) between all levels of organization and across departments.

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# IDENTIFICATION OF PROBLEMS OF IMPLEMENTATION OF LEAN CONCEPT IN THE SME SECTOR

ROBERT ULEWICZ, ROBERT KUĆĘBA

## ABSTRACT

The article presents identification of problems during the implementation of Lean concept in small and medium-sized enterprises in Poland. Although the Lean methodology is recognized all over the world as one of the best and most effective ways to improve the functioning of enterprises, in Polish conditions exist serious problems with its implementation. Development of small and medium-sized enterprises is regarded as one of the measures of economic growth and a sign of healthy competition. The needs of the economy and the limited resources characterizing this enterprise sector imply the need to adjust its capacities to the requirements of the turbulent environment. In the analysis of problems there were used the results of questionnaire surveys conducted among representatives of the companies participating in the largest Lean conference in Central Europe.

## KEY WORDS

**Lean, SMEs, improvement, questionnaire survey**

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## Corresponding authors:

**Robert Ulewicz**  
Czestochowa University of Technology  
Faculty of Management

e-mail:  
ulewicz@zim.pcz.pl

**Robert Kućęba**  
Czestochowa University of Technology  
Faculty of Management

e-mail:  
robertk@zim.pcz.pl

## INTRODUCTION

W. E. Deming in his classic study (Deming, 1982) stated that „every activity, action, work is a process or a part of some process”, and the responsibility of managers is to understand the essence of realized in the company processes and the drive to their continuous improvement. Processes are the essence of any changes, this is due to the complexity of their operation and the processes are a challenge to contemporary organization (Grudowski & Leseure, 2013). The concept of Lean comes down to the management of the organization by reducing the number of inputs to create the same number of outputs, through the elimination of waste in order to provide greater value for the manufacturer and the customer. Lean significantly improves the operational efficiency of companies with regard to costs, quality as well as delivery mainly in the sector of large enterprises of automotive industry (Engelund et al., 2009; Goncharuk, 2009; Mahalik & Nambiar, 2010;

Jadhav et al., 2015). In the literature we can meet frequently opinions that Lean concept can be applied in full form in an enterprise in which the specificity of its functioning is closer to the specifics of functioning of the automotive industry (Walentyńowicz, 2013). Large companies have greater incentive to implement Lean concept. They also have more resources that can be used in the implementation of this concept. Small and medium enterprises have more difficult task with the implementation. This is due to, inter alia, insufficient resources, lack of knowledge, as well as lack of support in the process of implementation by external companies for which repeatedly small and medium-sized enterprises are not sufficiently attractive from the point of potential profits from implementation.

There are numerous studies on the implementation of Lean in small and medium-sized enterprises in specific industries, mainly the production of



household appliances and food production (Dora et al., 2013; Dora & Gellynck, 2015). The question arises: what with other branches? Production of furniture, galvanic-technical plants or ceramic plants employing up to 50 employees with specific technical requirements, which often limit the implementation of Lean solutions in the direct area of production (Kleszcz et al., 2013).

In the Polish economy, small and medium-sized enterprises provide most jobs (69%, according to Central Statistical Office data from 2013) and constitute 99.8% of the total number of enterprises. However, Polish small and medium-sized enterprises produce only 50% of added value of the whole economy in comparison to 58% for small and medium-sized enterprises across the European Union (Zadura-Lichota, 2014). Presented data show that the labour productivity and efficiency of resource use of Polish enterprises of SME sector remains below the European average. Action is needed for the improvement of productivity and efficiency of resource use in the sector of small and medium-sized enterprises.

The subject literature says that conditionality in SMEs are conducive to the implementation of Lean concept, this is the prevailing view that such features as high flexibility and efficiency of the system of internal communication constitute about their advantage in this area over large companies, especially when it comes to the speed of implementing changes (Davenport, 1993; Wessel & Burcher, 2004). In turn, characteristic for SMEs lack of formalized, methodical approach to strategic planning and focus on current problems leading usually to the adoption of a little ambitious assumptions, are not conducive to a clear definition of the relation between company goals and the need to implement changes. While the problem of Lean in SME sector is described in the literature, it mainly concerns medium-sized enterprises of the serial and of a little serial type of production rather than the small enterprises implementing often little serial or unit production (Nogalski & Walentynowicz, 2011; Tyagia et al., 2015).

## 1. PROBLEMS IN IMPLEMENTING THE LEAN CONCEPT

The most common problem in implementing Lean concepts is lack of understanding of the concept itself and its principles. Here you can cite a similar situation

during the implementation of quality assurance systems. The situation is well described by Roger Hall, chief executive officer of Tennant Company, USA (Hale, 1991): „We found that, like other important ideas, the idea of quality is very simple. As simple as it is difficult to understand.”

Exactly with the same situation we are dealing with the concept of Lean with its rules and tools. The problem is the ability to look at the organization as a whole and understand own place in the organization and the impact that has on it, regardless of taken position.

Authors of the works (Atkinson, 2010; Liker & Rother, 2011; Bortolottia et al., 2015) point to the very important role of organizational culture in the company in achieving success in implementing the Lean concept. The adoption by the company of so-called soft practices is another important element that determines the success of the implementation of Lean. Lean management is regarded as an approach that links with each other soft and hard practices (Fotopoulos & Psomas, 2009; Calvo-Mora et al., 2013). Soft practices relate to people and relations while hard practices relate to the Lean techniques and analytical tools. Soft practices are essential to achieve the highest efficiency through Lean and to maintain productivity in the long perspective (Liker & Rother, 2011). For enterprises of SMEs the weak side of organization culture is autocratic management style, which is not conducive to the improvement of processes by employees, and the lack of formalized, methodical approach to strategic planning and focus on current problems (Achanga et al., 2006). The multiplicity of functions, that employees fulfil, does not favour the analysis of problems arising in the processes which demands in-depth knowledge. Limited financial resources cause that changes made in the processes have temporary or short-term nature (Grudowski & Leseure, 2013). In Poland it is accepted that the best way to reduce cost is to reduce the unit cost by increasing production volume, thereby the distribution of fixed costs across a larger number of products or reduction of employment, while maintaining the current course of processes (Ulewicz & Mazur, 2015). Observing the state of Polish enterprises it can be seen that these methods are ineffective and meet with much resistance from employees who are forced to work more efficiently with unchanged conditions. Companies tend to forget that one person has a limited capacity and is not able to perform an unlimited number of operations per unit of time, and the faster one works,

the more mistakes makes. This gives rise to the problem of the possibility to meet orders and customer demands in the situation of tightly limited resources. One of the solutions to this problem is deeper look at manufacturing processes and activities carried out in them and the methods used for their implementation. In the production and auxiliary processes you should therefore look for opportunities to meet the challenges of the market and the difficult economic situation of enterprises and eliminating waste (MUDs), (Womack & Joan, 2003). A thorough understanding by the organizations of what client needs and what characteristics of a product or service will meet his expectations (price, delivery time, service), and search for a way to provide such a product, is the key to eliminate the waste and increasing productivity. The mistake, which is often made, is the inaccurate identification and definition of requirements of the external as well as internal customer. With such case we are dealing often in small and medium-sized enterprises that do not have the quality assurance system and operate on the basis of functional approach rather than process approach. The second problem is often a lack of stabilized production with which we are dealing in large enterprises. This situation means that both, the organization of such companies and their management, must significantly differ from practices used during the stabilized production in large companies. This is due to the fact that in such companies it is difficult to develop a plan of production and associated with it production schedule, taking into account the current production capacity of the company. Customer comes „when he wants”, and orders a product which meets his individual needs, regardless of the plans and schedules.

The mistake that is often made is also inappropriate preparation of enterprise to implement Lean. This is due to the lack of culture of change and continuous improvement, lack of teamwork skills, frequent staff turnover, as well as piecework (Ohon, 2008; Baird et al., 2011). In case of small and medium-sized enterprises there is a serious problem of management or owner involvement in the process of implementing Lean. There is a belief that changes in the company are not needed when every-thing works well. Another mistake made by the management is forcing changes without consultation and the lack of explanation of the meaning of changes that are being implemented. Lack of long-term actions is another obstacle to the

effective implementation of Lean concepts (Bicheno & Holweg, 2009). Implementation of short-term projects often focuses on the short-term financial goals and limits the possibility of exchange of knowledge, ideas and information. In case of large companies and corporations there is also the problem of financial objectives and expectations in respect to the implementation of Lean. The result of such activities is the identification of Lean activities with a decrease in employment what results in an overall lack of confidence of workers to Lean operations that are being implemented. In extreme situations it reaches up to sabotage the improvement activities. It is a consequence of lack of training or inadequate Lean training that does not explain purposes and effects of realized actions. Another concern is that there is no definition of general indicators of the implementation of Lean concept, and no defined steps and measures of works progress (Fullerton et al., 2014). A common systemic mistake committed by the companies is the limitation of Lean concept to production department and the lack of clearly defined vulnerabilities of the system (for example Bottlenecks).

## 2. RESEARCH METHODS

For research a survey questionnaire consisting of 12 questions and metric identifying the respondent was used. Questions were selected in a manner enabling assessment of the impact of organization culture on the process of implementing Lean, the use of process approach, the use of soft Lean practices, as well as the techniques and tools of Lean. A separate question concerned the identified areas of wastefulness and problems in implementing the Lean concept.

In the process of acquiring responses research were conducted among the participants of V Open Lean Conference in Poznan. Per 500 distributed questionnaires, the survey returned 167 participants of the conference. The results of the research were supplemented with direct PAPI research (Paper and Pencil Personal Interview), (Gruszczyński, 2003) for small and medium-sized enterprises. During the study the interview with respondent was carried out, during which the interviewer read each question from the questionnaire and meticulously wrote down responses given by the respondent. In this way, 35 companies were surveyed. In the study was also

used on-line questionnaire — CAWI (Computer Assisted Web Interview). CAWI technique consists in carrying out online survey supervised by the computer. In this way, the results were obtained from 40 companies. The respondents were managers of higher, middle and lower level and operational staff. In case of small and medium-sized enterprises business owners were also surveyed. For research there were qualified 65 companies of a separate group of small and medium-sized enterprises. Efforts were made, as far as possible, to give to the poll the workers of different levels within the same company. The main objective of carried out examinations was the assessment of functioning of Lean in small and medium-sized enterprises in Poland. In the study particular attention was paid to the impact of culture of the organization on the efficiency of implementation of Lean concept and problems in implementing the Lean in small and medium-sized enterprises.

### 3. RESEARCH RESULTS

Based on data from a questionnaire survey there was conducted classification of companies in terms of volume. The only distribution criterion was the number of employees. Fig. 1 shows the structure of the companies in which the questionnaire survey was conducted.

The next step was to recognize whether a given company knows the concept of Lean. If yes there was a question whether the company plans to implement Lean, or the company is already in the implementation stage. Based on the answers of respondents (in percentage share there were taken into account respondents from the same test facility) it was established that only 19% of the surveyed companies

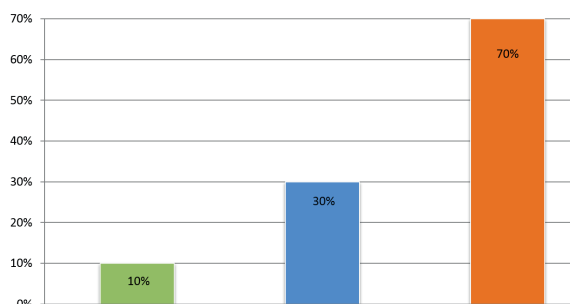


Fig. 1. Percentage share of companies participating in the survey research from a group of small and medium-sized enterprises [%]

Source: author's elaboration.

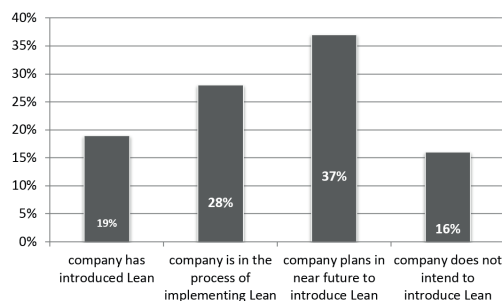


Fig. 2. The percentage share of companies participating in the survey from a group of small and medium-sized enterprises responding to the question about the level of involvement of companies in the implementation of Lean concept [%]

Source: author's elaboration.

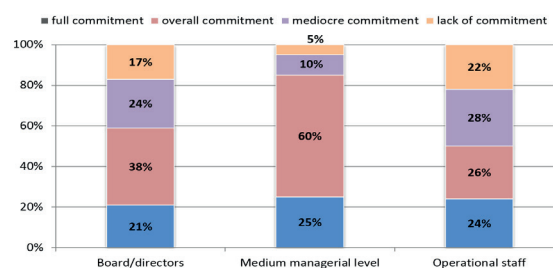


Fig. 3. Percentage structure of employees involvement in the process of implementing Lean concept [%]

Source: author's elaboration.

from the SME sector implemented the concept of Lean and 28% is in the implementation stage. It is disturbing that nearly 16% of the surveyed companies do not know much about the issues of Lean or do know completely nothing and the questionnaire surveys is their first contact with the Lean term (this concerns 20% of the companies from 16% of analysed). The concept of process approach is also alien to them. Fig. 2 shows the structure of the answer to the question about the degree of involvement of the company in implementing the Lean concept.

For further analysis were qualified enterprises that have already implemented, are currently implementing or plan to implement the concept of Lean. When assessing the involvement of various groups of employees, we can conclude that the most involved in implementing Lean concept in the company are medium level employees (85% shows a strong commitment to implementing measures). The smallest degree of commitment we can observe in case of operational staff (50% shows mediocre or lack of commitment to implementing measures). Fig. 3 shows the percentage structure of given responses. Separate research group constitutes 16% of companies

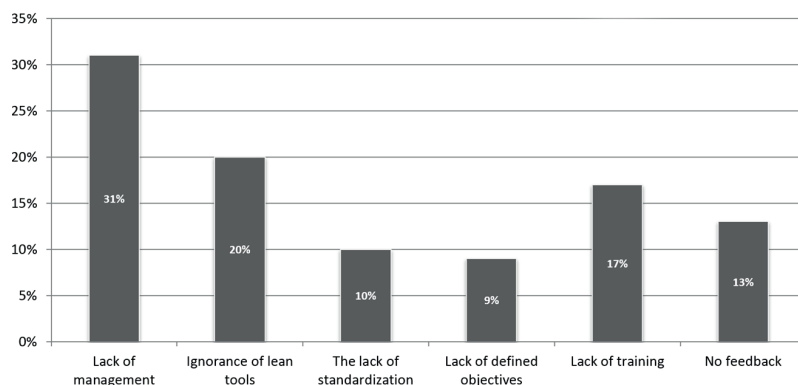


Fig. 4. Percentage structure of answers to the question about the problems in the implementation of Lean concept [%]

Source: author's elaboration.

that do not plan to implement the concept of Lean – to this group of companies direct interviews were addressed, which aimed at determining the reasons for the lack of interest in the concept of Lean. However, results obtained from conducted interviews are inconclusive and require additional testing of reasons for this state, which will be the aim of further research for the authors of the publication.

In the group of companies that have implemented the concept of Lean (19% – of surveyed companies) and in the group of companies currently implementing the concept of Lean (28%), 31% of surveyed workers answered to open-ended question – What problems your company encountered during the implementation of Lean concept? Apparently the biggest problem is the lack of management involvement and failure to obey established standards. Another important problem reported by the respondents is the lack of knowledge of Lean tools (20% of responses) as a result of lack of training or improper training which was reported by 17% of respondents. Respondents also pointed to a problem with feedback regarding the effects of the implemented activities and their impact on the condition of the company (13% of responses). Fig. 4 shows the structure of received responses to the question on the problems in implementing Lean concept.

## 4. DISCUSSION OF THE RESULTS

The scope of application of the concept of Lean in enterprises of SME sector, mainly depends on the nature of business activity, the type of production, applied technologies, and implementation stage of Lean concepts and professionalism of its use. An essential factor that requires additional study is

a correlation level between the knowledge (about the tools and techniques of Lean) of people implementing this concept and the efficiency of implementation and maintenance of Lean. Very useful in the analysis of the survey data was a direct interview without which the image of the factual state of involvement of SMEs businesses was incomplete. Based on the received information we can draw thesis that one of the main reasons of problems in

implementing Lean concepts is related to the lack of so-called soft practices directly related to the culture of the organization. In scope of hard techniques used within the concept of Lean a primary factor determining their efficiency is the nature of the production (stability/repeatability) than the industry which represents concerned undertaking. From conducted research also results the fact that in case of so-called apparatus production the use of hard techniques is often impossible and devoid of economic sense. Comparing obtained results with the results of research (Nguyen, 2015) you can indicate similarities in the scope of the role of soft techniques, however, important role play cultural determinants and experience of companies with concepts such as TQM or JIT (Baird et al., 2011), which in many cases especially for small businesses in Poland are unknown. The experience of the authors in the advisory activity for the improvement of production systems in ceramics, furniture, energy and electroplating sector of small and medium-sized enterprises indicates the need for very individual approach to the problems of implementation of Lean techniques. The big problem is a low level of staff preparation to use the tools supporting management processes and the difficulty in perceiving potential process improvement. The strength of SME enterprises is flat organizational structure, which considerably simplifies making changes, with the assumption that we have appropriately trained staff.

## CONCLUSIONS

Conducted research indicate that small and medium-sized enterprises get on a big barrier in implementing Lean concept. The most common



problems are inter alia: a barrier in relations between management and employees, lack of standardization, short-term financial goals, lack of information about the effects of activities and identification of Lean with a decrease in employment. Unfortunately, such an approach known as short-termism is a common mistake made by small and medium-sized enterprises. A big obstacle is the lack of knowledge of the techniques and tools used in Lean. As indicated by the respondents it is the result of lack of training or inadequate training detached from practice. In case of small and medium-sized enterprises problems in the implementation of Lean apply to a lesser extent technical issues, and to a greater extent management and control. This is related to the fact that in many cases the solutions applied in stable production, characteristic for large companies, cannot be used. Analysis of questionnaire surveys showed that there is great potential and demand for Lean solutions in the field of small and medium-sized enterprises. In Poland there are about 1.8 million companies out of which 99.8% are small and medium-sized enterprises. Based on questionnaire surveys, the most successful SMEs in implementing Lean in the analysed group have been found among enterprises employing more than 50 employees, and the least successful employing up to 10 employees. This is related to limited financial resources, which makes that the changes made in the processes in SMEs have temporary or short-term character and repeatedly take the form of inconsistent with each other projects.

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# INNOVATION, KNOWLEDGE AND INFORMATION MANAGEMENT IN SUPPLY CHAINS

MARIUSZ SZUSTER, MACIEJ SZYMCZAK

## ABSTRACT

In this study the question of innovation and information management in supply chain is addressed. We assume that innovation and information management are interrelated in supply chains and that the relationship is crucial for their success on the market. Considerable attention was given to the issue of outsourcing which is now a commonplace in supply chain management. In particular, we examined how approaches to managing information and knowledge in the supply chain differ according to ICT outsourcing. The deduction is based on a data set of 426 companies located in Poland, representing a variety of industry sectors. Two stages of the research were realised. The rationale behind this was to identify enterprises that utilise a well-developed system of information and knowledge management to determine the scope of possible in-depth analyses. This helped to receive valuable responses. We find what information and knowledge management is mainly driven by. We show the similarities and differences in information and knowledge management between entities that use ICT outsourcing and those that do not. We discuss the research results and draw conclusions.

## KEY WORDS

**innovation management; information management; supply chain management**

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## Corresponding authors:

**Mariusz Szuster**  
Poznań University  
of Economics and Business  
Faculty of International  
Business and Economics

e-mail: mariusz.szuster@ue.poznan.pl

**Maciej Szymczak**  
Poznań University  
of Economics and Business  
Faculty of International  
Business and Economics

e-mail: maciej.szymczak@ue.poznan.pl

## INTRODUCTION

The phenomenon of innovation is widely recognised by managers as well as by researchers. Innovation is defined as a change in the company that is characterised by the following features: „relative advantage, compatibility, complexity and observability” (Rogers, 1995) or as: „an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (Rogers, 2003). Innovation is viewed as a worthwhile source of advantage and of competitiveness for companies, oriented to improve company’s performance (Pietrobelli & Rabellotti, 2011; Rabelo & Hughes Speller, 2005; Chen & Jaw, 2009; Berghman et al., 2013). Innovation is a major issue for companies and their innovation capacity is an important condition for their success (Fagerberg

& Verspagen, 2009) or their survival (Drucker, 1985). To meet many challenging requirements, companies must find new sources of competitiveness and engage in the process of knowledge and innovation creation. They need to develop strategically aligned capabilities not only within the company itself, but also among the other organisations. Firms have to look beyond their organisational boundaries and evaluate how the resources and capabilities of other organisations may be utilised to create new exceptional value (Soosay et al., 2008).

The basic classification of innovation presents product, process, service, and organisation innovation (Baregheh et al., 2009). Process innovation which is the basic focus of this paper, means new methods of performing firm activities, which have lower costs

and higher efficiency or generate new revenue, having also a positive impact on profitability (Arvanitis et al., 2013). Most innovations follow the same organisational diffusion process. This process ushers the adopting organisation from first realizing a perceived need for innovation, all the way through the embedding of the chosen innovation into the organisation's governance structure and work processes (Rogers, 2003). Ulusoy (2003) provided a list of possible meanings of innovation, by identifying the following ones: the renewal and enlargements of the range of products and services; the establishment of new methods of production, supply, and distribution; and the introduction of changes in management, work organisation, and the working conditions and skills of the workforce.

Innovations can either be incremental or radical (Ageron et al., 2013). Radical innovations require implementing completely new knowledge that renders obsolete the existing knowledge. On the contrary, incremental innovations introduce minor changes and adaptations (Brettel et al., 2011). Thus, innovation does not need to be something completely new and never experienced by companies in the actual world, but rather something that a particular company has not used in the past and that it decides to develop and set up for the future (Ageron et al., 2013).

In the context of supply chain management, Arlbjorn et al. (2011) defined supply chain innovation (SCI) as „a change (incremental or radical) within the supply chain (SC) network, SC technology, or SC processes (or combination of those) that can take place in a company function, within a company, in an industry or in a SC in order to enhance new value creation”. Many ideas such as cross-docking, containerization, and even green reverse logistics are technological innovations that have been discussed in the supply chain literature (Grawe, 2009; Hazen et al., 2012). Electronic data interchange (EDI) is an information technology used to exchange data across organisations (Germain & Droge, 1995) that is addressed as a technological innovation in a variety of past SCM studies (Ahmad & Schroeder, 2001; Narayanan et al., 2009). ICT can help a company to put in place a radical new value chain that can deliver value to the customer in an innovative and economical way (Markides & Anderson, 2006).

To improve processes realized in an uncertain environment, a communication and coordination between all members of innovative supplier chain has

to be well prepared. The innovative supply chain is characterised by increased amount of data and information, channel integration and advances in information and communication technologies (ICT). Lavastre et al. (2011) defined innovative supply chain practice as a set of methods and tools that are previously inexistent in companies and/or their subsidiaries that will be generated, developed and deployed within supply chains to tackle different supply chain issues such as quality, costs and lead-time. Innovations can rely on logistics network reconfiguration, outsourcing of many functions or ISs development. Thanks to these innovative supply chain practices, companies can create value for their customers and improve their competitiveness and the performance of the whole supply chain (Chan & Qi, 2003). Richey et al. (2005) stated that supply chain and logistics innovation should improve a firm's market effectiveness and internal cost efficiency. Moreover, there is a positive relationship between logistics innovation and development of a competitive advantage (Grawe, 2009).

There are three areas (presented in the Fig. 1) of innovative supply chain (Ageron et al., 2013):

1. Operational processes that embody the execution of tasks and constitute the „doing of business”. They are often associated with short-term actions. Operational processes are part of their inter-organisational practices, companies are increasingly developing control tools and methods to enhance management. Stock reduction has long been a major issue and recently, companies have started to face new challenges that require new methods and new organisational arrangements between supply chain actors. Emergence of new supply chain practices such as consignment stock signals the existence of these new challenges. Operational and managerial processes are inextricably linked.
2. Managerial processes or the management of supply chain flows. Management processes are strategic activities associated with administration and control of resources. They are frequently long-term. Supplier selection processes, supply chain business unit strategy conception, standardization of supply chain processes, and so on are elements constituting SCM, given that they modify the organisational scope of supply chains and the relationships established between all the partners of the company. Thanks to coordinated management of suppliers and customers,

companies may improve their performance.

3. Information systems and information technologies (IS/IT). They are an important issue for companies as they create new organisational configurations like supply chain networks (Mentzer et al., 2000). IS/IT reduce the geographical and cultural distance between supply chain partners who are increasingly distant and exigent. Moreover, partners can be managed simultaneously, thus increasing supply chain reactivity. Among the major inter-organisational IS, companies frequently develop enterprise resource planning (ERP), warehouse management system and transportation management system.



Fig. 1. Innovative supply chain practices levels  
Source: (Ageron et al., 2013, p. 267).

But in spite of this consideration, the academic literature specifically focused on SCI is still poor as well as empirical studies about this topic (Caniato et al., 2013). Furthermore, empirical firm-level studies of the effect of ICT on innovation performance focus on the „hard” ICT capital (mainly on ICT equipment) and neglect the role of the „soft” ICT capital (for example ICT knowledge and skills), though its importance for the exploitation of the potential of the hard ICT capital has been widely recognized in information systems (IS) research (Wade & Hulland, 2004; Ravichandran & Lertwongsatien, 2005; Liang et al., 2010). The literature on innovation in a supply chain context mainly addresses product development (Ageron et al., 2013). Some research has been conducted on innovation in SCM in the context of logistics service providers (Selviaridis & Spring, 2007; Little, 2007). Under the combined pressures of cost, lead time and quality, and with the goal of improving supply chain performance, suppliers, producers and customers attempt to construct and develop innovative inter-organisational relationships (Ageron et al., 2013).

Bello et al. (2004) observed that innovations in SCM rely on information systems and information technologies (ISs/ITs) developments associated with new logistics methods. Roy et al. (2004) argue that two main factors influence innovation: internal factors related to inter-firm relationships (commitment, IT adoption, trust, and so on) and factors external to inter-firm relationships (demand stability, network connections, and so on). These opinions are very interesting as they highlight that innovations can either be internal to the innovating companies or external and related to the whole supply chain.

## 2. INNOVATION, KNOWLEDGE AND THE LEARNING PROCESS

There is a strong relation between innovation and knowledge absorbing. The literature on Knowledge Based View (KBV) associates knowledge with superior firm performance, considering knowledge as the most important strategic resource and the fundamental basis for innovation capability and competitive advantage (Yazdanparast et al., 2010). Especially knowledge used in process improvements leads to superior organisational performance (Panayides & So, 2005; Richey et al., 2005). Knowledge was also recognized as an organisational resource that influences logistics innovation (Grawe, 2009; Chapman et al., 2003). KBV also supports the relationship between innovation and competitive advantage by emphasizing that the ability of a firm to integrate and apply its acquired knowledge (in the form of more relevant and/or innovative offerings) is a critical factor in achieving competitive advantage (Matusik & Hill, 1998). Due to this point of view the main factor that allows the firm to succeed is the knowledge of what the firm does, how it is done, and why it is done that way (Zack, 2003). Knowledge in organisations is related to structures and processes of the organisation (Davenport & Prusak, 1998). Organisations tend to use knowledge in explicit form, which is easy to store and transmit through language (Rantapuska & Ihanainen, 2008). To be successful, it is necessary for firms to absorb internal and external knowledge, combine them, create new knowledge capabilities and apply the knowledge (Cohen & Levinthal, 1990). Firms' knowledge capability (technological and organisational), is important driver of innovation. Firms that invest in building

this capability are likely to induce further innovation (Baumol, 2002). Firms build capabilities by reflecting on the value of the work performed and applying integrative principles that allow multiple processes to be synchronised (Soosay & Sloan, 2005).

The literature about innovation has widely addressed the contribution of dynamic capabilities to enable successful innovations (Eisenhardt & Martin, 2000; Gebauer, 2011). Dynamic capability theory is well suited to organisational innovation, not being specifically related to a single technology and being easily related to the development of new processes, systems and business models (Lawson & Samson, 2001). Dynamic capabilities are defined by Teece and Pisano (1994) as „a subset of the competences which allow the firm to create new products and processes and respond to changing market circumstances“. Verona (1999) distinguished dynamic capabilities on the basis of the type of knowledge they contain (that is functional capabilities to allow technical knowledge; integrative capabilities to absorb knowledge from external sources; innovation capability to mould and manage multiple capabilities). Caniato et al. (2013) suppose that the identification of the roles of dynamic capabilities for SCI has still to be studied.

The helping tool is the framework for creation of innovation, new knowledge capabilities and consequently new value and the prospective competitive advantage. It consists of three phases (Yazdanparast et al., 2010):

- the learning phase (knowledge absorbing),
- the innovation and execution phase,
- the outcomes phase – gaining new value and the prospective competitive advantage.

In the learning phase the key factors are interactions (also based on communication) designed to encourage learning between the members of supply chain. In the second and third phase (innovation, execution and outcome), the utilization of the knowledge acquired in the learning phase leads to design and implement innovative solutions and to gain a competitive advantage. The innovations developed through this process influence the performance of the firm in terms of quality, efficiency and effectiveness (Yazdanparast et al., 2010).

Dickson (1992) suggests that firms that do the best are those firms that learn most quickly in a dynamic and evolving competitive market. Learning is a capability that enables other capabilities such as collaboration, agility (Christopher, 2000), flexibility (Fawcett et al., 1996; Morash & Clinton, 1997), and

innovation (Flint et al., 2008), all of which are important for building competitive advantage.

The learning process may be divided into four stages (Yazdanparast et al., 2010):

- information acquisition,
- information dissemination,
- shared interpretation,
- organisational memory.

Learning was defined as the process of absorbing, involving, and integrating external and internal knowledge resources (Grant, 1996). This term may be also defined as the ability to integrate and utilize pieces of knowledge. Learning from new members of supply chain or firms from outside this structure, who have specific and utilitarian knowledge, the company did not previously have, may provide new insights into strategy, choice of managerial tools, supply chain organisation and relationships within the whole structure. Flint et al. (2008) found that supply chain learning leads to logistics innovation. Thus, to gain competitive advantage, managers need to create opportunities for absorbing, involving, and integrating external knowledge resources with internal knowledge resources and apply the resultant learning to the production of goods and services (Grant, 1996).

Also, ICT have the potential to support and enhance significantly the collection and management of innovation-related knowledge, the innovation production and the external innovation collaborations, increasing the productivity of firms' innovation creation processes (Thomke, 2006). It has been widely recognized that information and communication technologies (ICT) have a great potential not only to improve the efficiency of the established business processes of firms, through which their usual products and services are produced, but also to facilitate and drive innovations both in their processes, and in the products and services (Arvanitis et al., 2013). Reduction of information processing and transfer costs offer huge capabilities and opportunities for radical innovations in the organisational processes, new product and services development. The emergence and growing penetration of ICT lead to the gradual realization of its great potential not only to improve the efficiency of established business processes of firms, through which their usual products and services are produced, but also to facilitate and drive important innovations in their processes, and also in their products and services (Arvanitis et al., 2013). Finally, there is



another more recent theoretical research stream dealing with the potential of ICT to increase the productivity of firms' research and development (R&D) and innovation creation processes, which can result in higher innovation performance (Thomke, 2006; Dodgson et al., 2006; Kafouros, 2006; Gordon et al., 2008; Kleis et al., 2012). This theoretical literature concludes that ICT can significantly help improving the collection, management and exchange of innovation-related knowledge. They enable firms to easily and rapidly share knowledge assets. Furthermore, ICT allow a better communication and exchange of knowledge among firm's employees from different functions and disciplines, and this facilitates the combination of scientific and operational knowledge from different domains, which according to the relevant literature (Rogers, 2003; Nerkar & Paruchuri, 2005) is of critical importance for innovation. The application of ICT provide the required links for effective research partner monitoring and information sharing, as well as reduce the transaction costs of working with multiple innovation partners (Arvanitis et al., 2013).

### 3. INFORMATION AND KNOWLEDGE MANAGEMENT IN SUPPLY CHAINS

Development and implementation of innovation requires proactive information and knowledge management within the organisation. Similar requirements concern transfer of innovation in the supply chain except that in this case information and knowledge management needs to be coordinated

within a complex business system consisting of many various entities. Information and knowledge are closely related to each other. In a broader context R. L. Ackoff (1989) distinguishes five categories with data, information, knowledge and understanding relating to the past, and wisdom dealing with the future. Data is raw. Information is data that has been given meaning. Knowledge is the collection of information suitable for occasion. Understanding is essential to generate new knowledge and reflects the learning process. Wisdom goes far beyond understanding and gives understanding about what used to be given no understanding so far. This is why the transition from data to information, to knowledge, and finally to wisdom is essential to be innovative. The ICT investment is basically a learning process in which decision makers creates and distribute knowledge at organisational and individual levels (Rantapuska & Ihanainen, 2008).

The need to have high quality knowledge and great wisdom manifests itself in the fact that the information is sought in increasingly larger data sets now. Analysts are looking for new methods and applications of data analysis, because these previously known become insufficient. The term 'big data' has been coined to express the scale of the problem. Collecting and processing big data is particularly challenging in the supply chain, but the potential for its use is huge and untapped so far (Marciniak & Szymczak, 2015).

Information and knowledge management is gaining importance and managerial attention in the face of business process outsourcing and offshoring. Outsourcing of several kinds of activity, for example outsourcing of research and development, ICT,

Tab. 1. Similarities and differences in the field of information and knowledge management in the surveyed companies

	COMPANIES NOT USING ICT OUTSOURCING	COMPANIES USING ICT OUTSOURCING
Key area of information management	Data mining	Decision support and expert systems
Most commonly used tools	CRM EDI	CRM EDI
Preferred data processing model in the future	Workflow management	Workflow management SOA/SOC Cloud computing
Knowledge creation	Collectively with closest partners	Collectively with closest partners
Rationale behind co-operation in knowledge creation	Knowledge resources Risk of mistakes Range of proven ready-to-use solutions	Technology advancement Lower new product development cost Range of proven ready-to-use solutions

logistics service, manufacturing of goods, semi-products or components, is making contemporary supply chains more and more knowledge-based. The pressure to outsource processes and functions seems to be growing and this phenomenon is undoubtedly gaining momentum. Members of supply chains create competitive advantage by assembling resources (both internal and external, domestic or foreign) that have to work together. Vargo and Lusch (2004) identified operand and operant resources (operand resources are employed to act on operand resources). Operand resources are defined as those resources on which an operation or act is performed to produce an effect, they are static and require more dynamic operant resources (such as technology and know-how) to make them useful. Thus organizations may develop competences and capabilities through fundamental knowledge and skills, that is operant resources. These resources, such as embedded knowledge and skills, can manifest themselves as core competencies, capabilities, and organizational processes, which are vital to the creation of innovation, value and the competitive advantage (Vargo & Lusch, 2004). Thus, to gain competitive advantage, the integration of external knowledge resources with internal knowledge resources seems to be necessary. Organization's ability to assemble, integrate, and deploy these resources depends strongly on ICT system efficiency and management's ability to consolidate technologies and skills of members of a particular supply chain. Consolidated knowledge, information and skills facilitate quicker adaptation to changing opportunities. Currently business process outsourcing and offshoring certainly benefit from dynamic development in communications and computer systems on the other hand, which eliminated the issue of distance, marginalised cultural differences and removed obstacles to trade in services. The findings of the 2009 Fourteenth Annual Third-Party Logistics Study indicate that the key success factors for good relationships between members of supply chain are transparency and good communication (Langley & Capgemini, 2009).

#### 4. RESEARCH METHODS AND PRELIMINARY FINDINGS

Therefore, it became important to establish priorities and reveal good practices for information and knowledge management in supply chains

practising outsourcing and offshoring. It was one of the objectives of the research project no. 4232/B/H03/2011/40, conducted from January to October 2012, financed by the National Science Centre, Poland. The first stage of research was focused on the recognition of the „soft” managerial issues and approaches used within particular enterprises being members of various supply chains. An important thread of the research concerned the information and knowledge management. The research involved carrying out a questionnaire survey of manufacturing companies located in Poland. In total, 426 companies were researched at the preliminary stage of the study. At the final detailed stage of the study 139 responses (CATI and direct interviews) were analysed.

On this basis we could formulate specific recommendations for information and knowledge management (Szymczak, 2013) as they form preliminary findings of the research:

- information management should adapt to a business model based on business process outsourcing and offshoring. Operation under new business model drives significant changes within the dependent information system and forces a new approach to information management. Its inherent feature should be flexibility that is a key component of defining how successful enterprises are run under these conditions. Availability of the state-of-the-art group work platforms that boost effectiveness in dispersed environments and streamline work on large projects that involve various units – company's own and/or partners – in different locations worldwide goes in-line with these requirements;
- companies that outsource and offshore processes should think about the implementation of more advanced, preferably innovative information management solutions. Analysed companies exhibit a comprehensive approach to information management in general and perform analysis in all the most important areas of their operation. The research shows that companies use many state of the art solutions in the field and many of them successfully adopted adequate information management models for supply chains. They should review the solutions and models once in a while however, due to the rapid development of ICT. From the supply chain management perspective especially cloud computing and software agents should be considered as well as workflow management software. As claimed by

T. L. Friedman (2005), it is mainly software which supports and automates workflow management and group work that has become a tool to ensure effective company operations in the offshore model. W. van der Aalst and K. van Hee (2002) perceive these systems as the last (as for now) stage of developing information systems supporting business processes, in which the main emphasis has been placed on decentralising information system support for tasks performed and „discharging” them from the supervision of only a single autonomous application;

- there is no way towards supply chain's excellence without collective knowledge management. The study showed that collective knowledge management is the domain of companies whose supply chains are at the highest maturity levels. Maturity means operational excellence and the ability to respond to market conditions in a manner that allows to gain and sustain competitive edge. In the contemporary supply chain management more and more non-routine tasks are undertaken. Neither algorithms nor procedures but knowledge itself is needed for them to be properly executed. For supply chains substantial knowledge resources is a must to achieve performance excellence. Generating knowledge at the level of a specific business unit or at corporate level may not be sufficient in today's business environment. Significant knowledge resources exist outside the organisation. To reach for them collaboration may involve the closest partners in the supply chain. This is a good point to start from before a larger network of partners is created.

## 5. RESEARCH RESULTS

There are a lot of available information and knowledge management models, methods and tools, such as: data mining (sometimes called knowledge discovery), query & reporting, online analytical processing (OLAP), decision support, knowledge-based and expert systems, customer and supplier relationship management systems (CRM, SRM), warehouse management systems (WMS), supply chain management systems (SCM), cloud computing, service oriented architecture and computing (SOA/SOC), workflow management systems to name the most important ones. They fit into the business

information system alongside the widespread enterprise resource planning (ERP) systems, electronic data interchange (EDI) or automatic identification and data collection (AIDC) or mobile technologies.

The general trend towards outsourcing (both inshore and offshore outsourcing) is also subject to ICT. Not all companies surveyed exhibit practice in the field. Thus may be of interest a juxtaposition of results showing whether and how the approach to the information and knowledge management varies depending on whether the company uses outsourcing in the field of ICT or not. Only some of the 139 companies surveyed responded to additional detailed questions concerning ICT and knowledge management and entered next stage of research. In this regard 50 companies were examined and have been taken into consideration in the analysis herein.

Among these companies there are 26 that use ICT outsourcing (52%). Others do not. Both subordinate information and knowledge management mainly to distribution management and sales (76% in case of companies using ICT outsourcing and 58% in the other group). In the case of companies that do not use ICT outsourcing, the focus is also on manufacturing management (54%). One can say that information management is bended to suit the supply chain on the outbound side of a company. Still, it remains more obvious in companies that use ICT outsourcing. Tab. 1 shows the similarities and differences in information and knowledge management. They include issues that were the subject of detailed questions in the research survey.

Differences occur in the context of key area of information management. Companies that do not use ICT outsourcing as a key area in this regard primarily consider data mining (19.2%). Those practising ICT outsourcing pointed out decision support systems and expert (28.6%). This probably results from the fact that data mining is one of the most commonly outsourced areas in the field of information management. If a company itself does not practice data mining, it rather focuses on more advanced activities related to increasing operational effectiveness and performance. They include computer-aided decision making. Advanced tools in this area are just decision support and expert systems. Such systems – often highly individualized and tailored specifically to the needs of a business entity – are installed at the company premises and used on-site in the relevant areas of decision-making. Usually

they are not subject to outsourcing.

In both groups companies most commonly used tools such as CRM and EDI and their use is a little bit more characteristic for companies that do not outsource ICT – 14,3% vs. 19,2% of respondents. This may suggest that companies using ICT outsourcing have no need to use CRM software on their own, because they purchase services for the management of data coming from sales and customers. Striking is, however, a much higher rate of EDI utilization in companies not practicing ICT outsourcing. This popular tool is used by almost every business entity today with the possible exception of only small local businesses. This research result means that companies using outsourcing in the field of ICT also outsource EDI communication (Web EDI/Lite EDI). This result is not surprising if one considers that among the surveyed entities there were many small and medium size companies. They usually do not want to invest in EDI infrastructure deciding on the mediation of specialized operators. EDI communication is then performed through a standard Web browser.

The surveyed companies represent a common view relating to the preferred data processing model in the future, that would be preferred for supply chains. In both groups a large representation of businesses indicates workflow management in this regard. Enterprises using ICT outsourcing additionally mention SOA/SOC and cloud computing. This is probably the experience of those entities. It is hard to use ICT outsourcing services not benefiting from SOA/SOC and cloud computing models. Especially the latter has been doing a sensation lately. In addition, it should be noted that the indications of the respondents do not conflict. Workflow management tools are transferred to the SOA/SOC and cloud computing model. This will probably be the model of collaboration in a distributed business environment, which is the supply chain.

The study proved that significant knowledge resources exist outside the organisation. The largest share of surveyed companies (32%) was in favour of cooperation within the supply chain in this area. This cooperation usually does not go beyond the circle of first tier suppliers and customers but it usually gives a head start to broaden the relationships. Only 8% of respondents admitted to working as part of a much wider business network. In the field of knowledge management the study showed no difference between the entities involved in the outsourcing of ICT and others.

Collective creation of knowledge in all surveyed companies was associated with new product development (besides many other reasons). In the case of companies using IT outsourcing 70% of them believe that in the case of product design, development or utilization of outside resources produces better results than using internal resources.

This shows the importance they attach to new product development and the pursuit of innovation in the product range. Companies recognized that it is primarily where they need to use knowledge. The study revealed differences between companies in terms of direct rationale behind co-operation in the field of knowledge creation. Companies not using ICT outsourcing want to create knowledge collectively mainly because of the size and value of knowledge resources their partners have (54,5%). Those using ICT outsourcing as the main reason indicate access to technological advances (50%). This can be interpreted twofold. Either these companies are definitely technologically oriented, or based on their own R&D capacity, they are not able to develop products or services that have a clear innovative or technological advantage. Another reason for co-operation in this group of companies is lower new product cost (37,5%) while companies that do not practice ICT outsourcing as the second reason indicate the desire to avoid mistakes and accompanying risk (45,5%). Among the most important reasons for co-operation in knowledge creation companies representing both groups indicate unanimously access to a wide range of ready-to-use solutions that have been tested already by the partner and whose quality has been confirmed on the market.

The study showed that new product development is usually the domain of companies' own research and development department. This is the case in most of the surveyed companies (72%). New products are result of a collaboration with external research centres within 18% of surveyed companies, and this group is dominated by companies using ICT outsourcing. Independent new product development forces investment in ICT. This usually means a big investment effort as it represents the need to purchase highly specialised computer equipment and software. These are, for example, drawing and painting software, CAD/CAM applications, modelling and rendering software, product simulation software, range imaging sensors, 3D printers. These tools provide a starting point to sketch, draw and paint a designer's vision with emulation of real life materials,

develop digital models, thoroughly review them together with stakeholders to get better control over project outcomes, then develop a prototype, assess its features and capabilities, and finally deliver great products.

## CONCLUSIONS

It's beyond doubt that a high level of process innovation and a quick cycle of new product development can make it possible to satisfy customers' needs in a short time. In the supply chain it can be achieved through a collaboration with external entities. In this kind of collaborative approach effective communication is a must. This is why investments in ICT or ICT outsourcing (or an appropriate arrangement of both) have the potential to streamline the creation of innovation and its transfer throughout the supply chain. ICT is becoming an increasingly important infrastructure of innovation due to the gradual move from the „internal innovation” point of view in which firms generate internally ideas for innovative products, processes and services, to a new „open innovation” view in which they then develop, produce, distribute and sell them. In this view internal and external capabilities, skills and knowledge (from employees, suppliers, customers, outsourcees, research institutions and so on) are combined in order to create better innovations in a shorter time and promote them throughout the supply chain in order for it to gain extra value and competitive advantage. The research results highlight that innovations in various fields (ICT, knowledge management, new product development) can either be internal to a company or external and related to the whole supply chain.

Innovations based on ICT aim to increase collaborative relationships between supply chain partners. Close collaboration between them is crucial in terms of knowledge creation and transfer. The results prove that significant knowledge resources exist outside the organisation. All surveyed companies declared that internal resources are more valuable only if it comes to knowledge of the industry and of customer expectations. This indicates the importance of the experience gained. The study shows that if a company is open to cooperation in the ICT area, it is usually more open to cooperation in other areas. This means that ICT outsourcing can lever co-

operation, networking capabilities and relationship creation ability in the supply chain, which is the base for further innovative development and implementation of innovative solutions in the future.

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# THE EXTENT OF MANAGERS' MOTIVATION AS A DETERMINANT OF LEADERSHIP QUALITY

ANNA WZIĄTEK-STASKO

## ABSTRACT

Motivating to perform remains a very inspiring field of scientific studies. In spite of extensive research in this field, some areas, of niche nature, that require exploration can be identified. Motivating the managers is one of such areas, less popular but of tremendous importance in the process of managing a contemporary organisation. This article is theoretical and empirical. It was written to present the original results of empirical research focused on assessment of the motivation impact of 47 financial and non-financial tools by several hundred Polish managers. The research tool used in the study process was the questionnaire prepared by the author of this paper. Key preferences of the group of employees are an important source of information required in the process of optimising the effectiveness of managing the human capital and an entire organisation.

## KEY WORDS

**motivation, manager, motivation system, leadership, quality**

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Corresponding authors:

**Anna Wziątek-Staśko**  
University of Dąbrowa Górnicza  
Faculty of Management, Informatics  
and Social Sciences

e-mail: awziatek-stasko@wp.pl

## INTRODUCTION

A permanent strive for perfecting the degree of its effectiveness combined with competing on the market continues to drive managers' attention towards searching for reliable means and measures to optimise the process of management and maximising benefits, the economic profits in particular. The role of the human capital is increasingly emphasised among the key determinants of the process. Unfortunately, it seems that it is often emphasised in a superficial, slightly mundane manner and, as a result, the expected advantages are not fully satisfactory. The author believes that one of the reasons behind the failure is insufficient knowledge about the essence and importance of motivating people to work and perform, in particular, motivating employees in managerial positions; and also the inability to notice a closer relationship between the degree of manager's motivation, the degree of motivation of the employees reporting directly to the

manager and the effectiveness of an organisation management. The article was written to expose and emphasise the relationship, with a particular stress on the importance of effective motivation of the managerial staff.

## 1. ESSENCE OF MOTIVATING PEOPLE – A HANDFUL OF CRITICAL COMMENTS

Motivating people to perform is one of the most fascinating research areas. For centuries it has not been given the attention it deserves; nevertheless, we continue to debate it (Conradi et al., 2014). Why does it continue to be an inspiration to a scientific investigation and why does it continue to leave researchers, scientists and business practitioners

unsatisfied and feeling that their knowledge in the area is insufficient? What is the reason behind so many mistakes continued to be made in the management process in spite of so many cult theories of motivating, to name just those formulated by A. Maslow, F. Herzberg, C. P. Alderfer, V. Vroom, D. McGregor and others? Perhaps a reason behind it is Serigstad's the very essence of motivating and motivation? According to R. Denny: „The word „motivation” triggers a reaction which shows that everyone would like to have it but the majority is not aware of what it actually means” (Denny, 1999). Many authors confuse „motivation” with „motivating” and offer their discretionary, often imprecise or even untrue, definitions. An attempt to come with a reliable definition of the concept more often emanates with schematism and generality than with a deep reflection based on solid grounds, preventing from understanding its true meaning. Doubts whether the terms „motivation” and „motivating” are synonyms grow to a rather serious issue when the above-mentioned discrepancy appears in print in management textbooks used by the future practitioners of the difficult discipline to guide them. In the attempt to come up with the right definition of the terms: „employee's motivation” versus „motivating an employee”, one should clearly emphasise the relation between these terms and the concept of human work because, in essence, these are two categories which are closely interdependent. In reference to the organisation, which is discussed in the paper, we analyse „employee's motivation for work” or „motivating people to work”. Both terms should be definitely approached as joint and analysed from that standpoint.

M. Armstrong, the author of a globally known „Human Resources Management” textbook, explains that „A motive is a reason for doing something. Motivation deals with factors affecting people so that they behave in a specific way (...) Motivating is about influencing others so that they move in the direction we want them to move to” (Armstrong, 2001). The „human resources management” concept itself is controversial (Wziątek-Staško, 2006; Ściborek, 2012; Strużyna, 2014) and so other statements used by the author are. They are difficult to accept, to mention only that „motivation deals with factors that influence people” which seems completely incorrect in terms of its phrasing and style. How could „motivation” possibly „deal” with anything at all? It is also very inaccurate to see the motivating process only as a way

to move in a direction given by the decision-maker and this inaccuracy has some serious, far-reaching consequences in the business practice. Unfortunately, other definitions are similarly defective. In his deliberations, T. Zawadzak uses a fairly complicated definition formulated by S. Borkowska, where „motivation is a process of influencing employees through appropriate measures and opportunities to achieve their goals and expectations and values to achieve the motivating goal” (Zawadzak, 2014). Is it possible to use the opportunities to achieve goals to influence anything? Other authors, including J. Penc or G. Bartkowiak also pointed out that motivation is „a process” (Penc, 1999; Penc, 1996; Bartkowiak, 1997). On the other hand, a different opinion was expressed by Z. Jasiński (Jasiński, 1998), A. Koźmiński and W. Piotrowski (Koźmiński & Piotrowski, 1995), J. W. Berelson and G. A. Steiner (Berelson & Steiner, 1964) claiming that „motivation to achieve is not „a process” but more „a condition” which seems to make more sense. If, for the purpose of this paper, we assume that motivation is a condition, then what motivating is? According to the author, it is motivating that should be approached as a process, consisting in putting different tools into motion, where the tools are used to reach the condition which is called motivation and to keep the condition. In other words and in brief, motivating is a path to motivation. The issues analysed above do not allow for discretionary interpretation because damages resulting from applying wrong theoretical assumptions into practice could be very destructive to employees of an organisation but also to the organisation itself.

## 2. GLOBAL LEADERSHIP CRISES AS THE KEY DEMOTIVATOR IN THE CONTEMPORARY BUSINESS

We tend to perceive contemporary leadership as a multi-colour and multidimensional phenomenon. The following leadership models have been already created: classic leadership model, directive, supportive, participative, visionary, organic or intergroup leadership models (Hogg et al., 2012). We are familiar with Blanchard's situational leadership model, transactional, transformative and authentic leadership models (Nieckarz, 2011; Cooper, 2015; Zhou, 2015; Platow et al., 2015). A. K. Koźmiński believes that the restricted leadership model

is noteworthy (Koźmiński, 2013), while R. S. Covey promotes the compass leadership model (Covey, 1997). Web 2.0+ era opens up new opportunities leading to development of new models, including remote management (Sprenger, 2011) or shared leadership (Bergman et al., 2012; Hoch, 2013; Bolden, 2011; Small & Rentsch, 2010). As claimed by Hay Group and Deloitte experts: „Unpredictability of changes in the business surroundings created a number of new challenges to enterprises, with the demand for agility interpreted as the ability of prompt modification of strategy (strategic agility) and relocation of resources (agility of resources) became of particular importance. However, neither will work when not accompanied by the organisational agility i.e. the ability of swift remodelling of structures, processes and procedures which accompany them” (Zakrzewska, 2015). The above initiates some specific challenges to the leadership model in the second decade of the 21st century, which is going towards agile leadership. Can contemporary leaders meet the expectations of the contemporary world and create innovative and rapidly changing work environments?

As J. C. Maxwell observes, everybody talks about leadership; few understand what leadership involves. Most people want to be leaders, few can. Management is a process which can guarantee implementation of the program and achieving the goals of an organisation; leadership involves creating visions of development and stimulating people's motivation. People do not like management; people wish to have leadership. Has anybody ever heard about world's managers? Nobody has. But we all know names of the world's leaders. A scientific leader; a political leader; a religious leader; a youth leader, a social leader, a workers' leader, a business lobby leader. These are leaders. Their actions go beyond management (Maxwell, 1998). Even more so, in their actions they do not stop at managing, which is what many managers do these days, effectively creating a toxic or often malfunctioning workplace instead of an innovative workplace which promotes creativity. As early as in 2000, N. B. Enkelmann argued that „The time of strict, top-bottom managerial practices has gone. Team work and true collaboration is essential to performance. An employee needs more than just to be employed and more than just 'spend their hours at work'. They want to be actively involved in the company's life, taking important decisions, they want to be well informed and know concrete goals and want to see the sense of doing one's tasks (...). The

managers who used to unscrupulous domination over their employees, regardless of losses – will simply have to go” (Enkelmann, 1997). His opinion, as it seems, continues to be valid. The most recent research results announced by the Gallup Institute indicate that contemporary leadership is in a global crisis. According to the „State of The Global Workplace. Employee Engagement Insights For Business Leaders Worldwide” reports, only as little as 13% employees worldwide engage in their work (the engaged employees), drawing their satisfaction from their engagement and guarantee that their company is growing. 63% are not engaged employee. These are employees who are not passionate about their work and put no energy into it; they only wait for their work day to end, „sleepwalkers” according to the authors of the report. The third group includes employees contesting their work (the actively disengaged). They are not satisfied with their work and busy with demonstrating their dissatisfaction, undermining achievements of other persons, who are engaged in their work. They represent 24% of respondents (State..., 2013). What may be the reason of such situation? According to F. Herzberg's theory the absence of the motivators would not lead to job dissatisfaction, just not to job satisfaction. For example, if an employee did not have recognition or achievement this would not lead to job dissatisfaction, but they were also unlikely to be motivated. Many researchers discussed with the Herzberg's opinion and have moved toward more complex formulations of job satisfaction that forgo the simplicity of Herzberg's theory. One of them was A. Kalleberg, who delineated the job environment into six dimensions: the intrinsic dimension, which refers to characteristics associated with the task itself; the convenience dimension, which refers to good hours, pleasant physical surroundings, and convenient travel; the financial dimension which includes items such as pay, fringe benefits, and job security; relationships with co-workers and whether there are chances to make friends and meet social needs; a career dimension that includes items such as whether the chances for promotion are good; and resource adequacy which refers to whether there is enough help, equipment, and information required to adequately complete the job. This example illustrates that as we move toward greater complexity in describing job satisfaction we lose simplicity (Smerek & Peterson, 2007). We can say that motivation system (a group of motivators) is a key determinant of



employee satisfaction and, on the other hand, that „employee satisfaction” is also one of the motivators. That seems very interesting, because both determine the employee engagement. Unfortunately, not only operational employees or specialists suffer the engagement crisis. Globally, managers also claim to face the crisis. The above brings an important question – where is the contemporary leadership going to and what the source of such a serious crisis in the area of delivering the motivating function is. Can demotivated managers effectively motivate employees in their teams?

### 3. MANAGERS' MOTIVATION AS A DETERMINANT OF THEIR LEADERSHIP QUALITY

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According to N. B. Enkelmann „many managers do not know how to motivate their employees effectively as they themselves do not identify themselves completely with their employer and they lack the power of conviction. How can one motivate effectively to something that one does not believe in? If a manager is not deeply convinced that his goal is right and that his work makes sense, he will not be able to arouse any enthusiasm in his employees and, because of that, he will not be able to motivate them and stimulate them to more effective operation” (Enkelmann, 1997; Zhang et al., 2012). Responsibility of managers is indeed huge. R. Stuart-Kotze and Ch. Dunn believe that: „People do not leave bad companies but only bad managers” (Stuart-Kotze & Dunn, 2011). This is also confirmed by other authors (for example Lester et al., 2011). Unprofessional managers cause serious crises which kill employees' motivation and effectively reduce their engagement in work. Crisis of trust is one of such serious contemporary threats to development of organisations. S. M. R. Covey, G. Link, R. R. Merrill claim that: „Once successfully out of the global financial crisis, enterprises and organisations worldwide found themselves in a crisis which is much deeper and more destructive. It is the crisis of trust. The progressing erosion is a major issue in countries whose prosperity depends on the rapid growth and creative spirit, so cherished in capitalism. It is a particularly difficult challenge for companies whose activity is based on a daily exchange of proofs of trust with clients, consumers, stakeholders or shareholders” (Covey et al., 2013). This opinion is also shared by

many other authors (Paliszkievicz, 2013; Sousa-Lima et al., 2013; Hawley, 2014; Acedo & Gomila, 2013; Campellone & Kring, 2013). Trust generates benefits in many dimensions, including the economic dimension, which is often a priority criterion for employers when evaluating their actions. According to D. S. Sink, W. T. Morris and C. S. Johnston, trust has a positive impact on seven critical dimensions of an organisation: its effectiveness (concentration on doing the right things), efficiency (doing things in the right way), quality for customers, innovation, quality of work (security, inspiration to act), productivity and profitability (Sprenger, 2011). Many researchers proved a strong correlation between empowerment of employees and the company's profits (Ji et al., 2015; Sellaro et al., 2014). Trust is essential for effective motivation of employees (Engelbrecht et al., 2014; Reyachav & Sharkie, 2010; Kath et al., 2010). There are many more factors that destroy employees' motivation and development of organisations. Nowadays, the most common ones are injustice (Macko, 2009; Bugdoł, 2014; Flaherty & Moss, 2007), nepotism, corruption, mobbing, sexual harassment, discrimination and a number of other factors (Chudzicka-Czupala, 2013; Colquitt & Rodell, 2001), which are responsible for counter-productive behaviours in an organisation, for example employee anomia (Kosewski, 2012; Maj, 2012; Celmer, 2013; Figueiredo-Ferraz et al., 2015; McTernan et al., 2013; Trepanier et al., 2013).

Care about employees, their development and care about the organisation is one of the key challenges faced by managers (Zhao & Wu, 2014). P. F. Drucker claims that effective management is „responsibility and not a position and privileges, consequence and not craftiness, it is hard work” (Drucker, 2001). A. J. Blikle said that a man cannot be motivated to do something. Man can be only assisted in developing his natural internal motivation (Blikle, 2014; Cerasoli & Ford, 2014; Shu, 2015). Such understanding of a leader's mission opens a new chapter in thinking about the quality of leadership in contemporary world. It requires professionalism, deep reflection about the role that they play in the organisation, the time to spend in a dialogue with employees, a departure from thoughtless following fashion in management and adopting solutions that do not make sense, the ability to see a close relation between the quality of leadership and the quality of employees' work, between employees' motivation and own motivation. However, first, it takes to identify and learn about the actual expectations and preferences of

both parties. The data on managers' motivation were collected by the authors of the first Top Employer for Top Management research in Poland, prepared by Hays Poland specialist recruitment agency and Harvard Business Review Poland. They attempted to come up with a characteristics of a contemporary Polish manager and what they seek at work. 1040 high-level employees of the largest organisations on the Polish market took part in the research. The report clearly shows that money is not the biggest stimulant for the Polish managers. While salary is recognised as important by the majority of the respondents, very few managers identified it as the most motivating factor in their work. Managers usually attached more importance to their professional development opportunities and market position of their company. These two factors were identified as the crucial by representatives of nearly all sectors, before salaries and financial rewards. Out of eight groups used in the study (HR, finance, law and administration, marketing and PR, sales, IT & R&D, production, CEO) salaries were the most appreciated by directors of financial departments (56% of representatives of the group identified them as a motivating factor). However, the importance of salary was lower for CEOs, with as little as 41% of CEOs emphasising the role of the factor. One can also see that salaries are very important for young managers and also for women. In case of female managers, competitive salaries were even more important than the position of the company on the market (<http://kariera.forbes.pl>, 07.01.2016).

#### 4. POLISH MANAGERS ON EFFECTIVENESS OF MOTIVATORS – RESEARCH METHODOLOGY

The main aim of the research was to identify and diagnose the effective motivating impact of 47 selected contemporary instruments used for the purpose of motivation in the opinion of the 700 respondents (644 questionnaires were complete). The „Managers” was one of the analysed groups of employees (414 respondents), that is why in this article only part of the research results is presented. The research process was carried in 2015. The research tool was delivered to the research participants (random sample) personally, in a hard copy (on paper). An original, 3-part questionnaire was a tool used in the research process:

- part I – tangible financial tools (6 parameters assessed);
- part II – tangible non-financial tools (16 parameters assessed);
- part III – intangible tools (25 parameters assessed).

In total, 47 selected instruments used to motivate people to work were analysed. Research participants were asked to assess how effective each motivator was on a 5-point Likert scale (where 1 identified a motivator of no importance to respondent and 5 meant that a motivator was the most effective in influencing the level of the person's motivation). The collected fact-based material was analysed by using statistical reasoning in order to formulate appropriate hypothesis and verify whether they were true. The statistical reasoning was based on two non-parametric tests: Mann-Whitney's U test and Kruskal Wallis's ANOVA test. These tests are used when a relationship between mixed (qualitative and quantitative) features is identified. When analysing differences in mean levels of a qualitative feature by the qualitative variable, typically, two tests are used: when the feature has two variants – it is Mann-Whitney's U test and when one variant – Kruskal-Wallis's ANOVA test.

414 managers participated in the research process, including 216 women (52%) and 198 men (48%). The age structure of the respondents was as follows: age: 18-25 (N=172; 42%), age: 26-35 (N=127; 31%), age: 36-45 (N=73; 17%), age: 46-55 (N=32; 8%), 55 and more (N=10; 2%). The educational background structure of the respondents was as follows: university graduates (N=119; 28.5%), high school graduates (N=290; 70%), vocational school graduates (N=3; 1%), elementary school graduates (N=2; 0.5%). The participants represented state organisations (N=110; 27%), private organisations (N=282; 68%) and NGOs (N=22; 5%), large enterprises at the most (N=226; 55%), as well as the medium-sized (N=59; 14%), small (N=84; 20%) and microenterprises (N=48; 11%). The respondents' structure in terms of their currently occupied position at work was as follows: lowest level managers (N=286, 69%), medium-level managers (N=47; 11%) and the top managers (N=81; 20%). The respondents had different work experience, including: below 5 years (N=201; 49%), from 5 to 15 years (N=126; 30%), and more than 15 years (N=87; 21%). In total, respondents represented 15 economy sectors, which is a huge asset of the research, with the largest group coming from „the industry” (N=80; 19%).

Tab. 1. Effectiveness of the motivators – women's and men's opinions

MOTIVATOR	LEVEL			LEVEL		
	Women's opinion medium high			Men's opinion medium high		
	low	medium	high	low	medium	high
Basic salary	3.52	3.56	3.70	3.31	3.21	3.65
Monthly bonus	3.82	3.78	3.67	3.47	2.97	3.59
Yearly bonus	3.66	3.67	3.70	3.40	3.07	3.59
Cash reward	3.69	3.67	3.78	3.54	3.21	3.70
Stock, stock options	2.61	2.78	3.00	2.70	2.69	2.78
Promotion with a salary raise	4.09	3.78	4.26	3.96	3.97	4.02
Subsidised summer vacations	3.68	3.56	3.81	3.24	3.28	3.04
Cinema, theatre tickets, gym & fitness	3.37	2.83	3.70	2.91	3.07	2.93
Special assistance loans/benefits	2.98	3.17	3.15	2.77	2.66	2.69
Low-interest loans	2.89	3.50	3.41	2.70	2.86	2.91
Subsidised summer vacation camps for employees' children	3.09	3.33	3.81	2.80	3.10	3.11
Company car, also available for private use	3.39	3.39	3.67	3.46	3.03	3.61
Company laptop and cell phone, also for private use	3.37	3.17	3.52	2.99	3.17	3.56
Cafeteria	2.99	2.67	3.22	2.69	2.83	2.54
Additional insurance available to employees and their family	3.29	3.22	3.30	3.00	3.41	3.26
Private medical services for employees and their families	3.45	3.50	3.81	3.30	3.45	3.48
Financing creche or preschool	3.25	3.11	3.56	2.81	3.10	2.91
Fully or partly financed training events and courses	3.66	3.83	4.04	3.40	3.69	3.63
Financing or co-financing vocational learning, studies, MBA	3.92	3.67	4.41	3.49	3.86	3.85
Scholarships and grants	3.40	3.33	3.63	3.03	3.38	2.89
Financing membership fees in professional and business associations	2.65	2.78	2.89	2.53	2.66	2.65
Financing business trips, entertainment allowance and so on	3.25	2.89	3.74	3.16	3.48	3.24
Job security	4.16	4.39	4.67	3.83	4.00	4.19
Company reputation and prestige	3.57	3.61	3.96	3.58	3.59	3.65
Organisation's social responsibility	3.67	3.94	4.04	3.12	3.55	3.65
Diversity management	3.85	3.56	4.00	3.38	3.76	3.30
Friendly atmosphere at work	4.15	4.00	4.30	3.97	4.14	3.83
Good relations with co-workers	4.30	4.06	4.30	3.85	4.24	3.94
Working with interesting people	4.04	3.83	4.19	3.68	3.93	3.89
Clearly defined career path	3.88	3.83	4.15	3.61	3.52	3.72
Promotion opportunities	4.02	3.78	4.26	3.67	3.83	3.48
Professional development opportunities	3.81	3.61	4.00	3.41	3.66	3.78
Self-fulfilment opportunities	3.77	3.89	3.89	3.65	3.69	3.69
Opportunities to demonstrate one's initiative, creativity	3.60	3.78	4.04	3.58	3.90	3.85
Prestige coming from the position in the organisation	3.56	3.67	4.22	3.32	3.69	3.72
Work content	3.53	3.33	3.78	3.28	3.45	3.61
Flexi time	3.74	3.94	4.22	3.69	3.59	3.81
Recognised importance of the life-work balance	4.05	4.11	4.26	3.77	4.00	3.83
Work safety and comfort	3.87	3.94	3.93	3.56	3.79	3.70
Well-organised work	3.77	3.78	4.19	3.68	3.55	3.81
Independence in decision-making and performance	3.63	3.78	4.11	3.70	3.69	4.11
Participation in management process	3.40	3.39	3.96	3.27	3.55	3.74
Praise and recognition	3.87	4.17	4.26	3.59	3.62	3.72
Excellent performance recognised in public	3.60	3.78	4.22	3.34	3.38	3.06
Good relations with the line manager	3.98	3.94	4.37	3.80	3.83	3.81
Swift and clear feedback	3.81	4.06	4.26	3.74	3.59	3.76
Showing interest in personal problems of employees	3.52	3.61	4.04	3.21	3.41	3.54

## 5. RESEARCH RESULTS AND DISCUSSION

The research was conducted in order to identify and diagnose the effective motivating impact of 47 selected contemporary instruments used for the purpose of motivation in the opinion of the managers involved in the research process. To learn more about the preferences of the respondents, the sample was divided into three groups: lower level managers (for example foreman), medium level managers (for example unit managers) and top level managers (for example directors). Another interesting research problem was to establish whether the sex of a manager influenced differences in evaluating effectiveness of some motivators. The research results are presented in detail in Tab. 1.

The research results presented in the paper partially confirm the findings made by the authors of the research run by Hays Poland and Harvard Business Review Poland monthly. Neither men nor women find the amount of the base salary the most effective motivator. The above holds both for male and female managers of all levels. On a 5-level scale, the parameter scored 3.21-3.70 on average. It demonstrates the highest effectiveness in the opinion of women occupying top managerial positions and the lowest effectiveness according to men occupying medium level managerial positions. In general, all the motivators in the tangible cash motivators scored below 4.0 (average), with the only exception of „promotion with a pay rise”, which proved important for the men occupying top managerial positions.

It is interesting that the research results largely confirm the results of several other research conducted by the author, which show that it is not the money but intangible motivators which are the most important to a contemporary employee. According to female managers of all levels, they were the most motivated by the „job security” motivator. The top level managers gave it the highest score of 4.67. In addition, the lowest level managers appreciated „friendly atmosphere at work” (4.15) and „good relations with co-workers” (4.30). Medium-level female managers pointed out the „praise and recognition” (4.17) and „recognised importance of the life-work balance” (4.11) motivators as those of particular importance while the top-level female managers put „financing or co-financing vocational learning, studies, MBA” (4.41) and „good relations

with the line manager” (4.37) at the top of their lists. Intangible motivators are appreciated not only by women but also by men. The lowest level manager listed the following the most effective intangible motivators: „friendly atmosphere at work” (3.97), „good relations with co-workers” (3.85) and „good relations with the line manager” (3.80). Medium-level managers were of a similar opinion, while the two first parameters scored higher in the group (4.14 and 4.24, respectively). In addition, they mentioned „job security” (4.0) as a motivator of above-the-average importance in their opinion. Also note that „job security” is the most effective motivator influencing the top level managers (score 4.19). Apart from the above, the group also appreciated very much the effectiveness of the „independence in decision-making and performance” parameter (4.11).

Not all of 47 motivation tools mentioned in the paper were of equally high importance to the managers. The tools of the least effective motivating power included: „stock, stock options” (scored 2.61 among the lowest level female managers); „cafeteria” (scored 2.67 among the medium level female managers and 2.54 among the top level male managers); „financing membership fees in professional and business organisations” (scored 2.89 among the top level female managers and 2.53 and 2.66, respectively in the group of the lowest and medium level managers). Obviously, certain similarities can be observed here. It is very interesting indeed that the majority of the motivators analysed in the paper scored higher among the top level manager than in the other two groups. As for men, the above-mentioned trend was also visible, in particular for the group of cash tangible tools.

## CONCLUSIONS

The research results presented in the paper lead to many interesting conclusions. The author believes that one of the most important conclusions from the research is that managers consider intangible tools as the most important from the available, contemporary employee motivation tools. It is a paradox but also, at the same time, a valuable piece of information. Both women and men particularly appreciate job security, good atmosphere at work and friendly relations with colleagues. In the context of the points presented in this paper, a question arises: if all the above-listed motivators score high among all the employees, who



then is responsible for creating a toxic work environment with various types of pathologies in the area of management, including managing people. Who is to blame for the fact that 50% of the people in the world declare that they live in stress at work. Many are mobbed. People are treated with no respect, their life-work balance is drastically disrupted and private time restricted because of the absolute availability requirement. Who is responsible for cynicism and heartlessness spreading frequently in the organisation while empathy is often only a word without a meaning? Whose fault is that the financial performance takes priority over people and their real needs while, on the other hand, the growing importance of human capital is declared? These questions imply the need to look closer to the issue and open new paths for continuation of fascinating scientific deliberations. Concluding, let us answer the question whether we have not had enough of these paradoxes of the contemporary times? Since employees' preferences are convergent (the paper presents only a part of much broader research), perhaps it would be worthwhile (managers and other employee) to analyse the issue and make the effort of working out a management model that everyone could benefit from, thus creating a friendly work environment, where care for development of an organisation occupies the place it truly deserves. The analysis leaves many questions unanswered, which, undoubtedly, inspires researchers to continue deliberations over the issues covered by the paper. One of the key questions is how to measure the influence of the manager's motivation level on their subordinates motivation level?

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# NANOTECHNOLOGY: LEGAL AND ETHICAL ISSUES

AGNIESZKA BARAN

## ABSTRACT

Nanotechnology is a very vast field which includes a range of technologies at the nano scale, such as pharmaceuticals, biotechnology, genomics, neuroscience, robotics and information technologies. Nanotechnology is the latest technological innovation in global debates on risk regulation and international cooperation. Regulatory bodies have started dealing with the potential risks posed by nanoparticles. Since 2004 the UE has been developing a regulatory policy to tighten control and to improve regulatory adequacy and knowledge of nanotechnology risks. Currently, specific provisions on nanomaterials have been introduced for biocides, cosmetics, food additives, food labelling and materials in contact with foodstuff. The statement that nanotechnologies do inevitably imply ethical questions. The main problems are public trust, potential risks, issues of environmental impact, transparency of information, responsible nanosciences and nanotechnologies research. The aim of this article is to analysis the main problems regulating nanotechnology and some aspects of ethics.

## KEY WORDS

**nanotechnology, regulation, risk, ethical issues**

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Corresponding author:

**Agnieszka Baran**  
Białystok University of Technology  
Faculty of Management

e-mail: a.baran@pb.edu.pl

## INTRODUCTION

Nanotechnology is an area which has been subject to dynamic development in recent years. Individual countries are increasing spending on research and development in this field. The solutions offered by nanotechnology are used in such areas of life as, among others, medicine, electronics, energetics, food industry, information technology, astronautics, communication. Nanotechnology is defined as a dual-use technology, due to the fact that it brings with it both the opportunities for progress and the development of mankind, but also may pose a serious threat to the health and life of humans and the environment (Dorocki & Kula, 2015, p. 28). It is a very young field, and the impact of nanomaterials on human bodies and the environment, especially in the long term, it is not always known. Nanomaterials may exhibit enhanced biological activity as they easily penetrate biological membranes. Nanoparticles may therefore exhibit toxic properties, posing a threat to

humans and animals. Currently, the largest risk associated with nanotechnology is connected to the lack of control over it, there are no technical means to monitor for example the environment for the presence and impact of nanoparticles and nanomaterials. There is still no adequate legislation, even though since 2004 the European Union (EU) has introduced provisions relating to nanotechnology. Nanotechnology is an area, which has been subject to dynamic development in recent years. The aim of EU legislation is to provide public access to innovative applications of nanotechnology, along with ensuring the safety, as well as protection of health and the environment. Increasingly, there also appears the issue of the ethical aspects in the field of nanosciences and nanotechnologies.

The aim of this article is to examine the legal and ethical aspects of the safety of nanomaterials usage. In particular, it presents the possibilities of regulating

the issue of the safety of nanomaterials and the related ethical issues.

## 1. LITERATURE REVIEW

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In international literature, the primarily raised question is the one whether nanotechnology should be included in the legal framework or whether the so-called soft law mechanisms can be used? Currently, in relation to nanomaterials, within the European Union we are dealing with both the legal acts with binding force (regulations, directives), as well as non-binding acts such as recommendations concerning the fair conduct of scientific research or the application of a uniform definition of nanomaterial. Since nanotechnology has been within the interests of the European legislator for almost twenty years, it is also the subject of discussions regarding the legal doctrine. There has been a different approach to the matter of regulation of nanotechnology. Some authors see the possibility of influencing the strengthening of the safety of use of nanomaterials, through non-judicial means (Maatsura, 2006). Due to the dynamics of change in this area, some people see an urgent need for the use of soft law (Brazell, 2012). Soft law includes resolutions, guidelines, explanations, messages, programs, plans, mostly issued by the authorities involved in the legislative processes, the result of which is a generally applicable legislative act. Construction of soft law instruments is intended to constitute a foundation for the future hard legal regulations. Also important are the voluntary programs aimed at gathering information useful for the design of legal instruments (Malloy, 2012). According to the position of EU bodies, some authors suggest the strengthening of the existing forms of cooperation in the field of nanotechnology and cheering for States to build internal legal regulations (Falkner et al., 2010). Relevant legal regulations in the European Union do not relate directly to nanotechnology, which is why new tools should be created in order to prevent the possible harmful effects of the use of nanomaterials (Ponce del Castillo, 2010). The view regarding the possibility of the future creation of a division of law of a collective nature is not often presented as it may take place only under the condition of attainment of full knowledge regarding the properties of nanomaterials (Oud, 2007). The most important problems in the sphere of nanotechnologies which should be soon resolved

have been indicated. It is a question of applying a uniform definition of the nanomaterial, development of metrology tools in relation to nanomaterials, development of safety tests and risk assessment methodologies (Porter et al., 2012).

A difficult issue is the ability to regulate nanotechnology at the international level, under the Future Framework Agreement (Marchant & Doug, 2006). Some authors are unanimous about the fact that the regulation of nanotechnology at the international level is a big challenge because of the different ways of the use of nanomaterials. It seems, however, that in the future comprehensive regulations in the field of nanotechnology will be created. It may be significantly affected by the creation of the best practices for dealing with nanomaterials, which will be applied at the international level (Baran, 2015, p. 37).

Nanotechnologies constitute an interdisciplinary subject, which translates into a very broad spectrum of potential applications. Nowadays nanotechnologies encompass most areas of the sphere of technology. The literature also mentions the need to regulate the aspects of intellectual property in the context of nanotechnology (Balcerzak, 2013; Ganguli & Jabade, 2012; Cisneros, 2009; Fischer, 2005). Moreover, the number of discussion on the ethical aspects of nanotechnology development has increased recently. (Sandler, 2009, pp. 13-16). Also, in the context of the patent law, the question is posed whether the nanotechnology inventions should be excluded from patenting because of the unknown potential risks to human health or the environment, just as in the case of inventions in the field of biotechnology (Witek, <http://wtspatent.pl/>). In the literature, there appears the concept of nano-ethics, which is defined as moral reflection on the development and application of nanotechnology, or the manipulation of matter at the molecular level. In this regard, dilemmas regarding the potential harmfulness of nanoparticles are beginning to appear. In the case of nanotechnology, questions are raised about their availability and impact on the welfare of mankind. There arises a justified fear that nanotechnology will become another element strengthening the division of the world into developed countries and the ones lagging behind or these in control and the controlled ones (Bazela, 2008).

## 2. LEGAL REGULATION IN THE FIELD OF NANOTECHNOLOGY

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Nanosciences and nanotechnologies have been present in the strategic documents of the European Union for at least twenty years. The European Commission (EC) Communication „Nanosciences and nanotechnologies: An action plan for Europe for the years 2005-2009. In Second Implementation Report for the years 2007-2009” it was found that nanotechnology offers significant potential to improve the quality of life and the competitiveness of industry in Europe. Its development and use should not be delayed, unbalanced or left to chance (COM (2009) 607). At the time, an initial review of the legal framework in the field of nanotechnology was performed to examine whether new regulatory action was required to cover the risks in relation to nanomaterials. Preliminary results showed that the existing provisions in principle included the health issues and environmental impact. The regulatory authorities of the Member States were commissioned to assess the national legislation and identify gaps in it. Even then a preventive approach in the field of nanotechnology was recommended, due to the absence of complete knowledge about nanomaterials, it was recommended to use the existing legal mechanisms in relation to thresholds, the authorization of substances and ingredients, qualification of hazardous waste, reinforcing conformity assessment procedures, restrictions on the introduction of chemical substances and preparations to the market and their use. In 2009, the European Parliament (EP) passed a report on regulatory aspects of nanomaterials, taking also into account the Commission Communication of 17 June 2008 entitled „Regulatory aspects of nanomaterials” (COM (2008) 366). The report shows that the European Commission sees the benefits of nanotechnology development but at the same time is aware of the risks arising from this development for humans and the environment. The EC confirmed the absence of complete knowledge about the potential risks posed by nanomaterials, and the evidence relating to the risks caused by certain nanomaterials and the overall lack of methods for the proper assessment of the risks associated with raising concerns about nanomaterials. In the context of many doubts concerning the use of nanomaterials, there appears an urgent need to include this sphere into the

legal framework. Therefore, the European Commission, starting from 2008, has been reviewing the existing regulations concerning the use of nanomaterials, and has indicated the actions that ought to be taken in the future. The European Commission, in the second regulatory review dedicated to nanomaterials, emphasizes the need to improve EU law in order to ensure the safe use of nanomaterials. The communication highlights the diverse nature and types of nanomaterials, ranging from everyday materials used for decades (for example in tires or as anticoagulants in foodstuffs) to highly sophisticated materials used in industry and cancer therapies. More and more is known about the hazardous properties of nanomaterials. They do not succumb to categorization, and this justifies the need to carry out assessments of the risk associated with particular applications. The European Commission, stresses that an individual approach should be applied to risk assessment, using strategies based on the information about the potential risks in respect of exposure or hazard. In recent years we have seen undertaking legislative work to regulate the use of nanomaterials by a majority of Member States.

The current regulations, as regards the application of nanomaterials, consist mainly of two regulations, the so-called REACH (Registration, Evaluation and Authorisation of Chemicals) ((EC) No 1907/2006) and CLP (Classification, Labelling and Packaging) ((EC) No 1272/2008). The provisions on nanomaterials can also be found in sectoral regulations. The regulations concerned the use of biocides, cosmetic products ((EC) No 1223/2009), transmission of information to consumers about food and food additives ((EC) No 1169/2011). Since nanotechnologies are also used in medicine, a Directive on the Community Code relating to medicinal products for human use (Directive 2001/83/EC) appeared in 2001. The procedures for the authorization of medicinal products have also been defined ((EC) No 726/2004). To ensure safety it is advisable to compile a register of nanomaterials and products containing nanomaterials, such a register will facilitate the supervision of entities introducing nanomaterials to the market and ensure the transparency of data on products for buyers. At the moment such an obligation is relevant for cosmetic products (Jurewicz, 2014, p. 172).

It should be recognized that the European Union has been consistently working on regulation nanotechnology. In the international arena, activities



are also undertaken to regulate nanotechnology. The potential risks arising from the development of this area are seen by many states. In the United States in 2008, the US National Research Council issued a report calling for greater regulation of nanotechnology.

Australia and Canada are also rather active on nanoregulation. Both have important programmes on Environmental Health and Safety (EHS) research and have published in-depth reviews of their regulations to assess eventual limits when dealing with nanotechnology. Even though no specific laws have been set up, the adoption of a precautionary approach principle, when dealing with nanotechnology application, is envisaged in both countries. In Japan, China, Korea and Taiwan, which are deeply involved in nanotechnology, there are also, at different levels, important research initiatives dealing with EHS issues such as risk assessment and risk management of nanomaterials and nano-related products. They do participate in the worldwide debate on nanoregulation but no specific initiatives on the matter have been taken so far in these countries (<http://www.nanowerk.com>, 12.01.2016).

Currently, the actions to regulate nanotechnology focus on the national level, and at the international level initiatives of the nature of joint research programs are observed.

### 3. PRECAUTIONARY PRINCIPLE AS A BASIS FOR THE REGULATION OF NANOTECHNOLOGY

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In view of the current knowledge, nanomaterials resemble natural substances in the respect that some of them may be toxic, while others may not. The possible risk is related to specific nanomaterials and specific applications. Therefore, in the case of nanomaterials there is a need of risk assessment that should be carried out on case by case basis with the use of relevant information. The biggest challenge at the moment is primarily related to the establishment of the validated methods and instruments for the detection, characterization and analysis of nanomaterials, development of complete information on the risks associated with nanomaterials and the development of methods to assess the exposure to nanomaterials. Despite the studies conducted so far, we are still not able to quantitatively assess the risks

involved. The toxicity of individual nanoparticles varies greatly, making it difficult to establish a common criterion. Evaluation of the toxicity of nanoparticles is carried out with respect to individual organisms: mammals, protozoa, shellfish, algae and plants. Toxicity to mammals is tested on rodents. There were few attempts to assess the health status of people occupationally exposed. Sparse studies on human cell lines revealed distinct DNA damage (Langauer-Lewowicka & Pawlas, 2014, p. 10). Due to the lack of full knowledge of the risks posed by nanomaterials, it should be covered by multi-faceted and diverse legislation. The new provisions must be constructed on the basis of the precautionary principle and the principle of producer responsibility in order to ensure safe production, use and disposal of nanomaterials before they are placed on the market. The precautionary principle enables quick reaction in the face of possible risks to the health of humans, animals or plants, or for the protection of the environment. According to the Commission, the precautionary principle can be relied on if the phenomenon, product, or activity poses potential security risks, identified within the framework of scientific and objective evaluation, if such an assessment allows the identification with sufficient certainty of such a threat (COM(2000) 1final). In the case of nanomaterials, we certainly have to deal with the situation when there is no full knowledge of the risks arising from their use. This principle operates in the legal order of many countries. The European Union has included it in Art. 191 paragraph 2 of the Treaty on the Functioning of the European Union (TFEU), which results in the obligation on the part of the Member States regarding the application of this principle in their legislation. Implementation of this rule helps in the assessment of the potential danger. It is expressly stated that even if the presence of nanoparticles in the elements of the environmental or waste can be shown, it would be technically difficult to eliminate them. Therefore, the actions taken at the end of the chain of contaminants are unable to effectively prevent the potential negative consequences for the environment and human health. The European Parliament already in 2009 recommended the Member States to invest in an adequate assessment of the risks arising from the use of nanomaterials in order to supplement the knowledge gaps and rapidly develop and implement the methods of evaluation and an appropriate and harmonized metrology and nomenclature. There are no methods to assess the

risks associated with nanomaterials, making it impossible to design effective legal mechanisms in this sphere (2008/2208(INI), (2010/C 184 E/18).

#### 4. THE RISK OF APPLICATION OF NANOMATERIALS

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The advantages of the development of nanotechnology are undeniable. Achievements in this area provide an opportunity for the reduction of the use of non-renewable resources and energy, reducing the amount of waste generated. The methods based on nanotechnology allow to clean and repair the environmental damage and the removal of contaminants. In the field of medical research, there has been a significant progress, already today miniature sensors or diagnostic probes and even whole testing systems are constructed, which are implanted for diagnostic purposes. Modern nanomaterials enhance the bioactivity and biocompatibility of implants, leading to a real revolution in implantology (Maliszewska-Mazur, 2010, p. 154).

We are currently seeing an intense increase in the number of products made from nanomaterials. Since the 90s of the 20th century, there has been a visible rise in the amount of granted patents for inventions utilizing nanomaterials. Therefore, a question should be raised whether we care about safety in terms of the production, use and removal of nanotechnologies from the environment with the same commitment as about the creation of new solutions in the field of nanotechnology. Scientific studies have shown that most nanomaterials have a dual nature, their use in environmental engineering or medicine is both attractive and carries some risks resulting from the toxicity of these materials (Szponder, 2010, p. 382). The problem is that we do not entirely know this potential threat, we do not know what happens with nanoparticles or nanomaterials in the environment. The research should be focus on the answer to the question which element from the point of view of nano-risk is important – chemical composition, size, surface structure or reactivity? (Maliszewska-Mazur, 2010, p. 159). Besides, the majority of nanomaterials cannot be the subject of the already developed methods of toxicity testing and exposure scenarios. Most of these studies focus on the first generation of nanomaterials, and because the development of this

technology is very quick, currently we already have the third generation of nanomaterials (Maynard, 2006, p. 31). According to the report of the French „Agency for Environmental and Occupational Health Safety” only 2% of research on nanotechnology deals with the analysis of the safety of new solutions. The Agency, citing the precautionary principle, recommends that due to the unknown, but potentially existing risks from the use of nanoparticles in everyday products it is better to withdraw from their application where the clear benefit from the use of new technologies does not exceed unknown risks (Zapór, 2012, p. 4).

Without a doubt, an important measure today is therefore the regulation of activities in the field of nanotechnology, which unfortunately is not easy, due to the use of nanotechnology in various sectors of the economy. Above all, efforts should be made to apply a uniform definition of nanomaterial. A uniform definition will facilitate the identification of materials for the needs of applying relevant provisions of the law to them. International Organization for Standardization defined the term nanomaterials as material, which external dimensions does not exceed the nanoscale or whose structure or surface structure does not fit in the nanoscale. The term „nanoscale” is defined as a range from about 1 nm to 100 nm. The numerical distribution of particle sizes makes it possible to take into account the fact that nanomaterials consist mainly of many particles of different sizes in a specific distribution. In the absence of numerical determination of particle size distribution, it would be difficult to ascertain whether a material meets the definition in a situation where some particles are smaller than 100 nm, while others are not. The Recommendation of the European Commission in 2011 defined the definition of nanomaterial as a natural, created randomly or manufactured material containing particles in a free state or in the form of an aggregate or agglomerate, wherein at least 50% or more of particles in the numerical particle size distribution has one or more dimensions in the range of 1 nm – 100 nm (2011/696/UE). In justified cases, on grounds of protection of human health or the environment, instead of the threshold of the numerical particle size distribution of 50% a value between 1-50% can assumed.

Nanomaterials are treated as one of the forms of chemical substances and, like other chemicals are subject to legal regulation of the European Union. The guidelines in this regard are defined in the

REACH and CLP regulations. Based on the provisions of REACH and CLP it is possible to identify a potential threat at the beginning of the chain of pollution. Each nanomaterial classification under CLP will launch a number of provisions contained in numerous acts under environmental law, aimed at controlling the releases of hazardous substances into the environment.

Due to security concerns consumers must be adequately informed about the presence of a nanoringredient in the product. In May 2011, at the meeting of Inter-Organization Programme for the Sound Management of Chemicals, operating at the Organization for Economic Co-operation and Development (OECD), it was proposed to place warning phrases as follows: „Contains designed nanomaterials. Warning. Unknown threat”, „Contains designed nanomaterials. Warning. Threat is not fully characterized” (Zapór, 2012, p. 6). Scientific Committee on Emerging and Newly Identified Health Risks considers it necessary to identify the characteristics of each nanoparticle that may cause risk to human health and the environment and replace it on the label (<http://ec.europa.eu/health>, 7.01.2016). Within the EU, the obligation to put information about the component in the form of nanomaterials in food products is defined in the Regulation of the European Parliament and of the Council on the provision of information about food products to consumers (1169/2011). In accordance with the introduced changes, all the ingredients present in the product, in which at least half of the particles/fragments lies in the range of 1-100 nm must be preceded by the prefix „nano”. The obligation put the „nano” marking on cosmetics is defined in the Regulation of the European Parliament and of the Council on cosmetic products (1223/2009). All ingredients present in the form of nanomaterials shall be clearly indicated in the list of ingredients. The word „nano” should be indicated in brackets after the name of the ingredient. Since nanotechnology is subject to dynamic changes, EU regulatory bodies will carry out systematic reviews of the existing legislation.

## 5. ETHICAL ASPECTS

The second half of the twentieth century saw the rapid development of new technologies. The XXI century is the century of biotechnology, genetic

engineering and nanotechnology. The development of biotechnology has raised a lot of controversy, despite the regulation of this sector to a large extent, there is still no consistent law regarding, for example genetic research. Due to intensive scientific research and the creation of new solutions, the EU legislator has introduced patent protection for biotechnological inventions. Although nanotechnology inventions do not arouse such controversy as biotechnology, perhaps it is worth considering whether similar solutions in the patent law for nanotechnology should be introduced in the future. In literature, one may come across the statement that these two areas, contrary to appearances, have a lot in common. Nanotechnology is based on techniques and methods of manipulating matter on the nanoscale, but it makes no difference whether it is living or inanimate matter. For this reason, it is possible to combine the essential elements of both disciplines in nanobiotechnology (Balcerzak, 2013, p. 155). To some extent, it is possible to use the legislation concerning biotechnology. Public acceptance of new technologies is a key aspect of their development. At the moment in Europe, we are seeing the controversy surrounding the nerve implants, which give new opportunities to those suffering from the Parkinson's disease or patients who require the restoration of sight. The concerns relate to the possible use of implants for purposes unrelated to treatment. The European Commission considered to take into account the expectations and concerns of the society. Nanotechnology must not only be safe and useful, but also have to gain the support of public opinion. The public must be aware of the benefits, potential risks and necessary measures related to the use of nanotechnology. Public debate should also be encouraged in order to help people in forming an independent opinion. A major role in this process should be played by scientists, explaining the principles and applications of nanotechnology to the public (COM (2009) 607).

In 2008, the European Commission adopted a code of conduct regarding the responsible research in nanosciences and nanotechnologies (Code of Conduct for Responsible Nanosciences and Nanotechnologies Research) with a recommendation to use it as an instrument for the basis of further initiatives aiming at ensuring the safety, ethical and sustainable nature of the research in nanosciences and nanotechnologies in the EU.

Compliance with the Code of Conduct is voluntary. It contains a set of general principles and guidelines

regarding the actions to be taken by all stakeholders in the field of N&N. The Code aims at improving the implementation of the existing legislation and facilitating the settlement of issues which are questionable from a scientific point of view. It is highlighted that the N & N research should be conducted in accordance with the precautionary principle, anticipating the potential impact of this research on the environment, health and safety, and taking precautions, which are proportional to the required level of protection ((2008) 424).

Individual EU member states have begun the implementation of initiatives aimed at better informing the public about the development of nanotechnology. In the UK, the DEEPEN (Deepening Ethical Engagement and Participation with Emerging Nanotechnologies) project was created, which aimed to create a base for social acceptance of nanotechnology development. In the Netherlands, it was the Nanopodium program, one of the major social dialogue programs in the European Union. Belgium launched the Nanosoc program, which was to create a common platform for discussion about nanotechnology for researchers, business and society. Despite the fact that nanotechnology does not raise such controversies as biotechnology, and societies are rather positive about diagnostic and therapeutic possibilities offered by nanotechnology, they require the provision of detailed information on the long-term impact of nanoparticles on the body more and more often. In Germany, the Nanologue project was launched, which aimed to highlight the benefits and consequences of nanotechnology, as well as explain the ethical, social and legal issues associated with the use of nanotechnology, and to promote the dialogue between the public and other interested parties ([http://cordis.europa.eu/home\\_pl.html](http://cordis.europa.eu/home_pl.html), 12.01.2015).

Social acceptance and elimination of concerns about nanomaterials will have a positive impact on the future and the development of nanotechnology. The social dialogue should involve the representatives of the civil society and scientists, as well as other stakeholders.

## CONCLUSIONS

Currently, in relation to nanomaterials, within the European Union we are dealing with both the legal acts with binding force, as well as non-binding acts such as recommendations concerning the fair

conduct of scientific research or the application of a uniform definition of nanomaterial. Since nanotechnology became the object of interests of the European legislator almost twenty years, it has also been the subject of discussions regarding the legal doctrine. An important measure today is the regulation of activities in the field of nanotechnology, which unfortunately is not easy, due to the use of nanotechnology in various sectors of the economy. Above all, efforts should be made to apply a uniform definition of nanomaterial, which will facilitate the identification of materials for the needs of applying relevant provisions of the law to them. Important challenges relate primarily to establishing validated methods and instrumentation for detection, characterization, and analysis, completing information on hazards of nanomaterials and developing methods to assess exposure to nanomaterials. The importance of public debate on nanotechnology has been emphasized by several bodies in the EU. The European Commission states that the Member States should strengthen public debate on benefits, risks and uncertainties related to nanotechnology. Individual EU member states have begun the implementation of initiatives aimed at better informing the public about the development of nanotechnology. The social dialogue should involve the representatives of the civil society and scientists.

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# OPTIONS FOR QUANTITATIVE ASSESSMENT OF TYPES OF COMMERCIAL REAL ESTATE LEASES

TOMAS GINEVIČIUS

## ABSTRACT

Facing increasing business volumes and internationalisation, office lease issue is becoming increasingly relevant to business enterprises. They become an integral part of the business which determines the outcome of commercial activities. Current assessment methodologies for types of office leases are flawed because they lack comprehensiveness and they are not linked to the objective of a lease, that is improvement of business deliverables. The methods for quantitative assessment of lease types are flawed. The objective of this article is developing a hierarchical system of indicators in connection with commercial real estate (office) leases adapted for quantitative assessment using multi-criteria methods. As a result of the research, it has been obtained that such system contains three categories: economic, premises and environmental. 12 indicators fall into the first one, 24 – into the second and 16 – into the third one.

## KEY WORDS

**commercial real estate (office) lease, multi-criteria assessment methods**

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Corresponding author:

**Tomas Ginevičius**  
Vilnius Gediminas Technical University  
Faculty of Transport Engineering,  
Lithuania

e-mail: Tomas.Ginevicius@vgtu.lt

## INTRODUCTION

Many reference sources aimed at examining the issue of commercial real estate lease first of all stress that the issue is of importance. The main reason is the fact that premises of the mentioned intended use have a significant effect on the deliverables of commercial activities such as competitiveness, sales volumes and profit.

Offices are distinguished as a separate class of commercial real estate. The analysis of reference sources which give an overview of the existing situation demonstrates that the demand for them will be increasing in both the short-term and long-term perspective. It is due to two reasons. First, owing to the improving economic situation of the country, the number of Lithuanian business enterprises that are interested in having suitable office premises will be increasing. Secondly, foreign investors optimising their activities show growing interest in the Central European and Baltic states turning away from India

and other Asian countries. Hence, the issue of real estate (office), (CRE(o)) lease is of significant relevance from the practical perspective. Owing to its nature, the issue and the solution thereto are also complicated from a scientific point of view because it is a very sophisticated and complex phenomenon. This sophistication and complexity originate in the fact that the CRE(o) lease is a characteristic of wide variety of aspects in reality, that is economic lease conditions, environment of premises subject to lease, nature of the premises, and so on. Indicators showing the mentioned aspects have been expressed in a wide variety of dimensions. What is more, the nature of any variations thereof also differs, that is decreasing values of certain indicators improve whereas of others aggravate the situation. Hence, there emerges not only a practical, but also a scientific issue of how to develop a system of indicators based on such a huge number of them that would adequately reflect the

types of commercial real estate (office) leases and how to adapt such a system for quantitative assessment to rank all types of leases by their suitability from the tenant's perspective.

The objective of this article is to develop a hierarchical system of indicators in connection with commercial real estate (office) leases adapted for quantitative assessment using multi-criteria methods.

## 1. SIGNIFICANCE OF COMMERCIAL REAL ESTATE (OFFICES) TO BUSINESS DEVELOPMENT

Business enterprises are established to carry out commercial – economic activities and achieve certain economic deliverables. They can attain the mentioned objective only in the case where the production process is sustainable, smooth and focused. This is guaranteed by the management system of the enterprise. As a general rule it is developed on the basis of management functions to be implemented by management personnel specialising in these functions. One of the essential conditions for effective

functioning of such personnel is suitable environment. In market economy conditions, each enterprise usually had an administrative building for these purposes, however having and maintaining such buildings or premises is no longer useful from the economic sense. Hence, the lease of office premises became prevalent. These days leased office premises have become an integral part of the business. Practice has shown that they should be perceived as one of the significant factors that determine the success of economic activities of a business enterprise (Fawcett & Chadwick, 2007; Fawcett & Rigby, 2009; Investa Properties Limited, 2006; Martinac et al., 2011; Van de Wetering & Wyatt, 2011).

Demand for offices and requirements therefore are determined by certain factors (Fig. 1).

Domestic demand for office lease means the demand of business enterprises of the country. It is created when enterprises:

- establish subsidiaries;
- develop business into new areas;
- seek to improve office environment;
- bring business together into one space;
- seek to improve their image.

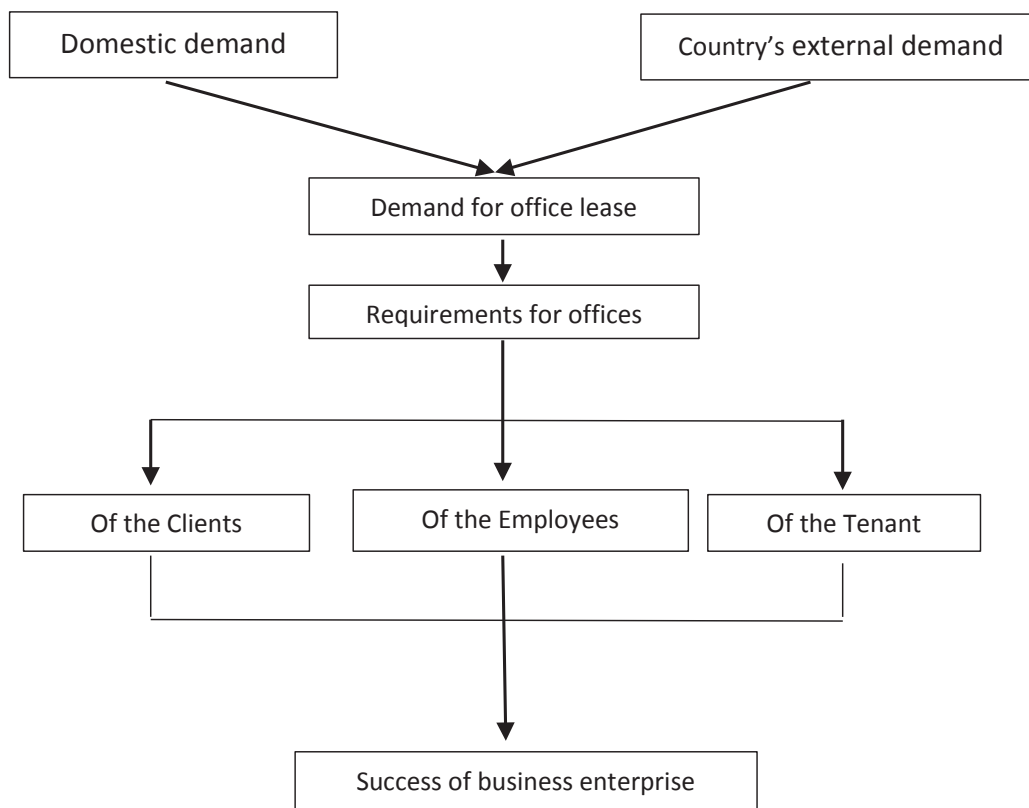


Fig. 1. Effect of CRE(o) on the success of business

External demand means the demand of foreign enterprises that invest in the country. In the market knowing that offices have a significant impact on business deliverables, increasingly higher requirements have been raised for leased premises, that is for their technical characteristics, quality and variety of services offered by the landlord, environment of workplaces, et cetera (French & Wieseman, 2003; Nase et al., 2013; Pagouztri et al., 2003). Hence, the choice of a prospective tenant is determined, to a great extent, not only by a few major criteria, but a totality thereof which include such aspects as: location of the building where the office premises are situated; exterior; interior; areas; expansion possibilities; ergonomic solutions (Sacramento et al., 2013; Appel – Meulenbroek et al., 2011; Choi et al., 2012; Saari et al., 2006; Warren, 2003; Levy & Peterson, 2013).

The relevance of commercial real estate (office) lease as an issue is evidenced in its supply and demand trends. Increasing office lease supply means constructing new business centres and other premises intended for office lease. Essentially, it is a response to existing situation of the demand or forecast (Tab. 1).

Tab. 1. Supply of new offices in Vilnius City, in thousand sq m

YEAR	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015*	2016*
AREA, IN THOUSAND SQ M	16.04	28.21	46.42	89.31	33.30	2.50	18.21	14.70	19.90	37.72	42.22

\*- forecast

Source: Newsec Baltic.

Other major cities in Lithuania (Kaunas, Klaipėda) and Estonia as well as Latvia are in a similar situation as Vilnius City. Data provided in Table 1 demonstrate that since 2012 the demand for offices has been growing; hence, the issues in connection with the lease thereof have been increasingly relevant.

In order to choose suitable business premises, a variety of aspects have to be considered. This makes office lease a very complex scientific issue. It is no coincidence that a wide selection of assessment methods for types of leases is suggested in the references. All of them are based on the indicators characterising types of leases.

## 2. DEVELOPING A SYSTEM OF COMMERCIAL REAL ESTATE (OFFICE) LEASE INDICATORS

An overview of assessment methods for types of commercial real estate (office) leases pointed out, along with advantages, the following major flaws:

- majority of the methodologies are aimed at examining the rent cost of real estate (RE) and the influencing key factors thereof (French & Wiseman, 2003; Nase et al., 2013; Pagouztri et al., 2003; Fuerst & McAllister, 2010; Eichholtz et al., 2009, 2010);
- there is no systematic approach towards creating a system of RE lease indicators (Appel-Meullenbroek et al., 2011; Choi et al., 2012; Saari et al., 2006; Warren, 2003);
- the focus is on the RE market and its factors, but not the lease (Zhang, 2015; Cupal, 2014; Fan et al., 2014).

Other flaws characteristic to the proposed methodologies include: few of them are essentially unsuitable for developing a system facilitating the lease decision-making; a significant percentage seek to examine the sale/purchase of offices as an investment opportunity, but not the lease; systems of indicators which are the basis for choosing a certain type of lease disregard many important aspects. To sum up current or proposed CRE(o) lease methodologies, the following underlying flaws can be noted: first, they lack comprehensiveness, a systematic

approach towards developing a system of lease indicators; second, the systems of indicators are not linked with the objective of lease, that is improvement of business deliverables; third, the weight of lease indicators is not appreciated.

Commercial real estate (office) lease, as a phenomenon, manifests itself in reality through many aspects. The need to take them into consideration is determined by the wish of a prospective tenant to rent the premises that would contribute to their business success to the greatest extent. Hence, the requirements for the premises are derived from the above. The premises have to be attractive in the sense of their interior, geographic location as well as surrounding environment. What is more, they must facilitate the modern business-related operations. On the other hand, the tenants are mindful of the rent cost, pollution and safety of the area, and so on. The question is whether it is possible to find an indicator that integrates the huge variety of lease aspects in such a controversial situation.

Seeking for a solution, each and every of the mentioned aspects needs to be seen as a criterion aimed at reflecting the aspect in a quantitative manner. In such a case, we will be able to understand a complicated and complex phenomenon of CRE(o) lease the light of the totality of those criteria and as a system. In order to develop it, first of all, it is necessary to make a list of criteria or indicators based on the references, expert survey and other sources. It includes indicators that are significant, not very significant and insignificant to the CRE(o) lease.

phenomena is limited because they are reflected by a large number of indicators what makes determining of their significance impossible.

In the second case, considering that CHP indicators are interlinked, the basis for developing the system is the assumption that the links have different strength. This leads to the idea that the most interlinked indicators reflect the same aspect of the CHP. Such indicators can be combined into one group. If there are more indicators than an expert assessing their weight can deal with, this

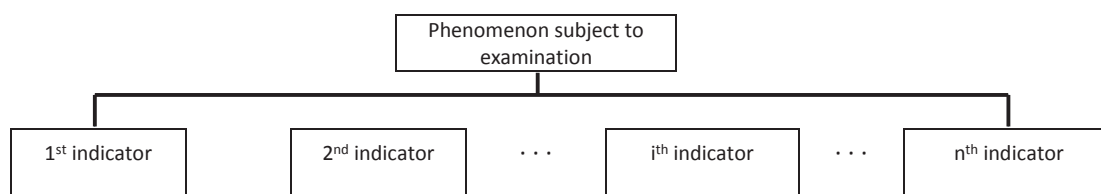


Fig. 2. Single-level system of indicators of the phenomenon subject to examination

Then, the organisation of this list, that is removal of insignificant indicators, should be carried out (Ginevičius & Podvezko, 2005).

When the composition of indicators left after organising the list has been determined, one should proceed with developing a system. The underlying goal of this procedure is to develop a system of indicators suitable for quantitative assessment of types of office leases (Ginevičius, 2009). Analysis of reference sources enable the development of such system to be expressed not as a subjective and unreasoned process, but as a structured sequence of logical acts. It is determined, to a great extent, by the choice of concept. Two possible approaches become apparent: first, where it is considered that indicators characterising phenomenon (CHP) reflect it directly, hence, they are relatively independent of each other; second, where it is considered that the indicators of the system are interlinked (some directly whereas others indirectly). Indirectly linked indicators reflect the analysed phenomenon from its aspect where they are included to (Ginevičius, 2009).

In the first case, considering that the indicators of the system are relatively independent and reflect the phenomenon directly, the development of the system results in a single-level system of indicators (Fig. 2).

Using such a system of indicators for quantitative assessment of the state of complicated and complex

group is in turn divided into separate smaller sections. This structuring process is finished when every such group contains a number indicators sufficient for expert evaluation of the weight thereof (Ginevičius, 2007, 2009).

The outcome of such grouping of CHP indicators is a hierarchically structured system of indicators adapted for quantitative assessment of their state.

Based on the mentioned procedure, the goal was to develop a system of commercial real estate (office) lease indicators suitable for quantitative assessment of their types.

A list of possible CRE(o) lease indicators was developed on the basis of reference and other sources as well as expert survey. It includes 59 indicators in total: significant, not very significant and insignificant ones from an office lease perspective.

In order to „organise the list”, a methodology based on the methods of mathematical statistics was invoked (Ginevičius & Podvezko, 2005). After removing the insignificant indicators, the system has 52 indicators. Such a number is too large for expert evaluation of the significance of indicators. Hence, the system of indicators had to be structured. The analysis of its content demonstrated that the indicators were interlinked and that the links were of different strength. Stronger links exist between

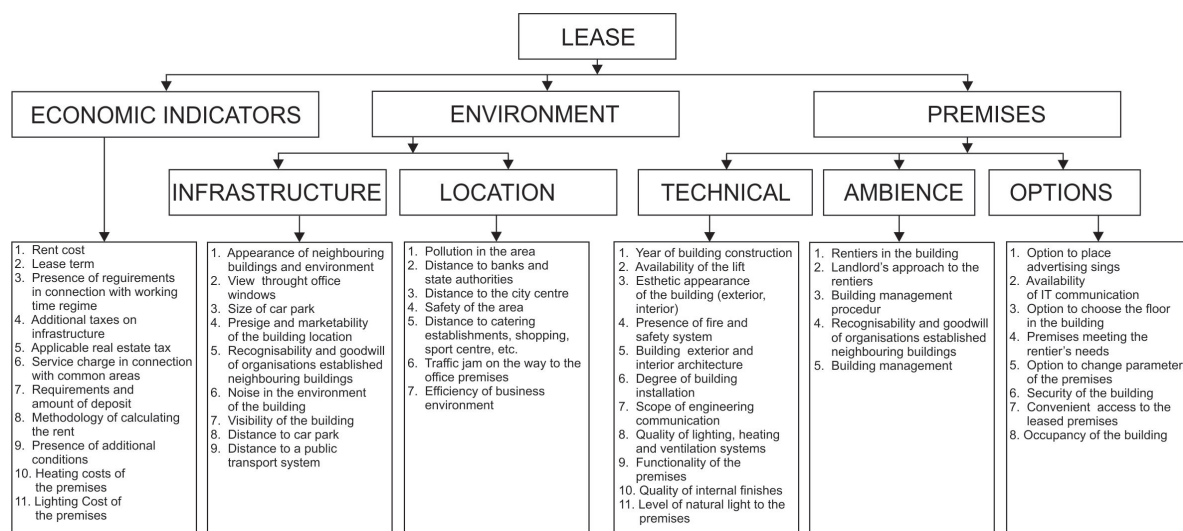


Fig. 3. Hierarchically structured system of commercial real estate (office) lease indicator

those indicators which define the same aspect of office lease. Three of such aspects became apparent: economic lease conditions; type of premises subject to lease and the environment of the building where premises subject to lease are located in. Having grouped the indicators by their characteristics, the outcome is that the economic category includes 12 indicators, premises – 24 and environmental – 16 indicators. The question is whether the system of indicators structured in this manner is suitable for quantitative assessment. Reference sources state, without a deeper scientific substantiation, that the number of indicators to be assessed simultaneously for determining their weight should not exceed 10-12 (Ginevicius, 2007; 2009).

We see that only the category of economic indicators meets the mentioned condition. Thus the other two categories require a more in depth structuring.

Analysis of indicators in connection with the premises has demonstrated that they can be divided into three related groups. The first group defines technical facilities of the premises, the second – their ambience and the third one – the options. 11 indicators fell into the first group, 5 into the second and 8 indicators into the third one. The category of environmental indicators has been subdivided into two groups: infrastructure and location. The first group contains 9 and the second one – 7 indicators. Hence, the number of indicators within each group does not exceed 12; therefore, it is possible to assess their weight.

A hierarchically structured system of commercial real estate (office) lease indicators adapted for quantitative assessment of lease types is the following (Fig. 3).

## CONCLUSIONS

Owing to improving economic situation, the issue of having suitable office premises is becoming increasingly relevant to business enterprises of the country. The demand therefore is also increased by the growing interest of foreign investors in the Central European and Baltic states. Office premises have become an integral part of business because they have a significant effect on the business deliverables, that is competitiveness, profitability, and so on.

Overview of assessment methods for types of commercial real estate (office) leases has revealed the following flaws: first, they lack comprehensiveness, a systematic approach towards developing a system of lease indicators; second, the systems of indicators are not linked with the objective of lease, that is improvement of business deliverables; third, quantitative assessment methods of such indicators are flawed.

Types of CRE (o) leases manifest themselves in reality through many indicators. In order to prioritise the types it is necessary to combine all of these indicators into one general measure.



The underlying issue which is faced in the course of quantitative assessment of lease types is developing a suitable system of indicators. To this extent a list of lease indicators has to be made first of all, then insignificant indicators need to be removed therefrom and the remainder structured hierarchically in a manner that the number of indicators subject to simultaneous assessment does not exceed 10 – 12 for the purpose of assessing their weight.

The hierarchically structured system of CRE (o) indicators contains three categories: economical, premises and environmental. 12 indicators fall into the first one, 24 – into the second and 16 – into the third one. To make the system of indicators suitable for quantitative assessment, the premises category has been divided into three sections: technical facilities (11 indicators), ambience (5 indicators) and options (8 indicators). The environmental category of indicators has been divided into two sections: infrastructure (9 indicators) and location (7 indicators). The resulting final system of indicators has been adapted for quantitative assessment.

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# THE SITUATION ON THE CREDIT MARKET VERSUS THE RATE OF ECONOMIC GROWTH IN CHOSEN COUNTRIES OF EAST-CENTRAL EUROPE

PAWEŁ MIKOŁAJCZAK, ROBERT SKIKIEWICZ

## ABSTRACT

The article concerns the comparative analysis concerning credit market situation on the background of economic growth changes in Poland, the Czech Republic, Lithuania and Hungary. The main objective of this article is to identify the similarities and differences in the economic situation of the whole economies and credits market conditions in individual countries. This relationship has been verified for each country. To determine the strength of the relationship between the dynamics of changes in the value of credits and GDP, Pearson correlation analysis was used. The basis of the analysis presented in the article was data from central banks, Central Statistical Office and Eurostat. Time horizon under investigation covered the period of 2004-2013. The results of analysis indicate that both the economic condition of entire economies, as well as the situation in the credit market remained diverse in all analyzed countries. Among the most significant similarities there was found that changes in the rate of economic growth in the analyzed countries remained at a moderate depending on the dynamics of changes in the credit market. Although the analyzed countries experienced a financial crisis, not all of them recorded a negative growth rate of GDP and credits.

## KEY WORDS

**gross domestic product, credit, convergence criteria, growth rate**

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## Corresponding author:

**Paweł Mikołajczak**  
Poznań University of Economics  
Faculty of Economics

e-mail:  
pawel.mikolajczak@ue.poznan.pl

**Robert Skikiewicz**  
Poznań University of Economics  
Faculty of Management

e-mail:  
r.skikiewicz@ue.poznan.pl

## INTRODUCTION

The paper presents a comparative analysis of a credit market versus the rate of economic growth in chosen member states of the European Union (EU). On the basis of a correlation analysis the dependency assessment is going to be carried out between the credit values change dynamic and GDP in Poland, Czech Republic, Lithuania and Hungary. The aim of this paper is to indicate the similarities and differences of economic conditions of entire economies as well as the situation on a credit market in individual countries. The above aim execution is supposed to allow the verification of the hypothesis which assumes

that progressing convergence and synchronisation of periodical fluctuations of the economies of East-Central European countries (Barczyk et al., 2010) leads to a similar shape of a credit market.

The basis of analyses in the paper will be quarterly data of central banks, Central Statistical Office of Poland (Central Statistical Office) and Eurostat. The research was carried out for entire countries and the research horizon covered years from 2004 to 2013.

# 1. THE CONVERGENCE CRITERIA AND THE SITUATION OF CHOSEN COUNTRIES OF EAST-CENTRAL EUROPE

The documents approved during EU summits conclude that accepting new union candidates will be admitted only when they demonstrate that they „have the ability and the will to take on and implement effectively the aims of economic and monetary union” (Lutkowski, 2002). Poland and other countries which joined the EU in May 2004 had to present the agenda of satisfying convergence criteria. The criteria concerned the necessity of reaching defined values of basic economic parameters which determine the stabilisation of economy in coming years. The necessary condition to join the structures of The Economic and Monetary Union (EMU) is the presence in Europe, participation in the Exchange and Rate Mechanism II (EMR II), satisfying the convergence criteria of Maastricht and replacing domestic currency with European currency (EURO), (Pszczółka, 2006).

However, meeting the Maastricht criteria was not a necessary condition to become a member of the EU but the candidates should pursue such economic results which would allow to satisfy the criteria. This is the way to restrict the threat of occurrence of such negative phenomena as the increase of unemployment, inflation or economic stagnation. Checking the convergence criteria also comes down to the inspection of nominal criteria (Wrona & Sokołowska-Woźniak, 2005).

According to The Maastricht Treaty (formally, the Treaty on European Union – TEU) the basic aim of the European Central Bank is the stability of prices and exchange rates. According to the regulations of the Treaty in the country which shows an appropriate price stability the inflation rate cannot exceed more than 1,5% of an average inflation rate in member states which are characterised by the lowest inflation level in the whole EU. So it refers also to those member states which do not belong to the euro zone. However, „the lowest inflation rate” does not have to mean the optimal level of inflation. Monetary policy focused on price stability has a positive effect on the economy, especially on an economic growth and employment. In line with the recommendations of the European Central Bank the optimal inflation is

close to the level of 2 percentage points (Bednarczyk, 2012). At the same time, the European Central Bank was obliged to support fundamental targets of the EU, such as, for instance, lasting and non-inflationary economic growth or a high level of employment and social care. In 2003 members states of the lowest inflation rate were Lithuania (deflation of 1,1%), Czech Republic (deflation of 0,1%) and Poland (0,7%). Therefore the reference value was 1,3% and was much lower than the optimal value determined by the European Central Bank (Zamojska, 2000).

The criterion of a long-term interest rate is met if it is not higher than 2 pp. from the average of analogous interest rates in three European member states of the most stable prices (de Grauwe, 2003). A year preceding the moment of the evaluation of meeting the criterion is taken into consideration. Hence, the interest rate criterion can be treated as an extension of the inflation criterion for the convergence assessment in this scope allows to monitor the creditability of a permanent decrease of inflation rate. If the market participants are convinced of a lasting character of a disinflation process, the long-term expectations of inflation and long-term state securities profitability diminish which, in turn, enables to meet the interest rate criterion (Krajewski, 2003).

A success of the Monetary Union and Common Monetary Policy require coordination of domestic budgetary policies and determining specific restraints with respect to the budget balance and a size of public debt. Monetary Union membership aside, a high level of deficit also raises the cost of public debt service which, in turn, creates a threat of so-called debt spiral and results in so-called crowding-out effect of private investments by governmental purchases. Negative consequences of the occurrence of long-term, excessive deficits are widely known. They contribute to interest rates growth, hinder capital availability for companies and as a result they have a very disadvantageous influence on economic growth (Detken et al., 2004).

Admittedly, budgetary policy within EMU was left at the national level, however, TEU contains conditions which are supposed to secure the discipline of public finance in member states. Hence, budgetary deficit cannot exceed 3% of GDP of an individual country. In turn, the level of public debt should not exceed 60% of GDP measured in market prices. Both requirements are classified as fiscal criteria and mean that the state striving for budget stability should also

implement the policy of decreasing the budgetary deficit (Żukowska, 2009). In accordance with art. 126 Treaty on the Functioning of the European Union, the European Commission monitors the budgetary discipline of the EU member states. Because of exceeding or a threat of exceeding one of the above reference values the stages of excessive deficit procedures are determined. They cover, among the others, Commission's report on budgetary and economic situation which initialises the proceedings, the opinion of Economic and Financial Committee on legitimacy of procedures, Ecofin Council's decision on occurrence of excessive deficit in an individual member state and Council's recommendation determining the date and way to eliminate an excessive deficit and a decision of Ecofin Council which finalizes the procedure which repeals the decision on excessive deficit occurrence. The procedure of an excessive deficit, legal basis of which was included in the Treaty establishing the European Union, was an original mechanism which disciplined member states within public finance (Nowak-Far, 2007).

After that countries of the East-Central Europe became members of the EU in 2004, the processes of a real convergence of these member states in relation to Western Europe visibly accelerated. It not only concerns the tendency to the level of incomes but also the tendency to the periodical fluctuations. Synchronisation of the other, in terms of euro zone, is especially high in countries of Central Europe (Poland, Hungary, Czech Republic, Slovakia, Slovenia) and remarkably lower in Baltic Republics (Lithuania, Latvia and Estonia) and Balkan countries (Romania and Bulgaria). This situation is a result of progressing economic integration and intensive trade exchange (Matkowski & Próchniak, 2009).

## 2. COMPARISON OF GDP GROWTH RATE IN SELECTED COUNTRIES

GDP growth rate in four studied countries was shaped in a different way, although there can be found some similarities in selected sub-periods. The worst economic situation in all of the countries was in 2009. However, despite the significant deterioration of economic situation only in Poland GDP growth rate remained positive. In other countries, there were significant declines in GDP, of which the strongest were noticed in Lithuania (decline by as much as 15.8%), (Fig. 1). The highest rate of economic growth each country recorded in different year. In Lithuania, the highest rate of GDP growth was in the third quarter of 2007 (11.1%), in the Czech Republic in the first quarter of 2006 (8.3%), in Poland in the first quarter of 2007 (7.5%) and in Hungary in the third quarter of 2004 (4.9%). Attention is drawn by relatively high maximum rate of growth of GDP in Lithuania and less than half in Hungary.

In the analyzed period, the average growth rate was the highest in Poland and amounted 3.9% on average. The second place is taken by Lithuania with a slightly lower average GDP growth rate, which takes the value of 3.3%. In the Czech Republic the average GDP growth rate was significantly lower and amounted 2.4% on average, and in Hungary only 0.7%. In other two countries such poor result was observed due to relatively high number of quarters with negative growth rate of GDP, which took place in the Czech Republic in the course of 11 quarters, and in Hungary during the 14 quarters in the whole period analyzed (IIIQ2004 – IVQ2013), (Tab. 1).

Tab. 1. Statistics for GDP growth rates in selected countries for the period IIIQ2004 – IVQ2013

	<b>POLAND</b>	<b>CZECH REPUBLIC</b>	<b>LITHUANIA</b>	<b>HUNGARY</b>
mean	3.9	2.4	3.3	0.7
minimum	0.4	-5.9	-15.8	-8.0
maximum	7.5	8.3	11.1	4.9
over „0”	38	27	32	24
below „0”	0	11	6	14

Source: own calculations based on data from Central Statistical Office and Eurostat.



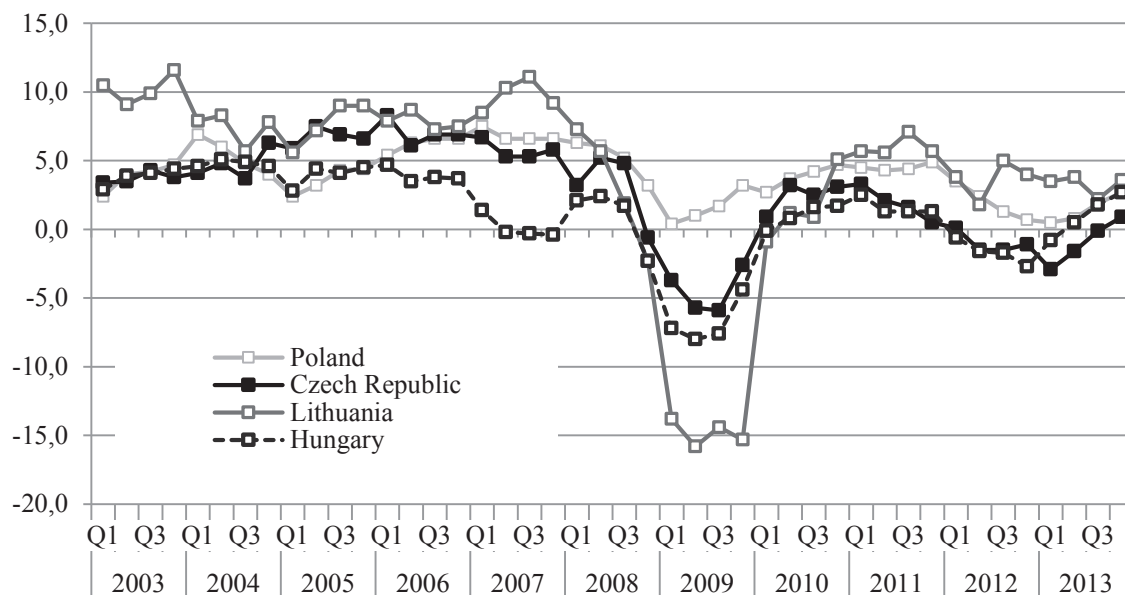


Fig. 1. GDP growth rates in selected countries for the period IIIQ2004 – IVQ2013

Source: own calculations based on data from Central Statistical Office and Eurostat.

Comparing the economic growth rate in four countries in each quarter, it can be found that most often – as much as 24 times – the highest rate of GDP growth recorded Lithuania, Poland was the leader 11-fold, while the Czech Republic only 3 times. On the other hand, the lowest value of basic indicator of economic development most often – as much as 21-fold could be observed in Hungary. The Czech Republic and Lithuania were 6-fold at the weakest position compared to the whole group of four countries. On the other hand, Poland had only 4 times lower GDP growth rates than three other countries.

### 3. COMPARISON OF CREDITS GROWTH RATE IN SELECTED COUNTRIES

The value of credits granted to residents by other monetary financial institutions has grown most rapidly in the early years (until 2008) in Lithuania. Since 2009, almost every quarter, the highest rate of increase in the value of credits was recorded in Poland. For almost the whole of this period, the situation in Lithuania was the worst of all the countries compared and there was a negative growth

Tab. 2. Statistics for growth rates of credits value in selected countries for the period IIIQ2004 – IVQ2013

	POLAND	CZECH REPUBLIC	LITHUANIA	HUNGARY
mean	14.4	7.0	18.4	7.5
minimum	0.2	0.0	-9.3	-13.7
maximum	32.6	16.8	66.4	25.9
over „0”	38	37	20	28
below „0”	0	1	18	10

Source: own calculations based on data from central banks.

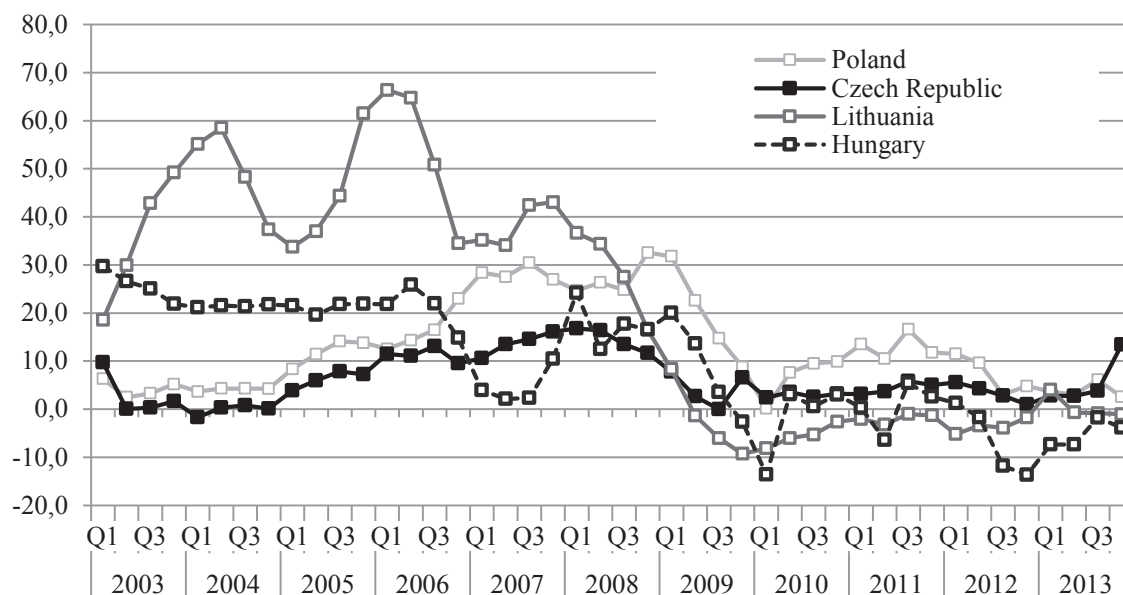


Fig. 2. Growth rates of credits value in selected countries for the period IIIQ2004 – IVQ2013

Source: own calculations based on data from central banks.

rate of credits. It should be also noted huge differences in growth rates of credits between particular countries in the years 2004-2008, and then in subsequent years a significant reduction in differences (Fig. 2).

Comparing the average rate of growth for the value of credits in the analyzed countries, it can be found that the highest value was obtained for Lithuania (18.4%). The second place took Poland with an average growth rate of credits amounting 14.4%. The average growth rate of credits is significantly lower in Hungary (7.5%) and the Czech Republic (7.0%). The same order of countries would be in ranking built on the basis of the maximum rate of growth of credits (Tab. 2). It is worth noting that the only country in which there was always positive growth rate is Poland. The largest drop was observed in Hungary and Lithuania reaching respectively as much as -13.7% and -9.3%. Negative growth rates were recorded in these two countries more often than in other countries – in Lithuania during 18 quarters, and in Hungary during 10 quarters.

During the whole period, the growth rate in Lithuania was higher than in three other countries 18-fold. Equally often (18 times) Poland was the country with the highest growth rate of credits. The lowest rate of growth in the value of credits was achieved most frequently, as much as 14-fold, by the Czech Republic and 13 – fold by Hungary.

#### 4. THE ASSESSMENT OF RELATIONSHIP BETWEEN THE GROWTH RATE OF CREDITS AND GDP IN SELECTED COUNTRIES

The results of analyses show that countries with the highest rate of economic growth (Poland and Lithuania) have also the highest rate of growth in the value of credits. In order to evaluate the convergence of credits and GDP growth rate shaping over time the changes of both categories for each of the four countries will be analyzed.

In the analyzed period, it can be observed a distinct coincidence in the development of the GDP growth rate and the value of credits in Poland. The increase in one variable is usually accompanied by an increase in the other. There is also a certain shift in time between these two variables in some subperiods. The highest GDP growth rates occurred in 2006-2008, while in the case of credits the highest ones were observed in 2007-2009. This shift resulted mainly from changes in the exchange rate of PLN and a significant increase in the importance of foreign currency credits in the above period. The strong depreciation of PLN which took place in late 2008 and early 2009 contributed to an overstatement of growth rates of credits. For the period IIIQ2004 – IVQ2013 Pearson correlation

coefficient has a value of 0.49, indicating moderate strength of the relationship between the variables.

The two analyzed variables – GDP growth rate and growth rate of credits in the Czech Republic also showed strong similarity in the development in the period IIIQ2004 – IVQ2013. The period of the highest GDP growth rate was 2005-2006, and although the next two years also remained at a rela-

tively high level, showed a slight downward trend. In case of credits between 2005 and 2008 the growth rate increased. The highest growth rate of credits throughout the analyzed period occurred in 2007-2008. Both variables were characterized by a strong downward trend ongoing since the third quarter of 2008 to the third quarter of 2009. As a result, GDP growth reached the lowest level during the entire

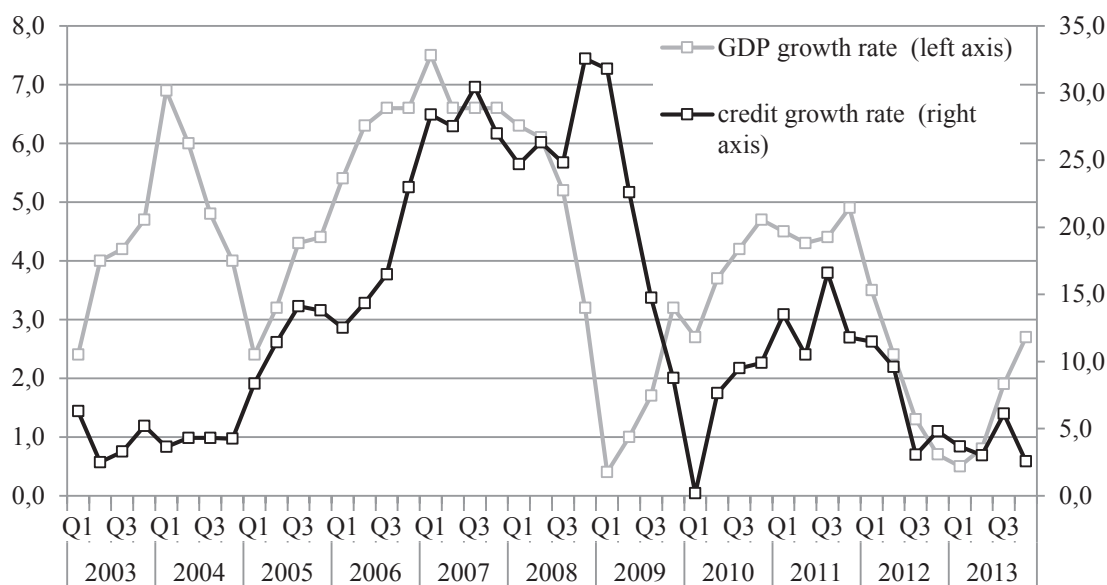


Fig. 3. Growth rates of credits value and GDP in Poland for the period IIIQ2004 – IVQ2013

Source: own calculations based on data from Central Statistical Office and National Bank of Poland.

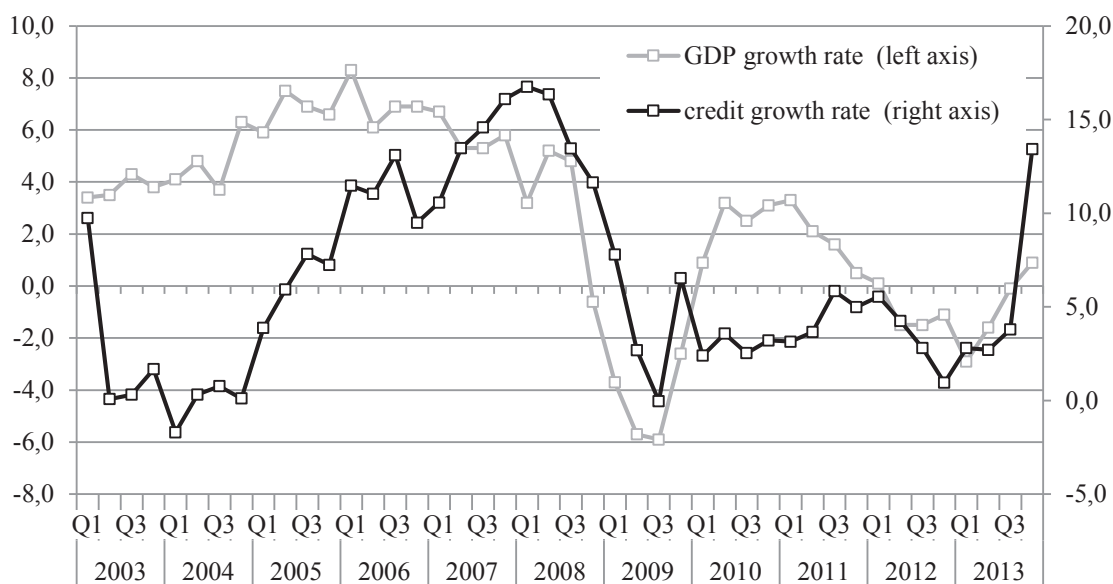


Fig. 4. Growth rates of credits value and GDP in Czech Republic for the period IIIQ2004 – IVQ2013

Source: own calculations based on data from Eurostat and Central Bank of Czech Republic.

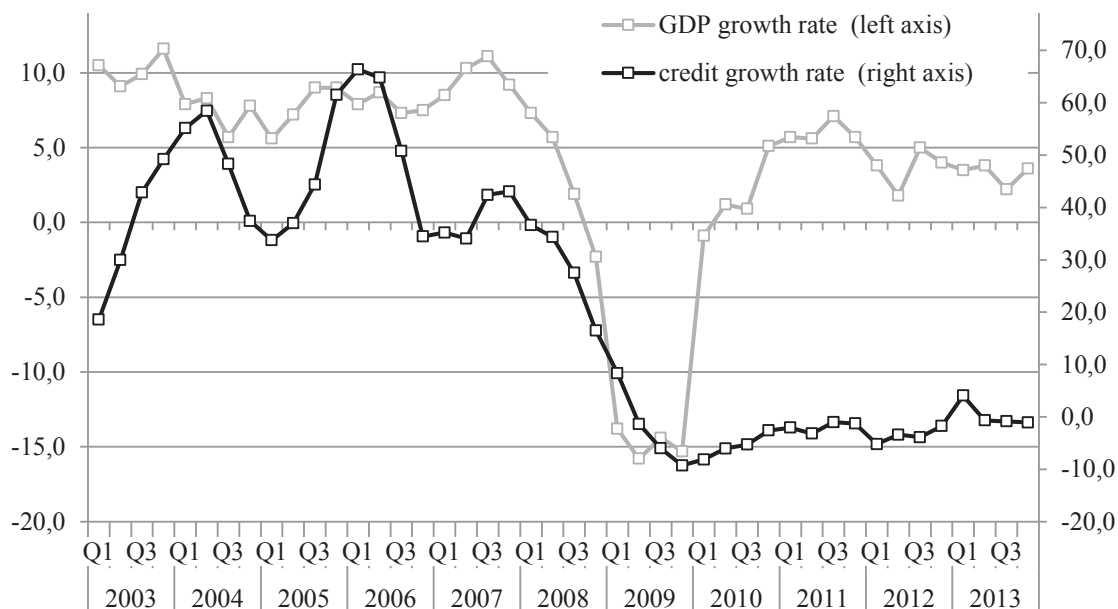


Fig. 5. Growth rates of credits value and GDP in Lithuania for the period IIIQ2004 – IVQ2013

Source: own calculations based on data from Eurostat and Central Bank of Lithuania.

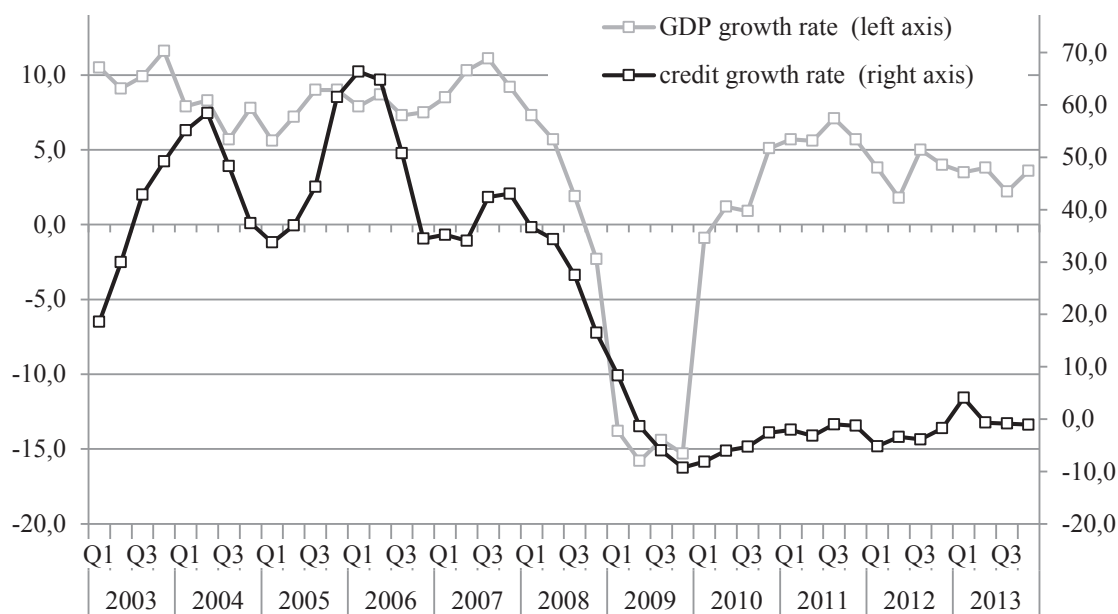


Fig. 6. Growth rates of credits value and GDP in Hungary for the period IIIQ2004 – IVQ2013

Source: own calculations based on data from Eurostat and Central Bank of Hungary.

period covered by the analysis and was -5.9%. The growth rate of credits decreased to 0.0%, the lowest level in the period considered. The strong similarity in terms of trends in the GDP growth rate and the growth rate of credits also occurred in 2012-2013. Pearson correlation coefficient between these variables during the period IIIQ2004 – IVQ2013 amounts 0.47 and indicates a moderate relationship.

The situation of Lithuania was slightly different

than in the case of Poland and the Czech Republic. GDP growth rate in the period IIIQ2004 – IIQ2008 remained relatively high, ranging from 5.6% to 11.1%. Nevertheless, a strong downward trend has yet been initiated in the fourth quarter of 2007 and continued until the second quarter of 2009, when GDP growth rate reached the lowest level of 15.8%. In case of credits growth rate, downward trend was also reported in the corresponding period – from the first quarter of 2008 to the fourth quarter of 2009. In the

first quarter of this period, the growth rate of credits amounted 36.6%, and in the last quarter declined to -9.3%. In subsequent quarters, the growth rate of credits remained negative (with the exception of the first quarter of 2013). On the other hand, the GDP growth rate until the third quarter of 2011, was on an upward trend, and moreover from the second quarter of 2010 was already positive. During the whole period since the third quarter of 2004 to the fourth quarter of 2013, Pearson correlation coefficient indicates a moderate positive correlation between these two variables (Tab. 3).

Tab. 3. Pearson correlation coefficients between growth rates of credits value and GDP in selected countries for the period IIIQ2004 – IVQ2013

	POLAND	CZECH REPUBLIC	LITHUANIA	HUNGARY
Pearson correlation coefficient	0.489	0.470	0.544	0.368
Statistical significance	0.0018	0.0029	0.0004	0.0232

Source: own calculations based on data from central banks, Eurostat and CSO

Comparing the formation of the growth rate of credits and the GDP growth rate in Hungary, it is worth noticing that there is observed the delay of the first variable relative to the other one, which is visible on the graph. This is also confirmed by correlation analysis carried out for the period IIIQ2004 – IVQ2013. The relationship between the growth rate of GDP time delayed by two quarters and the rate of credits growth is strongest because Pearson correlation coefficient amounts 0.62 indicating a moderate strength of the relationship. If there is no mutual shifts of both variables the relationship can only be considered weak because the Pearson correlation coefficient reaches a value of 0.37. Furthermore, it is worth noting the strong downward trend of both variables caused by the global financial crisis. In the case of GDP the growth rate dropped from 1.7% to -8.0% in the period IIIQ2008 – IIQ2009. In the case of credits, the downward trend begins and ends three quarters later. In the second quarter of 2009, the credit growth rate amounted 13.6% and in the first quarter of 2010 reached the level -13.6%.

## CONCLUSIONS

The condition of economies as well as a credit market situation varied in all analysed countries. However, some similarities between considered

countries can be noticed. Changes of the economic growth rate in the states analysed in this paper were moderately dependent on the dynamic on the credit market. A higher average rate of GDP was usually accompanied by a higher average growth rate of granted credits (see Adamowicz et al., 2012). In all the countries there was a slight delay in a growth rate of credits compared to the rate of GDP growth. Moreover, all the studied countries experienced financial crises which resulted in a significant weakening of an economic growth.

Some differences must be also stressed. Not all the countries experienced negative GDP and credit rates. Only in Poland the GDP rate remained a positive number. The analyses carried out allow to indicate the countries, which economic condition and credit market situation were significantly better than in other countries or took frequently first place in the group of four analysed countries, but also those with higher average rates of economic growth.

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# AESTHETIC MEDICINE TOURISM – NATURE AND SCOPE OF THE SERVICES

EUGENIA PANFILUK

## ABSTRACT

The article discusses the issues of development of aesthetic medicine tourism. Its aim is to identify the essence and scope of services related to aesthetic medicine tourism and its location within the health tourism. The article is based on the theoretical study of literature from the field of health tourism and aesthetic medicine as well as empirical research results. The article discusses the issues of conditions of social changes that contribute to the creation of new trends in the tourism market. Further, it characterises aesthetic medicine. The article presents the results of empirical research indicating the need to expand the segment of health tourism to include aesthetic medicine tourism. Then the differentiators of aesthetic medicine tourism were identified, which may qualify it as a separate segment of health tourism. The theoretical added value of the article is the indication of the development of a new trend in health tourism and the identification of traits that allow the isolation of a new trend – aesthetic medicine tourism.

## KEY WORDS

**aesthetic medicine tourism, health tourism**

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Corresponding author:

**Eugenia Panfiluk**  
Bialystok University of Technology,  
Faculty of Management

e-mail: e.panfiluk@pb.edu.pl

## INTRODUCTION

The changes caused by globalization of medical services, the change of lifestyle with displaying the healthy lifestyle, attention to the figure and well-being associated with the external appearance, combined with the willingness to travel, has given rise to a new segment of health tourism, that is aesthetic medicine tourism. This segment, already occurring in practice, has never been described in the literature. The purpose of this article is to identify the essence and scope of the services in the field of aesthetic medicine tourism and its placement within the health tourism. The basic research problem in the article comes down to seeking the essence of aesthetic medicine tourism, identifying its distinctiveness allowing for the classification of aesthetic medicine tourism as a separate segment of health tourism. The article is the study of literature extended by empirical results.

## 1. MATERIAL AND RESEARCH METHODS

The article is the result of analyses based on literature studies, discussions, participant observation and the results of empirical research. In terms of the methodological concept, the article has two approaches. One approach consists in identifying and ordering the views expressed in the published texts and discussions on health tourism and aesthetic medicine – this approach is based on materials derived from studies of the main items of specialized literature. As a further consequence of theoretical exposures that explain and organize the issues of aesthetic medicine tourism and expose the differences in aesthetic medicine tourism, it is possible to classify it as a separate segment of health tourism. The study also uses the results of empirical research conducted

with the use of the Delphi method, carried out in the month of July and August 2015 with the participation of 12 experts in the field of economics, health tourism and aesthetic medicine, as well as the method of diagnostic survey conducted in aesthetic clinics in Białystok in May and June of 2015. Empirical research with the use of the Delphi method served to pose a hypothesis concerning the extraction of a new segment of health tourism – aesthetic medicine tourism. Studies conducted in clinics providing services in aesthetic medicine helped to identify the occurring phenomenon of tourist travel in order to benefit from the services of aesthetic medicine – the creation of a new segment of aesthetic medicine tourism.

## 2. CONDITIONS OF TOURISM DEVELOPMENT IN AESTHETIC MEDICINE

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The development of the tourism market is highly dependent on new trends and consumer needs associated with the desire to increase the quality of life understood broadly, not only to improve the material existence, but also striving to improve health, including mental health associated with a feeling of satisfaction with own appearance. New trends and needs become the main motive for the decision to travel. Travel theme is the basic criterion for the division of tourism (Gaworecki, 2003). It can be said that the need associated with the improvement of health, physical, mental and spiritual rejuvenation caused by the technical development of civilization and the increasing awareness of the importance of health in human life are the basis for the change of style of relaxation from the passive to active recreation. Such recreation is often linked to the preventive rehabilitation by visiting the spa or with relaxation by visiting the wellness clinics or spa. Improving health is therefore the motive of tourism and at the same time the basis for the development of the health tourism market. The demand for health services has become a global phenomenon associated with economic development, better education and higher incomes. On the other hand, significant changes in medicine have been noted. Firstly, it is a response to the globalization of health services (Lunt & the Carrera, 2010; Morgan, 2010), including as a result of signing multilateral agreements in the

field of medical care (Reismann, 2011). Secondly, medical services went beyond the traditional perception of medicine through the prism of repair functions, understood as helping the needy, to a modelling or aesthetic function. Its broader understanding stems from a holistic and optimistic interpretation of the term health, that is the complete physical, mental state and social well-being (World Health Organization) guaranteeing a socially, economically and psychologically productive life, including the spiritual dimension. The health tourism market concerns not only people with specific lesions, but also physically healthy individuals wishing to temporarily change their daily rhythm of life, experience new challenges and overall improve their current state of health.

In the last five – ten years the medical services market has expanded its activities to aesthetic medicine services. Aesthetic medicine services have become the basis for the construction of new tourist products extending the health tourism segment (Panfiluk et al., 2015). According to 45.45% of the experts in the study of health tourism, aesthetic medicine tourism should be treated as a separate segment. The studies conducted in aesthetic clinics in Białystok indicated that 30% of customers are tourists, including 9% foreign tourists, while 21% domestic tourists from outside the voivodeship. 70% of customers are recipients of services living in the region. Since the establishment of the surveyed establishments, in 70% of the clinics the number of customers from outside of the region tends to increase, and in the remaining 30% of the clinics the number is constant. The detailed analysis of foreign clients by country of origin indicated that 2.6% are German, 2.2% tourists come from the UK, 1.8% from Denmark. These included a minimum proportion of patients from Scandinavian countries (0.6%) and Arab countries (0.2%). Other countries that have been identified by medical centres are neighbouring countries: Belarus (0.8%) and Lithuania (0.8%). The opening up of aesthetic medicine service providers to the tourist market is evidenced by cooperation with accommodation facilities, in order to provide accommodation to their customers.

Treatments, the purpose of which is to modify the human body, are known since ancient times. In India in the fourth century, nose, ears or mouth reconstructions were performed. In China in the tenth century reconstructions of feet were performed, and in the eleventh century in Turkey techniques of

treatments for drooping eyelids and treatment of gynecomastia were known. Currently, aesthetic medicine is the latest area of medicine. Its formal creation is connected to the following events: the creation of the French Society of Aesthetic Medicine (1973) and the establishment of (1975) Union International de Medicine Esthetique (UIME) based in Paris. Development of aesthetic medicine in Poland dates back to the year 1993. Then the Aesthetic Medicine Section at the Polish Medical Association was established. The activity of the section consisted in organising the meetings, conferences and congresses. In 2002, the Graduate School of Aesthetic Medicine was launched, and in 2007 the quarterly „Academy of Aesthetic and Anti-Aging Medicine” was launched, in 2008 a certification program for doctors of aesthetic medicine was initiated. The consequence of the activity of the section was the transformation in 2010 of Aesthetic Medicine Section into the Polish Society of Aesthetic Medicine and Anti-Aging. In 2013 the number of its members exceeded 1000 doctors (Polskie...). The aesthetic medicine services supply market is booming, but research conducted in 2011 by TNS OBOP proves that 82% of Polish women are interested in methods allowing to keep a youthful appearance. However, only 6% of them ever used the services of aesthetic medicine units (Medycyna Estetyczna...). The research indicates that those services in our country are too expensive to be widely available (Newerli-Gus et al., 2014).

### 3. AESTHETIC MEDICINE TOURISM – THE ESSENCE AND SCOPE OF SERVICES

Within the segments of health tourism, aesthetic medicine tourism is the newest of its segments, which also includes spa tourism, spa and wellness, and medical tourism (Panfiluk et al., 2015).

Aesthetic medicine tourism is a tourist product which was created through the combination of aesthetic medicine services and tourist services (Panfiluk et al., 2015). It consists of services related to travel, stay, sightseeing, often including entertainment and aesthetic medicine services.

Aesthetic medicine is a branch of medical aesthetology, engaged in ensuring a high quality of life for healthy people through preventive actions,

focused on the prevention of skin aging, and in the next stage on reconstruction activities, aiming to restore the state from before the process. In addition to the issues of skin aging and elimination of wrinkles, aesthetic medicine deals with the correction of aesthetic defects of various nature. It treats advanced lesions, such as scars from burns, sunken cheeks, too small breasts, local obesity, cellulite, stretch marks, and other defects that may affect the discomfort stemming from the appearance (Śpiewak, 2012, pp. 69-71).

In aesthetic medicine, the acceptable procedures mainly include the ordination of drugs prescribed by doctors and non-surgical, non-invasive, or minimally-invasive treatments. They include procedures the use of which is legally permissible only by physicians licensed to practice medicine. They are performed in the skin tissue, subcutaneous tissue and teeth. In addition, aesthetic medicine restores the hormonal balance. The treatments involve small incisions and punctures and local anesthesia activating the skin to renew itself, interfering in its deeper layers (including subcutaneous tissue). All aesthetic medicine treatments are performed on an outpatient basis without the use of a scalpel and do not require a long recovery in the hospital from the patient (Padlewska, 2014, pp. 57-102; Ignaciuk, 2009, pp. 223-226).

Aesthetic medicine treatments include, among other things, the use of: fractional laser: Q-Switch and LED, IPL/E-light, mechanical massage, for example endermology, vacuum, radio waves, contact, fractional, microneedle radiofrequency, fillers (hyaluronic acid, polylactic acid, botulinum toxin (1000 times reduced harmful substances, commonly named botox), chemical and mechanical peels (exfoliation), puncturing (needle and fractional mesotherapy, microneedle radiofrequency), cryo-lipolysis and cavitation lipolysis (removing fat), bio-stimulative treatments: platelet-rich plasma, bio-stimulating lasers (Padlewska, 2014, pp. 57-102).

The factors determining the decision-making process concerning the performance of aesthetic medicine procedures is the care concerning the appearance, health, prestige, and to a lesser extent, the need and necessity. As a result, aesthetic medicine treatments translate into the improvement of well-being and rewarding yourself for failures „as a reward” (Newerli-Gus et al., 2014, pp. 257-259). From a medical point of view, they are intended to improve the wellbeing and appearance (Ignaciuk, 2009, pp. 223-226).

Defining the scope of aesthetic medicine tourism, as a segment of health tourism requires the analysis of already existing approaches used in health tourism, demonstration of common characteristics combining aesthetic medicine tourism with health tourism, as well as the differences that are the basis of recognizing it as a separate segment of health tourism.

As all the segments of health tourism, aesthetic medicine tourism, in general terms, can be characterized on the basis of five characteristics of health tourism:

- voluntariness of traveling outside the place of residence,
- dominance of the health-related objective of travelling,
- visiting tourist attractions,
- motivation of the journey,
- use of medical services.

In the cases, where the first three features (travelling for health purposes connected with leisure and sightseeing tourist attractions and even entertainment) are exactly the same for all segments of health tourism, then in specific terms, medical factors (use of medical services in the field of: diagnostics, prevention, treatment, or rehabilitation), the specific objective and the objective of the trip differentiate aesthetic medicine tourism from other segments. This results from the differences between aesthetic medicine services and medical services used in health tourism, spa and wellness, as well as medical tourism.

The common ingredient of aesthetic medicine tourism and health tourism allowing for the inclusion of this form as tourism are the actions taken in connection with travelling, that is change of residence. Activities related to travelling are made consciously, voluntarily, and in free time (Dryglas, 2006, p. 69; Gaworecki, 2007, p. 31; Bookman & Bookman, 2007; Białk-Wolf, 2010, p. 655; Johnson et al., 2010, pp. 171-177; Lubowiecki-Vikuk, 2010, p. 186). Such trips are also paid for by the travelling individuals (Rab-Przybyłowicz, 2014, p. 31). It is recognized that the main determinants of undertaking a journey in health tourism include (among others: Rab-Przybyłowicz, 2014, p. 28; Lubowiecki-Vikuk, 2010, p. 186; Białk-Wolf, 2010, p. 655):

- lack of insurance to cover the cost of medical services in their own country;
- differences in prices of medical services in favour of the country of destination;
- differences in the quality of medical services in favour of the country of destination;

- lack of legalization of certain medical services (treatments) in the parent country, among others, abortion and in-vitro fertilization;
- availability of benefits (resulting from the lack of personnel, knowledge, equipment, procedures, too long waiting or legal restrictions) or lower level of development of medical services data (for example: some types of cancer, neurological diseases) at the location of residence.

Each of the trips made for medical reasons is combined with recreation, sightseeing and entertainment in the place of stay (Białk-Wolf, 2010, p. 655; Lubowiecki-Vikuk, 2010, p. 186; Rab-Przybyłowicz, 2014, p. 31; Hunter-Jones, 2003, p. 170; Mika & Ptaszycka-Jackowska, 2007, p. 279).

A common feature of health tourism and aesthetic medicine tourism is its treatment in market terms, where the products and services are designed and promoted in both the market of health and tourism services (Goodrich & Goodrich, 1991, p. 107; Connel, 2006, p. 17; Januszewska, 2008, p. 110; Łęcka, 2003, p. 173; Goodrich, 1994, p. 227). A common feature of health tourism services is also their inclusion in luxury services (Newerli-Gus et al., 2014, p. 259).

Another common component of aesthetic medicine tourism, and other segments of health tourism is the purpose of the journey. The destination of the tourist journey represents the category that differentiates the segment of medicine tourists from the rest of the group of tourists, allowing to distinguish health tourism as a separate form of tourism. The basic travel objectives in health tourism are defined both in general and specific terms. In general, these are defined as regeneration of the human body (Gaworecki, 2007, p. 31), improvement of physical and mental health (Dryglas, 2006, p. 69; Januszewska, 2008, p. 110; Lubowiecki-Vikuk, 2010, p. 186), consolidating and maintaining normal physical and mental fitness (Januszewska, 2008, p. 110) or as satisfying the needs related to health, leisure and well-being (Lewandowska, 2007). The analysis of the objectives in specific terms allows you to notice the differences between the segments of health tourism. The objectives of medical tourism trips include objectives such as the improvement or correction of beauty (Lewandowska, 2007; Januszewska, 2008; Lubowiecki-Vikuk, 2010, p. 186), body care, undergoing surgical procedures (Łęcka, 2003). These objectives can be realized through active recreation, therapeutic prevention, rehabilitation, health education, and medical treatment (among others: Jagusiewicz, 2001, p. 10). The dominant purpose of



health tourism is rehabilitation linked with the return to health after illnesses (Kozłowski et al., 2013, p. 27; Szromek, 2008, p. 32) implemented in sanatoriums and spa facilities. The objectives of spa and wellness tourism, in specific terms, involve the regeneration of physical and mental health of healthy people. They rely on the use of procedures involving body care, which may include services and treatments relating to body care, relaxing services (pampering), services and treatments caring for the soul and bringing about a mood (wellness). The used spa treatments utilize the properties of therapeutic waters that relax, calm and energize, as well as other substances inducing in a blissful state (for example, chocolate or goat's milk), physical exercises, light therapy, massages and meditation exercises as well as cosmetic services. The essence of cosmetic treatments (massages, clay and herb wraps, exfoliation) is beautification of the body. Spa treatments focus on spiritual aspects, helping to fight some physical and mental problems of the healthy. Commonly they contain various ways to combat stress, detoxification, dietary and meditation treatments. The advantage of modern therapies is their oriental origin, referring to the science and philosophy of ancient civilizations (Kozłowski et al., 2013, p. 169-173; Szymańska et al., 2015). Spa and wellness tourism is carried out in wellness centers, especially accommodation establishments of higher category (Rapacz & Jaremen, 2013, p. 114).

In the case where health tourism is directed at meeting the widely understood health and leisure needs, improvement of beauty and well-being (Lewandowska, 2003, p. 182), aesthetic medicine tourism is focused on the removal of defects in external appearance and the acquisition of mental satisfaction. Detailed research in the field aesthetic medicine services has shown that the most common reason for using aesthetic medicine treatments is the attention to personal appearance (94% of respondents), health (85%), prestige (50%) and to a lesser extent, the need and the necessity to follow current trends that promote care for the health and widely understood appearance (face, body and figure). The decision concerning the treatments affect the expectations in terms of the improvement of beauty, delaying the appearance of signs of aging, therapy relating to aesthetic defects and well-being (Newerli-Guz et al., 2014, pp. 256-257). Aesthetic medicine treatments have become a cure for many problems of a psychological or social nature. It is believed that the improvement in physical appearance

increases the chances on the labor market, raises social prestige, facilitates professional success or love life. This helps to get rid of complexes, and also results in an increase in self-esteem of a person. (Wieczorkowska, 2007, p. 100).

Aesthetic medicine tourism is a part of health tourism according to the basic criteria of its division, namely the improvement of health. It constitutes a separate segment of health tourism due to the specific purpose of the trip: improvement of mental health and aesthetic appearance of the person undertaking the journey. It should be noted that the detailed purpose of aesthetic medicine tourism is leisure connected with the improvement of the physical attractiveness of healthy people and acquisition of aesthetic appearance of their bodies as a result of the use of aesthetic medicine treatments with a low degree of invasiveness.

The analysis of the reasons for travel in health tourism leads to the conclusion that they are associated with the general, primary health motive, thereby including aesthetic medicine tourism in this form of tourism. The motives behind health tourism include (Łęcka, 2003, p. 175; Lubowiecki-Vikuk, 2010, p. 186; Gaworecki, 2007; Rab-Przybyłowicz, 2014, pp. 31-32):

- deterioration of health;
- recuperation after diseases and injuries;
- desire to mitigate the negative effects of stress;
- rejuvenating treatments and treatments preserving the beauty, including plastic surgery;
- fight against addictions;
- decision to undertake efforts to improve the health status through undergoing specialized treatments or operations in terms of relaxation and the environment not resembling hospital conditions;
- friends' recommendations;
- need to change the image combined with the need for intimacy (unwillingness to share information about treatment or surgery with others);
- fashion for diverse and unconventional preventive health care;
- boredom with traditional tourist offer in the case of affluent middle-aged people who „have been everywhere and have seen everything”;
- active recreation, the forms of which should take into account the individual needs and possibilities of tourists.

The detailed analysis of the reasons for travel, as well as travel destinations exhibits internal differences. For example, in relation to medical tourism, such

motives as undergoing elective treatment in order to save health, improve the quality of life or to acquire aesthetic appearance of the body (through surgery) are indicated. (Białk-Wolf, 2010, p. 655; Lubowiecki-Vikuk, 2010, p. 186). The main themes of health tourism include the renewal of strength, improving health, well-being and physical condition (Gaworecki, 2003, p. 37; Panasiuk, 2013, p. 10), and of spa and wellness tourism – rest or taking care of beauty (Prochorowicz, 2013, p. 68).

An important factor differentiating the health tourism segments are the medical factors. In general

terms, health tourism services are offered in spas, wellness centers, relaxation centers, medical centers, centers of plastic surgery. Each of these facilities provides different types and forms of medical or cosmetic treatments, such as: rehabilitation, regeneration, renewal of biological powers, surgical procedures, beauty treatments. Each of the types and forms of treatments are different because of the person performing the treatments (physiotherapist, doctor, cosmetologist). It is also important to pay attention to the differences occurring in terms of interference in the patient's body. One can distinguish

Tab. 1. Factors differentiating segments of health tourism

CATEGORY	HEALTH TOURISM	SPA AND WELLNESS TOURISM	MEDICAL TOURISM	AESTHETIC MEDICINE TOURISM
Reason for the use of health services	managing chronic diseases, rehabilitation, prevention as well as health promotion and education	rest and mood improvement	treatment of diseases, restoration of physical fitness, improvement of appearance	improvement of mental status and well-being, improvement of self-esteem, improvement of physical appearance aesthetics
Purpose of receiving health treatments	treatment and rehabilitation of illnesses and improvement of general health	obtaining a good state of mind	maintenance or achievement of better health and appearance of the body	removal of external appearance
Type of provided health services	rehabilitation treatments	relaxation treatments	surgical procedures	non-surgical treatment
Place of performance of health services	spa hospitals, clinics, sanatoriums, naturopathy units, physical therapy clinics	Spa centres: massage salons, wellness centres	traditional medical centres: hospitals, clinics, plastic surgery centres and research institutes	aesthetic medicine cabinets
Scope of invasiveness of services	non-invasive	non-invasive	deeply invasive, performed in full anaesthesia	non-invasive or minimally invasive procedures performed without anaesthesia or with local anaesthesia
Person performing health services	physiotherapist	cosmetologist	doctor	doctor
Type of treatment	treatment through natural medicinal regional resources	treatment through natural resources, creams, using the latest achievements in cosmetology	Surgical and pharmacological treatment using the latest medical technologies	non-invasive treatment using the latest advances in aesthetic medicine

Source: own study based on own research results and literature (Mika & Ptasińska-Jackowska, 2007, p. 297; Koźmiński, 2013, p. 28; Lubowiecki-Vikuk, 2010, pp. 93-104; Lewandowska, 2007, pp. 18-19; Łęcka, 2003, p. 179; Hadzik, 2009, p. 31; Rab-Przybyłowicz, 2014, p. 25; Henderson, 2004, p. 133; Białk-Wolf, 2010, p. 655; Hunter-Jones, 2003, p. 170; Gaworecki, 2003, p. 31).

non-invasive, minimally invasive and deeply invasive treatments. In the case of services of aesthetic medicine, the services delivered on outpatient basis in clinics of aesthetic medicine, performed by doctors are recognized as non-invasive or minimally invasive services. Basic devices include prevention and regeneration. The detailed collective summary of the analysis of differentiating factors of health tourism segments is presented in Tab. 1.

## CONCLUSIONS

Based on the analysis of literature and the conducted research it is clear that a new segment of health tourism has been identified – aesthetic medicine tourism.

The essence of aesthetic medicine tourism is a journey which aims at removing defects in appearance, the dominant motivation is the improvement of the aesthetic appearance, which should result in improved mental health, well-being, including the increase in self-esteem. Aesthetic medicine tourism uses medical services, whose purpose is not prevention, but improving the „nature” or delaying the natural aging process. Such a trip is combined with sightseeing, recreation and entertainment in the target location.

The scope of aesthetic medicine services used by tourists includes treatment aiming at the prevention, therapy, compensation, rehabilitation or restoration of defects in physical appearance using the methods typical for a given „official/restorative” field of medicine or reserved for medicine (drugs, procedures and treatments), nutrition, rehabilitation and physical therapy. Basic measures used in aesthetic medicine are medical measures, medications or non-invasive or minimally invasive procedures (techniques of operations). In the case of aesthetic medicine services, the objective of the doctors’ activities is the improvement of physical attractiveness, in the case of medical services the objective of the doctors’ actions is the prevention or treatment of diseases.

It should be noted that the determinants of the traits of aesthetic medicine tourism services are:

- the theme and purpose of the journey;
- the type of medical services used by the tourist;
- the non-invasive or minimally invasive nature of the treatment techniques performed by licensed physicians.

In the category of tourism products, aesthetic medicine tourism can be interpreted in narrow terms as a service product or, in broad terms, as an area-based product. Aesthetic medicine tourism viewed as a service is related to the acquisition of aesthetic medicine services and basic services related to travelling and accommodation. In the categories of an area-based product, the purchase includes a diverse package of services. In addition to the basic one (travelling, accommodation and aesthetic medicine services) it also includes sightseeing, recreation and entertainment. From the economic point of view, it is important to pursue the development of aesthetic medicine tourism, as an area-based tourist product.

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# RESTAURANTS AND HOTELS EXPENDITURE IN POLISH HOUSEHOLDS OF THE ELDERLY

MARLENA PIEKUT

## ABSTRACT

The age of household members is an important factor for expenditures. The aim of the study is to investigate the level of expenditure on restaurants and hotels incurred in Polish households of the elderly in 2004-2013 and to identify the factors affecting such expenditures. The source of information used in the study was the household budget survey of the Central Statistical Office of Poland. The main methods used in this study were variance analysis and regression analysis. Restaurants and hotels expenditure increases every year together with their share in total household expenditure. The most important factors affecting the restaurants and hotels spending in Polish households of the elderly are: income per capita and the level of education of the head of the family. The study on consumption determinants at different groups leads to better understanding of consumer behavior circumstances and thereby ensuring a good quality of life for the people of the elderly.

## KEY WORDS

household of the elderly, expenditure on restaurants and hotels, factors spending

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Corresponding author:

Marlena Piekut  
The College of Economics  
and Social Sciences  
Warsaw University of Technology  
piekutm@pw.plock.pl

## INTRODUCTION

Socio-economic development and enrichment of societies are directly connected with an increased interest in services associated with restaurants and hotels.

The increase of expenditure on catering and accommodation is observed with each passing year. In some groups they increase faster in the other more slowly. Differences in spending are observed among consumers of different ages. Age of consumers is not the only factor determining these expenditures. Consumers in the same age do not have the same patterns of consumption, because these expenses are related to the education of consumers, their income, location of household and other factors.

The aim of the study was to investigate the level of expenditure on restaurants and hotels incurred in

Polish households in 2004-2013 and to identify the factors affecting such expenditures. The aim was also to compare the level and the structure of expenditures on restaurants and hotels in Polish households distinguished by income and socioeconomic group, education level and gender taking into account the head of the family.

## 1. LITERATURE OVERVIEW

The process of satisfying needs occurs through household. Using the restaurants and hotels are a category higher-order needs (Maslow's hierarchy). As a percentage of total household spending, food expenditure continues to shrink because of increased

income, while the share of services has been increasing. The food consumption trend has been shifting towards food away from home (Mancino et al., 2009; Liu et al., 2013). The growing interest in catering services among consumers is observed in many countries, for example in the United States (Mancino et al., 2009), in Canada (Jensen & Yen, 1996), in Taiwan (Chang & Yen, 2010), in Spain (Mutlu & Gracia, 2006; Angulo et al., 2007), in Greece (Mihalpoulos & Demoussis, 2001), in Italy (Montini, 2001), in Asian (Pingali, 2006; Bai et al., 2012). Changes in food consumption behaviours related to food away from home are driven by a wide range of factors including geography, demography, disposable income, urbanization, infrastructure, globalization, marketing, religion, culture, women participation in labor force, education, tourism, and consumer attitudes (Bozoglu et al., 2013). These changes have contributed to increases importance of catering services.

Accommodation services often combine with tourist trips. Shares of people taking part in tourist trips is still growing (Turystyczne..., 2015). There are also increasing interests in tourism among seniors (Sawińska, 2014; Badora, 2015).

The larger household expenditure on restaurants and hotels could have a positive impact on economic growth. Expenditure on restaurants and hotels generates income of enterprises, increases the sales of goods and services and has a positive impact on the labour market, as well as on trade balance and public revenues (Piekut & Kludacz, 2014). Therefore it is essential to analyse expenditure in different types of households. Both the level and structure of household consumption depend on cooperative action of several factors (Gutkowska et al., 2012). Identification, features of households that combine to the expenditure on restaurants and hotels, can contribute to a better understanding of consumers on the market for those services.

The survey findings show (Kowalczyk, 2013) that the specificity of expectations of different groups households should be taken into consideration while drawing up the catering outlets' marketing strategies in order to fully meet the needs of those groups of consumers and stimulation to their activity as regards purchasing behaviour.

An age of consumer is an important determinant in the variation of consumption (Bylok, 2013). The growth of the number of senior consumers as well as their increasing purchasing abilities (what is

indicated, inter alia, by growing incomes) affect the change of perception of this group of consumers among offerers in the market (Olejniczak, 2015). With the aim of presenting the specifics of the category of elderly consumers, the results of personal research on the consumer behavior of elderly consumers on the market of services associated with catering and accommodation will be indicated. Economic, social and individual factors determining the consumer behavior of elderly people will be identified.

## 2. RESEARCH METHODS

The research material was obtained from individual unpublished data of the household budget survey conducted by the Central Statistical Office of Poland in 2012. The collection included more than 37 thousand households.

This study reviews the households which head were as old as 60 or older, approximately 32,1% of total number of households.

A head of household is defined as the person who gets highest wage & salary income of all household members.

The data was obtained from the research project „Analysis of the consumption level in households, with particular consideration of the differences between voivodeships”.

The study considered correlation relationships to examine the link between the level of household expenditures and restaurants and hotels consumption. The households were divided into groups taking into account education of the head of the household, the level of disposable income per person, socioeconomic group membership and gender of the head of the household. The construction of correlation relations based on equality of variance, these are the measures of dimensionless quantities which amount to values between 0 and 1. When variables are uncorrelated, the measures are equal to 0; when there are any functional dependence between variables the coefficient value is between the range mentioned above. The stronger the correlation the closer to 1 the coefficient value.

The analysis of variance was used for testing the significance of differences between arithmetic means of many groups. To explore the significance of differences between pairs of variables the Scheffe test was applied. It is particularly useful in analysis of variance. It is one of the tests examining statistical

significance which carries out a comparison of post-hoc. This is the most conservative test. Therefore the application of this test results in the fewer significant differences between averages (Wątroba, 2004). The analyzed data was weighted.

Multiple regression analysis was used to study the characteristics of households determining the restaurants and hotels expenditure. The overall objective of the multiple regression analysis is to

the economic crisis in the years 2008-2009 the proportion of expenditure on restaurants and hotels in the structure of household budgets has stabilized, but then they started to increase (Fig. 1).

Restaurants and hotels expenditure depends on many determinants. One of them is the age of family members.

The value of the correlation coefficient between restaurants and hotels expenditure and the age of the

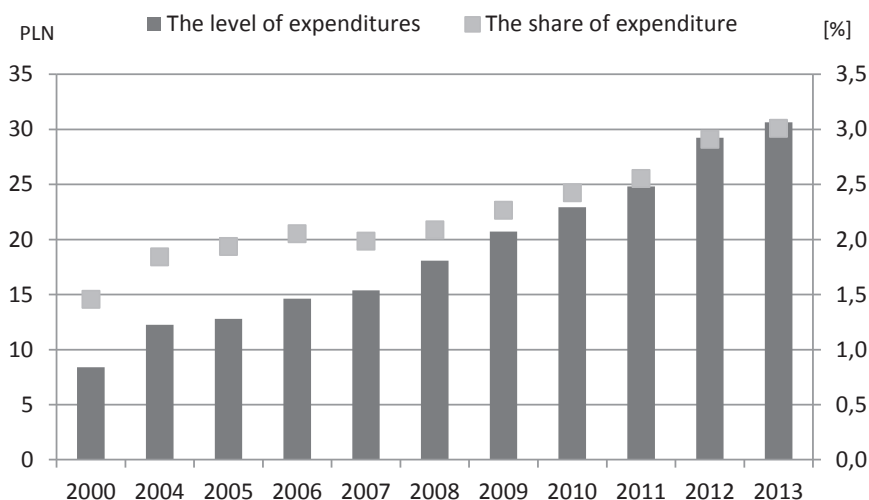


Fig. 1. Restaurants and hotels expenditure per capita in PLN (left scale) and their share (right scale) in total expenditure of Polish households in the years 2000-2013

Source: own work based on data from Central Statistical Office.

investigate relationship between several independent variables and the dependent variable. The final model shows the „optimal” set of independent variables, assuming that construction of the model was successful, no potential variable was omitted, and the data is properly interpreted (Kleinbaum et al., 2013; Wątroba, 2008).

### 3. RESTAURANTS AND HOTELS EXPENDITURE IN BUDGETS OF POLISH HOUSEHOLDS

Data from the Household Budget Survey indicate that the average monthly expenditure on restaurants and hotels per capita for the period 2000-2013 increased 3.6-fold, from almost 8 PLN in 2000 to almost 31 PLN in 2013. The share of restaurants and hotels spending in the total expenditure of households amounted to 1.5% in 2000 and 3.0% in 2013. During

household head was 0.104.

Restaurants and hotels expenditure in household with a head aged 70 and older were more than 0.6-fold lower than for all households and 2.6 – fold lower than in households whose head was under 30 years old (Tab. 1). The average monthly expenditure on restaurants and hotels in households which head was the youngest reached about 47 PLN per person, while in the households whose head was between 60 and 70 years – about 20 PLN per person, and over 70 years old – 18 PLN per person. In the age group of 70 and over, expenditures on restaurants and hotels were higher than in young people households.

Shares of restaurants and hotels expenditure in the total household expenditure have ranged from 1.7% in the age group of 60 and over to 4.5% in the age group of 30 and under.

Tab. 1. The level of restaurants and hotels expenditure and the share of expenditure in the total expenditure in Polish households due to the age of the household head in 2012

THE AGE OF THE HOUSEHOLD HEAD	RESTAURANTS AND HOTELS EXPENDITURE PER CAPITA	THE SHARE OF EXPENDITURE IN THE TOTAL EXPENDITURE
for all households	29.35	2.9
Less than 30 years old	46.63	4.5
30 - 39	40.39	4.2
40 - 49	25.99	2.8
50 - 59	22.83	2.2
60 - 70	19.90	1.7
More than 70 years old	18.06	1.7

Source: own work based on data from Central Statistical Office.

## 4. THE LEVEL AND SHARE OF EXPENDITURES ON RESTAURANTS AND HOTELS IN DIFFERENT POLISH HOUSEHOLD TYPES OF THE ELDERLY

### 4.1. EDUCATION OF HOUSEHOLD HEAD AND EXPENDITURE ON RESTAURANTS AND HOTELS

Restaurants and hotels expenditure was different depending on the education of household head. In order to identify significant differences in expenditures on restaurants and hotels between households of different types, the Scheffe test was applied. The analysis didn't reveal any statistically significant differences ( $p < 0.05$ ) in expenditure on restaurants and hotels among households headed by people with primary and basic vocational education. According to Scheffe test, among the other households, the significant differences in the level of such expenses were revealed (Tab. 2).

The correlation coefficient between the level of expenditures and households divided according to education level of the head of the household was 0,134.

Analysis of the level of expenditures on restaurants and hotels, has led to the following conclusions. With the increase of the level of education, the level of expenditures on previously mentioned products and services increase. In low educated groups the share of expenditures on restaurants and hotels was equal to 1.3 – 1.4%; in households of higher educated people those expenses amounted 2.5% (Fig. 2).

### 4.2. DISPOSABLE INCOME PER CAPITA AND EXPENDITURE ON RESTAURANTS AND HOTELS

The level of income per one household member is a key factor in determining consumption.

According to Scheffe test, it was proved that there were statistically significant ( $p < 0.005$ ) differences between all groups of households distinguished by

Tab. 2. Significant ( $p < 0.05$ ) and insignificant differences in expenditures on restaurant and hotels among households of the elderly led by people with different levels of education

EDUCATION OF HOUSEHOLD HEAD	LOWER SECONDARY, PRIMARY OR LESS	BASIC VOCATIONAL EDUCATION	SECONDARY AND POST-SECONDARY EDUCATION	HIGHER EDUCATION
lower secondary, primary or less		0,6596	0,0000	0,0000
basic vocational education	0,6596		0,0000	0,0000
secondary and post-secondary education	0,0000	0,0000		0,0000
higher education	0,0000	0,0000	0,0000	

Source: own work based on data from Central Statistical Office.

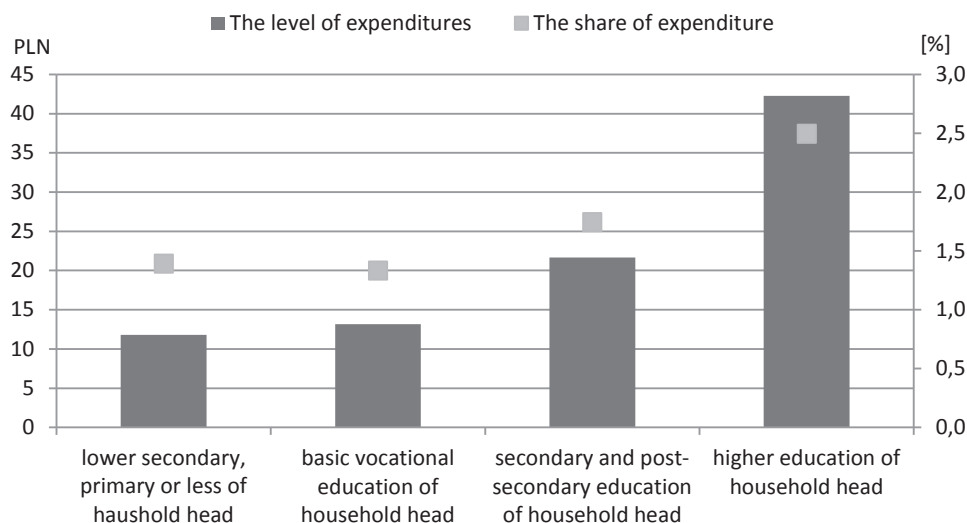


Fig. 2. The level (left scale) and share (right scale) of spending on restaurants and hotels Polish households of the elderly depending on the education of the head of the household

Source: own work based on data from Central Statistical Office.

the level of income per capita in households and expenditure on restaurants and hotels.

Coefficient relationship between the level of disposable income and restaurants and hotels expenditure in the households was 0,172.

Average monthly restaurants and hotels expenditure in households from the first income group was around 6 PLN per capita, and from the third income group – six times more, that is 37 PLN per capita. In households with more difficult material situation the share of expenditures on restaurants and hotels reached 1.0%; in households with the largest

incomes per person those expenses amounted 2.3% (Fig. 3).

#### 4.3. SOCIO-ECONOMIC GROUP OF HOUSEHOLD AND EXPENDITURE ON RESTAURANTS AND HOTELS

The next analysis aimed to demonstrate the significance of differences between groups of households due to socioeconomic group membership. The research can be summarized as follows. There were no statistically significant differences in restaurants and hotels expenditures between

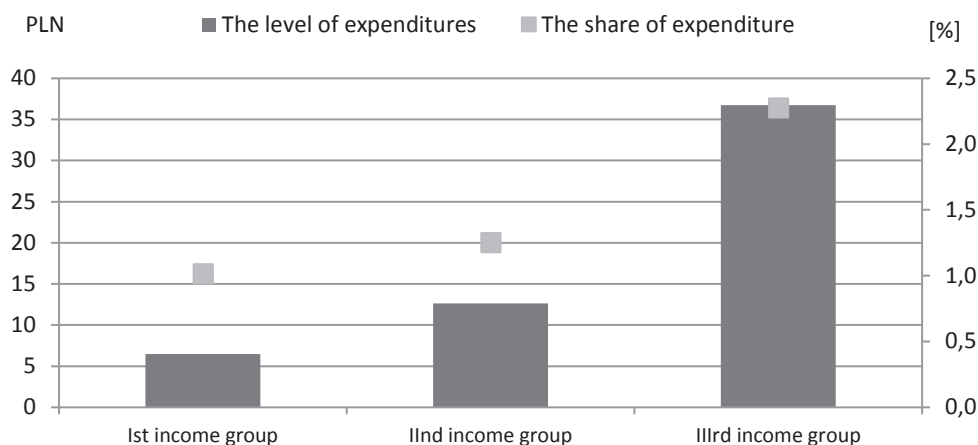


Fig. 3. The level (left scale) and share (right scale) of spending on restaurants and hotels Polish households of the elderly depending on the education of the head of the household

Source: own work based on data from Central Statistical Office.



households of blue-collar workers and white-collar workers, self-employed, and between of white-collar workers and retirees, pensioners, living on supplementary welfare allowance (details in the Tab. 3), there were statistically significant differences between the remaining households (test Scheffe).

The correlation coefficient between the level of expenditures and households distinguished according to socioeconomic group was 0,113.

Households of white collar workers and self-employed had the highest level of expenditures (PLN 52 and 55 per capita). Households of farmers and blue-collar workers have spent the least on the aforementioned products and services – PLN 8 and PLN 14 per capita respectively (Fig. 4).

The largest share of spending was observed in households of self-employed (3.4%), living on

Tab. 3. Significant ( $p < 0,05$ ) and insignificant differences in expenditures on restaurant and hotels among households of the elderly depending on the socioeconomic group of the household

HOUSEHOLDS BY SOCIOECONOMIC GROUPS	HOUSEHOLDS OF BLUE-COLLAR WORKERS	HOUSEHOLDS OF WHITE-COLLAR WORKERS	HOUSEHOLDS OF FARMERS	HOUSEHOLDS OF SELF-EMPLOYED	HOUSEHOLDS OF RETIREES	HOUSEHOLDS OF PENSIONERS	HOUSEHOLDS LIVING ON SUPPLEMENTARY WELFARE ALLOWANCE	HOUSEHOLDS HAVING INCOME FROM OTHER SOURCES
Households of blue-collar workers		0,0000	0,9439	0,0000	0,7746	0,9890	0,9933	0,0671
Households of white-collar workers	0,0000		0,0000	0,9986	0,0000	0,0000	0,0000	0,8671
Households of farmers	0,9439	0,0000		0,0000	0,2324	0,5506	0,7591	0,0149
Households of self-employed	0,0000	0,9986	0,0000		0,0000	0,0000	0,0000	0,7351
Households of retirees	0,7746	0,0000	0,2324	0,0000		0,9947	1,0000	0,1806
Households of pensioners	0,9890	0,0000	0,5506	0,0000	0,9947		1,0000	0,1334
Households living on supplementary welfare allowance	0,9933	0,0000	0,7591	0,0000	1,0000	1,0000		0,3619
Households having income from other sources	0,0671	0,8671	0,0149	0,7351	0,1806	0,1334	0,3619	

Source: own work based on data from Central Statistical Office.

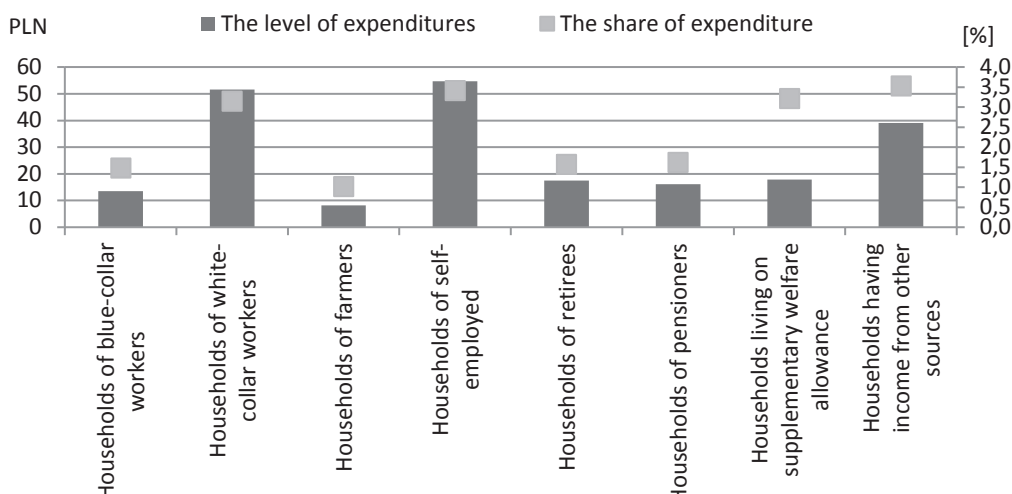


Fig. 4. The level (left scale) and share (right scale) of spending on restaurants and hotels Polish households of the elderly depending on the socioeconomic group of the household

Source: own work based on data from Central Statistical Office.

supplementary welfare allowance (3.2%) and of white-collar workers (3.1%). The smallest share of expenditures were in households of farmers (1.0%) and of retirees and pensioners (each with 1.6%).

#### 4.4. GENDER HOUSEHOLD HEAD AND EXPENDITURE ON RESTAURANTS AND HOTELS

The results showed no statistically significant differences in the level of expenditure on restaurants

Tab. 4. The results of regression analysis to estimate the impact of independent variables on restaurants and hotels expenditure in Polish households of the elderly in 2012 (statistically significant  $p < 0,05$ )

SPECIFICATION	BETA	STANDARD ERROR – WITH BETA	THE REGRESSION COEFFICIENT - B	STANDARD ERROR – WITH B	T(37382)	p
Free term variable			17,19	5,084	3,38	0,0007
Disposable income per capita	0,221	0,0062	0,02	0,000	35,86	0,0000
Household location: town with a population exceeding 500 000	0,023	0,0082	5,24	1,853	2,83	0,0047
Households of retirees	-0,091	0,0181	-15,96	3,193	-5,00	0,0000
Number of people	-0,045	0,0069	-2,26	0,343	-6,60	0,0000
Households of self-employd	0,009	0,0074	5,17	4,442	1,16	0,2443
Households of white-collar workers	-0,006	0,0100	-2,32	3,739	-0,62	0,5346
Marriages, single people, older, inactive	-0,025	0,0067	-3,77	1,005	-3,75	0,0002
Education of household head: higher	0,020	0,0058	4,48	1,281	3,50	0,0005
Education of household head: primary	0,021	0,0061	3,41	0,985	3,47	0,0005
Household location: village	-0,058	0,0106	-9,23	1,673	-5,52	0,0000
Household location: town with a population between 20 000 and 99 000	-0,042	0,0092	-7,71	1,713	-4,50	0,0000
Household location: town with a population between 200 000 and 499 000	-0,034	0,0078	-8,11	1,898	-4,27	0,0000
Household location: town with a population less than 20 thousand inhabitants	-0,024	0,0084	-5,12	1,810	-2,83	0,0047
Number of disabled people	-0,013	0,0056	-1,58	0,664	-2,38	0,0171
Married couples with children of school age	0,011	0,0053	8,37	4,038	2,07	0,0381
Married couples with children in preschool	0,011	0,0053	16,49	8,229	2,00	0,0450
Households of blue-collar workers	-0,042	0,0101	-15,19	3,646	-4,16	0,0000
Households of pensioners	-0,054	0,0136	-13,45	3,374	-3,99	0,0001
Households of farmers	-0,025	0,0077	-14,39	4,340	-3,32	0,0009
Married couples with young people educating themselves	0,008	0,0057	2,34	1,680	1,40	0,1628
Age of the reference person	0,006	0,0059	0,06	0,056	1,06	0,2886

Source: own work based on data from Central Statistical Office.

and hotels between households divided by gender of household head.

## 5. DETERMINANTS OF RESTAURANTS AND HOTELS EXPENDITURE

In order to estimate the impact of household characteristics on restaurants and hotels expenditure, the regression analysis was performed.

To develop the model, it was necessary to enter the following independent variables: disposable income per capita, age of household head, household size, education of household head (no education, primary, basic vocational, secondary or post-secondary education), the number of disabled people in the household, location of the household (village, town with less than 20 thousand inhabitants, the town with a population between 20 000 and 99 000, the town with a population between 200 000 and 499 000, the town with a population exceeding 500 000), the family life cycle stage (married couples with children of preschool age; married couples with children of school age; older marriages (couples) without children – professionally active; older marriages (couples) without children – professionally inactive), socio-economic group of the household. The dependent variable was monthly expenditure on restaurants and hotels per person in the household.

Qualitative variables were transformed into dummy variables. When we estimated the models with systems of dummy variables, it was necessary to remove one of the dummy variable in each system, in order to avoid the collinearity.

The model created for restaurants and hotels expenditure in Polish households of the elderly turn out to be significant ( $F_{21.34} = 134.02$ ). All independent variables entered into the model explained 8% of the variance in the dependent variable ( $R^2 = 0.08$ ). The standard error of estimation was 72.230.

It has been shown that the most important characteristics that determine the restaurants and hotels expenditure were: disposable income per capita and location of household. The increase in disposable income by 1 PLN leads to increased in restaurants and hotels expenditures by 0.02 PLN. Restaurants and hotels expenditure in metropolitan households was statistically higher by nearly 5 PLN per household (Tab. 4).

Lower restaurants and hotels expenditure may be related to:

- the household of retirees (the restaurants and hotels expenditure in such households are lower by nearly 16 PLN);
- number of people (the presence of one more person in the household reduces the expenditure of 2.3 PLN);
- the households of marriages, single people, older, inactive (the restaurants and hotels expenditure in such households are lower by nearly 3.8 PLN).

## 6. DISCUSSION OF RESULTS

Poles spend more and more of household budgets on restaurants and hotels. Despite increased expenditure, in Polish households – next to Romanians, Bulgarians and Lithuanians – is observed the lowest levels and shares of expenditure on restaurants and hotels among European countries. Generally the North and West European countries have reached the higher level of restaurants and hotels expenditure compared to the East European countries. The households from the north-west Europe incur a higher consumption expenditure with their better structure at the same time, it means less spending on basic goods and more on services (Piekut, 2013, pp. 64-80). Whereas the households from East European countries allocate significant part of their budgets on their basic needs (food, home maintenance).

The larger restaurants and hotels expenditure the could have a positive impact on economic growth. Development of services generates income of enterprises, increases the sales of services and has a positive impact on the labour market, as well as on trade balance and public revenues.

In households with elderly was spent least for restaurants and hotels. The survey (Zalega, 2013, pp. 56-77) also shows that the households of the elderly, often reduce expenditure for financial reasons. In the study of Social Diagnosis (Czapiński & Panek, 2014), the pensioners were one of the groups forced to resign from many services due to financial reasons.

The most important determinant of spending on restaurants and hotels were disposable incomes per person. The leading role of this factor is also highlighted in other studies (Laskowski, 2014; Piekut & Gutkowska, 2015, pp. 527-530). In the research Social Diagnosis 2013 demonstrated that the greatest

percentage of the people made to resignation from selected forms of participation in cultural levels was in the poorest households. Most of resignations from vacation trips happened in pensioners' households (Czapiński & Panek, 2014). Household income specifies the standard of living, ability to satisfy the consumption needs, and consequently the quality of life (Rout, 2010, pp. 445-460; Siwuel et al., 2010, pp. 193-218). Śniadek (2007) indicates that in the USA and Western Europe increasing interest of tourism industry in servicing senior market results in a relatively high level of tourism consumption of this age group. Polish seniors, in contrast to their Western or American counterparts or other age groups indicate a low level of tourism consumption. The main reason for this situation is both a limited buying potential of Polish seniors as well as system of values held, where active ways of spending free time are relatively low in the rank.

Next to disposable income, important determinants of expenditure on restaurants and hotels in the households of the elderly were: the location of household, education of household head and socio-economic group. It did not show statistically significant differences in expenditure on restaurants and hotels due to gender of the head of the household.

According to the study of the expenditure in Spanish households there are budget restrictions on services expenditure that are the result of low levels of income and other household characteristics both financial (ability to save money, the number of unemployed household members) and non-financial (education level of household members, their age and health status), (Alegre et al., 2010).

Other study indicates that (Erbe Healy, 2014, pp. 792-804) modern households within France, the UK and Ireland are spending a higher percentage on foods away from home with some households, specifically those with a head of household who is young, single and employed, spending, on average, two-thirds of their household food budget dining away from home.

The restaurants and hotels expenditures are partially connected with tourism. Rapoport and Rapoport (1975) and Lawson (1991, pp. 12-17) stated that age is the main factor of expenditure on tourism. Empirical studies show that high incomes positively influence decisions on traveling (Alegre et al., 2009, pp. 45-56; Eugenio-Martin & Campos-Soria, 2011, pp. 2519-2531) and this effect is greater if the people have medium or high income (Fish & Waggle, 1996, pp. 70-74; Nicolau & Más, 2005, pp. 49-69).

As the society gets older, the structure of consumer spending changes. Therefore it is necessary to adjust supply of services and goods to elder people (Bağ, 2012) and it is noted that in future, seniors need will have to be respected to a greater extent. It is also pointed out that probably together with lengthening life, the range of age and behavior pattern typical for older people today will be shifted on the axis of life. Additionally, longer productive career will result in slowed marketing changes (Migdał-Najman & Szreder, 2013, pp. 2-8). Piekut (2013) claims that improving financial situation and increasing life expectancy and also to improve the health of the elderly (Bernini & Cracolici, 2015, pp. 191-205) will cause increasing free time and consumers will try to get the optimal management of time.

## CONCLUSIONS

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The carried analysis of restaurants and hotels spending in Polish households lead to some interesting findings and conclusions.

Restaurants and hotels expenditure has been rising every year. It has been also noticed an increasing share of such expenditure in total household expenditure. Current trends in consumer behavior and demographic changes will result in a further increase in restaurants and hotels expenditure in household budgets

The biggest relationship between restaurants and hotels expenditure and household characteristics was demonstrated in relation to the disposable income per capita and then the location of households. The higher disposable incomes per capita in household and household location in towns of 500 000 people and more lead to higher restaurants and hotels spending.

The global trends in consumption and the widespread enrichment of societies empower to the conclusion that the share of restaurants and hotels expenditure will increase in the households and existing differences between households will gradually disappear. Longer and longer life expectancy will result in an increase in restaurants and hotels expenditure, and people will strive for its optimal use.

This analysis uses household level data, allowing for both a research of convergence across countries and within countries, specifically looking at economic and socio-demographic groups that share similar budgets and lifestyles.

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# CREATING AN IMAGE OF A REGION – EUROREGION BESKYDY AND EUROREGION CIESZYN SILESIA EXAMPLES

ŁUKASZ WRÓBLEWSKI

## ABSTRACT

In the discussion of communication in management studies, more and more attention is being given to research on an image of a product as well as a brand of an institution. In times when the value of great corporations is mainly based on well promoted and maintained brands, any activity without care of reputation is unimaginable. This rule also applies to cities, communes or regions. Image is currently of strategic significance for these subjects. It can be stated that there is a type of relationship. When an image of a certain region is positive, achievement of complex goals is easier. Therefore, when the region fulfils its goals, it is easier to gain respect of current and potential citizens, tourists, and investors. Thus, a positive image is one of the greatest advantages that a region can have, as it is directly transferred into social and economic development. In the article, on the basis of the literature of the subject, the process of creating an image of a region is presented. According to the survey conducted among Polish and Czech respondents related to Euroregion Beskydy and Euroregion Cieszyn Silesia, by place of residence, workplace or place of education image of the regions appeared to be one of the most distinguishing of their features.

## KEY WORDS

**culture, image, Euroregion Beskydy, Euroregion Cieszyn Silesia, tourism**

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Corresponding author:

Łukasz Wróblewski  
University of Dąbrowa Górnicza  
Non-local Department in Cieszyn

lwroblewski@wsb.edu.pl

## INTRODUCTION

In Poland, for about twenty years, practical activities aimed at creation of an image of a region have been undertaken. The current social-economic system, globalisation, reforms and membership of the European Union has forced taking intensified action, not only by commercial subjects, but also by the subjects such as euroregions (for example Euroregion Beskydy or Euroregion Cieszyn Silesia). Among the factors connected to the subject, which image is to be shaped, a fundamental role is played by its identity, which is a group of features characterising the subject. In the case of a region, the identity includes those of its features, that are regarded by the citizens as the most important, distinguishing and unchangeable. These features are also called distinguishing features

or „identity anchors” (Altkorn, 2002, pp. 24-25). However, when describing them, it is important to note, that they are such features which essentially distinguish a region from its counterparts, constituting its uniqueness, individuality and character. Thus the identity reflexes the real features of a region, however, it is not depicted accurately in the image. Hence, the people managing a region have their own vision of how they would like the region to be perceived by its inhabitants, tourists and potential investors.

The aim of this work is to define the distinguishing features of Euroregion Beskydy and Euroregion Cieszyn Silesia (in the perception of certain target groups) and to answer how cultural institution within

a region influences its image. In the first part of the article, on the basis of the literature of the subject, the process of creating an image of a region is described. In the second part, on the basis of direct research conducted in Euroregion Beskydy and Euroregion Cieszyn Silesia in a group of Polish and Czech respondents, recognition and evaluation of the distinguishing features of Euroregion Beskydy and Euroregion Cieszyn Silesia is conducted.

The research was realized within two projects independent of each other (PL.3.22/3.3.05/13.04010, PL.3.22/3.3.06/13.04201), which were co-sponsored in 85% by the funds of the European Union from the European Regional Development Fund within Poland-Czech Republic Cross-Border Operational Programme 2007-2013 and in 10% by the budget of the country. The research carried out in Euroregion Beskydy was financed through the agency of Euroregion Beskydy and the research conducted in Euroregion Cieszyn Silesia was financed through the agency of Euroregion Cieszyn Silesia. In both projects, the author was a member of the Polish-Czech research team, he was also the manager of a project conducted in the Euroregion Cieszyn Silesia.

## 1. CREATING AN IMAGE OF A REGION IN THE LIGHT OF THE LITERATURE OF THE SUBJECT

There are many definitions of an image. The definitions differ mainly in the perspective from which members of different parts of social life look at their communication with the widely regarded public. Therefore, giving one appropriate definition that would show the term in the maximally relevant and consistent way is impossible. General definitions often describe an image as a subjective picture of a certain object that stems from an individual process of perception (Hartman, 1992). According to H. Mruk (2012), an image is a synthesis of imagined pictures, feelings and expectations which occur as a consequence of perceived stimuli. It seems that an image is a picture in our heads (Pictures in Our Heads), an imagined picture of certain objects of our surroundings, which helps us categorize and arrange everything we meet. Other definitions describe an image as the full of nuances, relatively unchangeable, communicable whole of objective and subjective, also

false, strongly tinged with emotions imaginings, ideas, attitudes, feelings, experiences of a person or a group towards a certain object, for example a region (Johannsen, 1968). According to Ph. Kotler et al. (1993), an image of a region is the sum of beliefs, ideas and impressions that people associate with a certain place (Kotler et al., 1993). A. Szromnik claims that an image of a region is the whole of subjective imaginings of the reality which originated in human minds as a consequence of perception, influence of mass media and informal information transfer (Szromnik, 2007).

The process of creating an image of a region (Fig. 1) includes the subjects of its origin and change. By definition, it is a relatively permanent category. Hence, once created it is difficult to change in a short period of time. Nonetheless, it is assumed that in a long period of time a change of an image is possible through long-term, well-planned actions. These possibilities result from the factors that cause its origin and change. Therefore, their potential influence on the image of the region should be considered (Żymkowski, 2003; Szondi, 2007). Creating an image of a region is preceded by an in-depth analysis of the situation, particularly the attitudes of the target group of a designed campaign and their habits involved in using sources of information. At the next stage, the goals of the campaign are established and the means and methods are adjusted. Measurement of the degree to which the goals have been achieved constitutes the biggest difficulty.

In order to obtain a clear analysis, advantages and disadvantages are considered as internal factors from the point of view of the local community, which are influenced by the community, whereas chances and threats as external factors coming from the environment. The environment is divided into two spheres. Firstly, a natural-geographic environment is distinguished, secondly, there is an abstract environment (for example law, political system, social and economic trends and changes, worldwide trends and changes). The analysis of this type makes much easier to recognize advantages and chances which should be seized as well as disadvantages and threats which should be overcome. Through clear definition of advantages and chances, new conceptions and plans can be created and utilized. Sources of disadvantages and threats should also be identified. Some disadvantages can be easily controlled and improved, while other can be out of the social control.

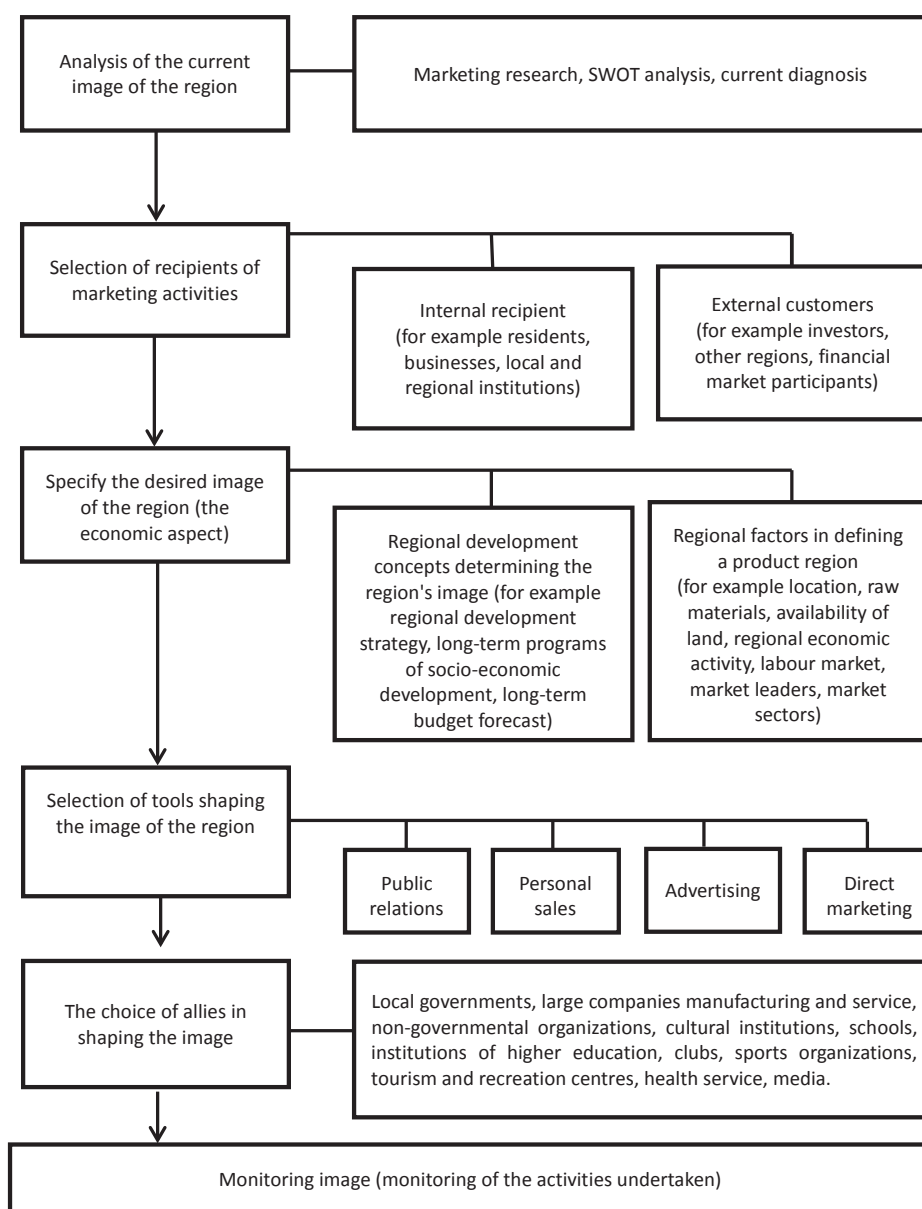


Fig. 1. The process of creating an image of a region

Source: The author's own work on the basis of (Anholt, 2007; Anholt, 2010; Glińska et al., 2009; Kolb, 2006; Scott, 2010; Pike, 2010; Avraham & Ketter, 2008).

The next stage of creating an image of a region is a choice of recipients of marketing activities. A prepared conception of creating an image should involve mainly such target groups as inhabitants of the region, companies and institutions active in the region, local, voivodship and central authorities, domestic and foreign tourists, domestic and foreign investors, international institutions, media (Martineau, 1958; Richards & Palmer, 2010).

An equally important stage of creating an image of a euroregion is determining a target image. W. Budzyński distinguishes four types of an image (Budzyński, 2003, pp. 16-17):

- a real image (foreign) which is defined as the real image of a region among the people who have had a contact with the region (for example tourists);
- a mirror image (local), which is the image of a euroregion among its inhabitants;
- a desired image, describing what a euroregion wants to be like and how it would like to be perceived by its surroundings;
- an optimal image is a compromise between the images above, which is possible to be achieved.

The desired target image should be a positive image (for example a touristic region, an investor-friendly region, a region friendly for its citizens and

so on). Very often it is defined, described in a regional development strategy. It is achieved after a long period of time as a result of a defined marketing strategy, because people's attitudes change slowly and the process requires a large amount of work and needs regular controls.

Choice of tools for creating an image is the next stage. In these tools there are included classical tools of marketing promotion such as: public relations, personal sale, advertisement and direct marketing. Well-conducted promotion campaign of a region often decides about its economic development, thus it determines a place for investments. A promotion succeeds only if it is realised in an efficient coordinated way by authorities of voivodships, districts, communes, cities and regional institutions. It is also very important to change random, single promotional initiatives into cyclic and repeated actions.

One of the most important elements of a strategy creating an image of a region should be identification of allies in creating the positive image. It takes origin in a complicated process in which the participants are citizens, local authorities as well as private and public institutions. All of them have an influence on such elements of the image as being recognizable, investment offers, quality of life in the region, social capital, touristic and cultural offer (Bialecki, 2010, p. 69). Activities promoting a region are organized both for obtaining support of the citizens for actions undertaken by the authorities of the region and in order to encourage customers (potential investors, tourists) to choose the prepared market offer.

Although an image can be formed freely as it

consolidates through subjective perception, it is worth remembering that the consolidated picture is not permanent. It is not homogeneous either, because it takes origin in the minds of single persons, who constitute the environment. Thus constant monitoring of the undertaken actions is necessary.

## 2. THE RESEARCH ASSUMPTIONS AND DESCRIPTION OF THE RESEARCH SAMPLE

The main aim of the direct research was to identify the most important distinguishing features of Euroregion Beskydy and Euroregion Cieszyn Silesia (distinguishing features, which have an essential influence on the image of the euroregions) and to determine the effectiveness of activities related with the formation of the desired image of the euroregion. These studies were carried out in the framework of the first stage of the process of creating an image – analysis of the current image of the region. The following subjects were examined in detail:

- knowledge about basic information relating to Euroregion Beskydy and Euroregion Cieszyn Silesia;
- areas of activity in Euroregion Beskydy and Euroregion Cieszyn Silesia and their assessment by the respondents;
- differences in perception by respondents;
- the distinguishing features of Euroregion Beskydy and Euroregion Cieszyn Silesia;
- influence of particular subjects and institutions on

Tab. 1. Basic information on the conducted research

CATEGORIES	EUROREGION BESKYDY	EUROREGION CIESZYN SILESIA
Research method	Survey	Survey
Research tool	Survey questionnaire	Survey questionnaire
Sample selection	Targeted	Targeted
Criteria of selection of people for the sample	People connected to Euroregion Beskydy (habitation, work, school, university)	People connected to Euroregion Cieszyn Silesia (habitation, work, school, university)
Size of the sample	236	237
Spatial range of the research	Euroregion Beskydy (Żywiec district, Karvina, Ostrava-city and Cieszyn district – bordering Euroregion Beskydy)	Euroregion Cieszyn Silesia (Cieszyn district, Karvina, Nowy Jicin, Ostrava-city and Frydek Mistek district – bordering Euroregion Cieszyn Silesia)
Time range of the research	May-July 2014	May-July 2014

Source: author's own work on the basis of the research assumptions.



Tab. 2. Chosen characteristics of the respondents [%]

CATEGORIES		EUROREGION BESKYDY  N=236	EUROREGION CIESZYN SILESIA  N=237
Sex	Female	65,68	62,03
	Male	34,32	37,97
Education	Elementary school	-	-
	Lower secondary education	0,42	2,11
	Secondary education	2,54	4,64
	Middle school	72,88	47,58
	Higher education	24,15	45,57
Age	from 18 to 24 years old	50,42	35,44
	from 25 to 34 years old	24,58	27,0
	from 35 to 44 years old	19,49	21,52
	from 45 to 54 years old	5,08	13,50
	from 55 to 64 years old	0,42	1,69
	over 64	-	0,84
Location (country) fill in the questionnaire	Surveys completed in Poland	52,54	54,85
	Surveys completed in the Czech Republic	47,46	45,15

the image of Euroregion Beskydy and Euroregion Cieszyn Silesia.

On the basis of the available data and the author's own observations the hypothesis was assumed that culture is the most important distinguishing feature of Euroregion Beskydy and Euroregion Cieszyn Silesia and plays an essential role in creating the image of these euroregions.

People connected to the Euroregion Beskydy and Euroregion Cieszyn Silesia (through habitation, work or education) were subjected to the research. For this purpose, the survey method was utilized and a survey questionnaire was the research tool. The research was conducted in both Polish and Czech parts of Euroregion Beskydy and Euroregion Cieszyn Silesia. Basic information on the conducted research is shown in Tab. 1.

Euroregion is a region located on both sides of the border, with its own coordinating institutions, which are anchored in the existing agreements concluded between public organizations (local government), appointed for the implementation of joint projects of social, economic, cultural. Euroregion Beskydy has been the first euroregion in the history that has connected borders of three post-communist countries – the Czech Republic, Slovakia and Poland. It originated when representatives of the three border regions signed an agreement on 9 June 2000 in the Czech Republic in Frydek-Mistek. The presidium of the euroregion is constituted by 15 members –

5 delegates from each side, members of three associations. The headquarters of the associations are located in Bielsko-Biala (Poland), Frydek-Mistek (the Czech Republic) and Zilina (Slovakia). Euroregion Śląsk Cieszyński – Těšínské Slezsko was created on 22 April 1998 in Cieszyn with signing an agreement of regional cooperation by Stowarzyszenie Rozwoju i Współpracy Regionalnej „Olza” from Poland and Regionální sdružení pro esko-polskou spolupráci Těšínského Slezska (Regionální sdružení územní spolupráce Těšínského Slezska since 2008) from the Czech Republic. The headquarters of the associations are located in Cieszyn (Poland) and Český Těšín (the Czech Republic).

### 3. DISTINGUISHING FEATURES OF EUROREGION BESKYDY AND EUROREGION CIESZYN SILESIA – RESULTS OF THE RESEARCH

The aim of the first questions of the survey questionnaire was to check whether the respondents were aware of the existence of Euroregion Beskydy and Euroregion Cieszyn Silesia. To the question: have you ever heard about the existence of Euroregion Cieszyn Silesia? Over 60% of the respondents gave the positive answer – Fig. 2. The same question

concerning the two years younger Euroregion Beskydy was also asked to a similar group of respondents from Euroregion Beskydy, obtaining 52% of positive answers.

In the next part of the research, the respondents were asked to point what areas of activities they matched to Euroregion Beskydy and Euroregion

Cieszyn Silesia. It was an important question as the process of creating an image of a region should be started with a „stocktaking” of distinguishing features of the region. The distribution of answers is displayed in Fig. 3.

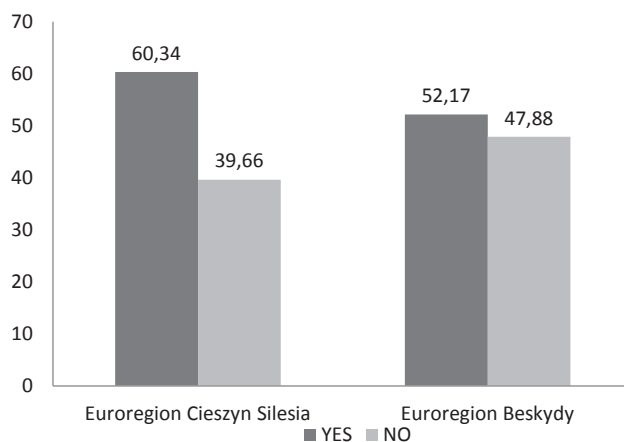


Fig. 2. Awareness of the existence of Euroregion Beskydy and Euroregion Cieszyn Silesia among the respondents [%]

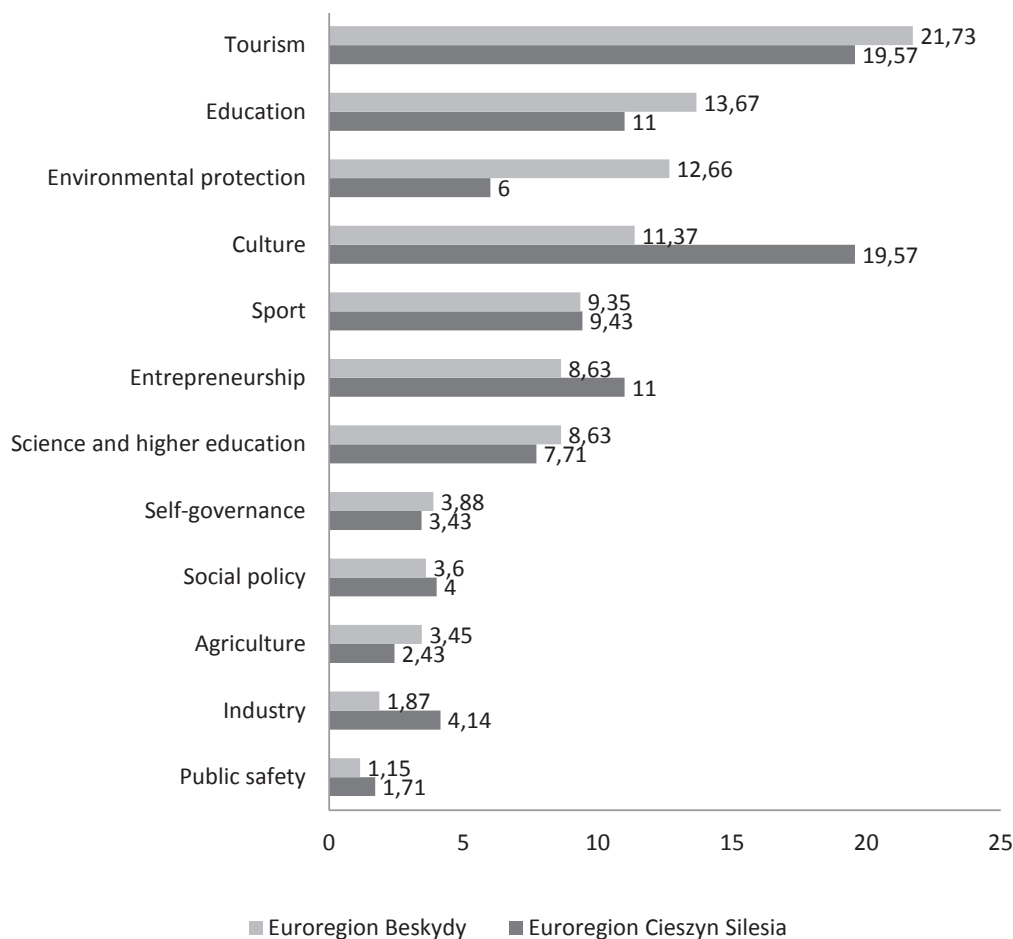


Fig. 3. Areas of activities matched to Euroregion Beskydy and Euroregion Cieszyn Silesia [%]

On the basis of the data gained from the respondents, it can be noticed that Euroregion Beskydy is usually associated with such activities as: tourism, education, conservationism and culture. The lowest ranks were given to public safety and industry. For Euroregion Cieszyn Silesia the most frequent matches were culture and tourism, followed by education and business, while the fifth rank was given to sport. Much lower number of respondents pointed at public safety and agriculture.

The respondents were also asked to evaluate the condition of the areas (scale from 1 – very poor, to 5 – very good). Considering the results above, it is not surprising that the highest marks (above the average) were given to tourism, sport, and culture for Euroregion Beskydy. The following gained marks lower than the average: social policy, industry, social activity, and self-governance. The results of the research confirm the importance of tourism and culture as the main distinguishing features of Euro-

region Beskydy having large influence on the image. The evaluations for Euroregion Cieszyn Silesia were very similar, but culture not tourism had the highest rank – 3.62, tourism was second with the result of 3.57, whereas sport and education gained the third rank. The worst marks were given to: industry, social policy, self-governance, and agriculture. The results confirm the importance of culture as one of the most significant distinguishing features of Euroregion Cieszyn Silesia. The distribution of the answers is displayed in Fig. 4.

In the subsequent part of the survey questionnaire, the respondents were asked to indicate the subjects they considered essential for the image of Euroregion Beskydy and Euroregion Cieszyn Silesia. According to them, institutions of culture and centres of tourism and recreation have the biggest influence on the image. The wealthy cultural heritage, the interesting, well-developed cultural offer of the euroregions, the mountainous terrain shape and the environmental

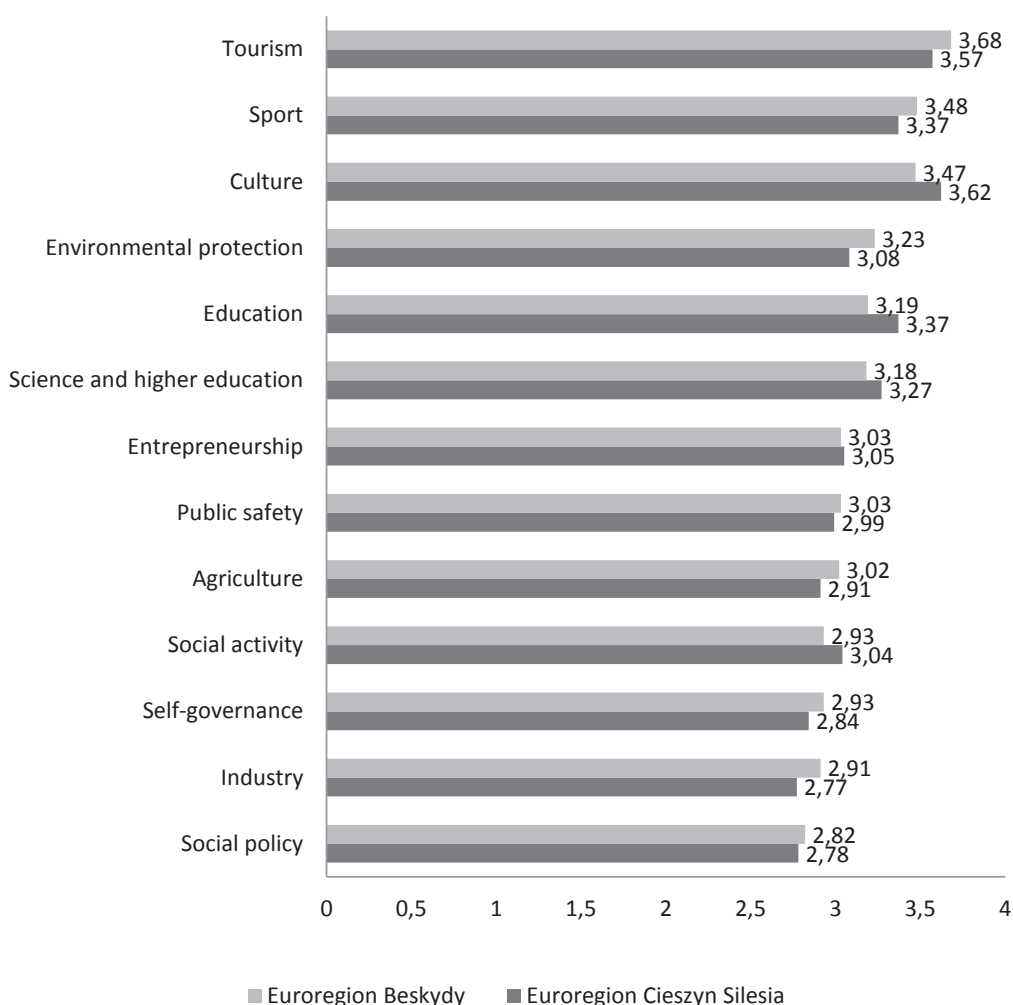


Fig. 4. The distinguishing features of Euroregion Beskydy and Euroregion Cieszyn Silesia in scale from 1 to 5

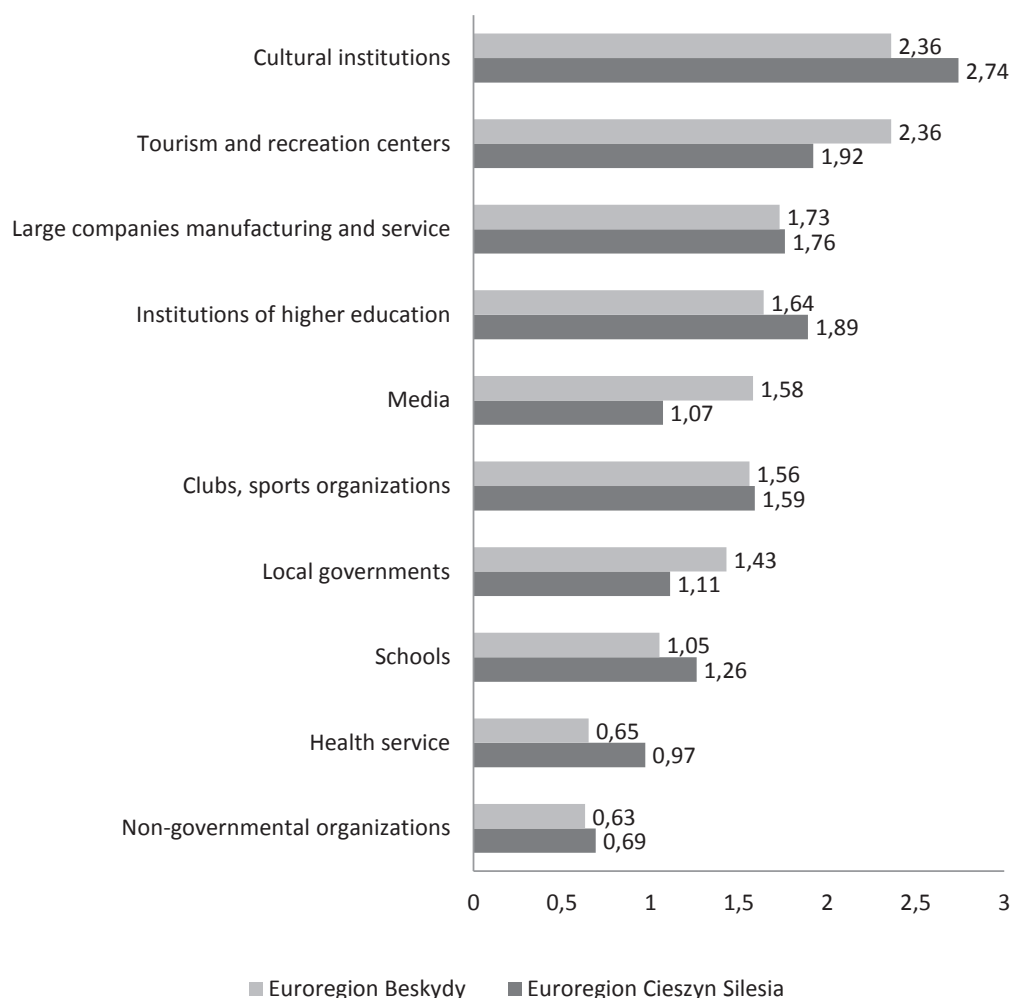


Fig. 5. Subjects influencing the image of Euroregion

advantages are the main magnet that attracts both tourists and investors to the euroregions. Thus it is not a surprise that the biggest role in forming the image of Euroregion Beskydy and Euroregion Cieszyn Silesia is attributed to institutions of culture and centres of tourism and recreation. According to the respondents, the smallest influence on the image of the euroregions have non-governmental organisations and medical subjects. The distribution of the answers is presented in Fig. 5.

#### 4. DISCUSSION OF THE RESULTS

Concluding the conducted research on the image of Euroregion Beskydy and Euroregion Cieszyn Silesia it must be stated, that the respondents from Poland and the Czech Republic identified the main

distinguishing features of the euroregions influencing the image similarly. Tourism and culture were primarily included into the distinguishing features. It was reflected in the mission of Region Cieszyn Silesia: „Cieszyn Silesia cultivating the cultural heritage of this land cares of education and culture as the fundamentals of further development and preserving the extraordinary attractiveness for investments it improves standards of conservationism, health service and welfare” as well as in the mission of Euroregion Beskydy: „Euroregion Beskydy is a land of wildlife and landscape of great value, clean environment and balanced development inhabited by a safe community, having guarantee of good material status based on local resources, the community, which cultivates tradition and culture and is open for cross-border cooperation and innovations”. The mission formed in this way is consistent with the expectations of the inhabitants of the euroregion. On

the basis of the conducted research an assumption can be made that the real image of Euroregion Beskydy and Euroregion Cieszyn Silesia is consistent with the expected image, described in their strategy of development.

Numerous cultural institutions active in the euroregions (particularly in Euroregion Cieszyn Silesia), a rich and in many cases unique cultural offer, as well as a large community of creators of culture in comparison with the rest of the country, make these territories incredibly attractive. Many cultures, a rich cultural heritage, history and interesting location of the both regions constitute a very good opportunity for organisation of cultural enterprises, unique not only for the country, but also for Europe. The potential of the both regions is also a consequence of advantageous natural and climatic conditions, which contribute to many forms of tourism, particularly cultural tourism. The cultural wealth of the euroregions and their amazing on a European scale architecture have a great impact on their image. A high standard of the offer of the area is an incentive for tourists, investors and organizers of for example cultural or business tourism: trainings, conferences, scientific seminars, business meetings, integrating and motivational stays.

The high status of institutions of culture acting in Euroregion Beskydy and Euroregion Cieszyn Silesia, association of the both euroregions with culture and cultural activity by most of the respondents is a good starting point for wider Polish-Czech cross-border cooperation as cluster or network cooperation. However, learning the mechanisms of origin of Polish-Czech cross-border cultural cluster acting in Euroregion Cieszyn Silesia and Euroregion Beskydy requires further, deepened studies.

## CONCLUSIONS

Local authorities more and more often are aware that every city, commune or a whole euroregion has an image, which they can influence. If it is negative, an attempt to improve it can be undertaken, if it is unclear, it can be strengthened by a choice of appropriate methods of promotion. Moreover, an increase in interest in formation of a positive image among representatives of a euroregion stems from understanding of the function that the image fulfils and advantages that it can give to inhabitants of the euroregion. The presented research shows that culture

and tourism are the main distinguishing features of the Euroregion Beskydy and Euroregion Cieszyn Silesia and the process of creating the image those euroregions should be based on these aspects.

The influence of institutions of culture, tourism and recreation centers on an image of the Euroregion Beskydy and Euroregion Cieszyn Silesia is methodologically poorly recognized so far, but it has already been noticed in activity of local and regional authorities. However, many regions are still unable to communicate their image successfully. It is caused by a lack of conceptions, which would contain distinguishing features such as vibrant institutions of culture – promotional campaigns based on generalities still exist. Nonetheless, it should be remembered that in order to succeed in this scope being organizer or host of distinguished and respected institutions of culture, tourism and recreations centers is not sufficient, skilful presentation of their advantages and offer is also necessary.

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