REGIONÁLNÍ ROZVOJ MEZI TEORIÍ A PRAXÍ

1/2018

CIVITAS PER POPULI

Obsah

EDITORIAL

Papers in this monothematic issue are focused on management and development of human capital in different contexts of regional development. The main aim of the issue is to describe different point of view in theory and practice of regional development. Papers are based on the results of three internal grant projects from The College of Regional Development and Banking Institute, AMBIS, a.s. - Opinions of graduates and students to apply the acquired knowledge and competence in praxis (IGA_Z9_02_2015) Employment opportunities in regions (IGA_Z8_02_2015), Intercultural Management - the phenomenon of the early 21st century (IGA_Z4_01_2016) and the cooperation with universities in Poland – Warsaw University of Technology, The College of Economics and Social Sciences; Russia Moscow Polytechnic University; University of Technology, Korolev and from Czech Republic – University of Economics, Prague; The Institute of Technology and Business in České Budějovice; Department of economy and management, Faculty of Economy, Technical University in Liberec.

All papers were presented at 2nd International conference Human Resources in Regional Development that was held on September 13, 2017 realised at The College of Regional Development and Banking Institute, Prague.

The themes are human resources in regional development, in organisations and enterprises with relationship to regional labour market, approaches of management to human capital, diversity management, changes in educational structure of employees in regions, in relation to technology changes in fourth industrial revolution and creativity management. The regional aspect is becoming from Central Europe as Czech Republic, Slovak Republic, Poland, and Eastern Europe as Russia.

Mikhail Abraskin and Martin Šikýř describe in article "Some aspects of the motivation of teachers in the university (based on materials from Russia and the Czech Republic) describe the need to introduce modern motivation systems that enhance the quality of education provided by the staff of training Institutions in priorities of higher education and the goals of universities. Anna E. Gorokhova, Galina P. Sorokina, Vladimir D. Sekerin in "Analysis of the modern market of 3PL services" describe 3PL, in region of Russia such service became actual only after crisis of 2008 with decrease in product cost, increase of flexibility of firm and ability to adapt for continuous changes of conditions of business, reduction of risks, reductions of duration of operational and logistic cycles. Magdalena Kludacz-Alessandri and Marlena Piekut in „The supply of health human resources in Poland and in Plock region" describe problematic of medical staff in Poland where is the smallest number of physicians in whole European Union. This problem affecting the nation's healthcare system is presented on the example of a region of Plock region, in Mazovia province. Jan Lojda in article "Employment of the generation 55+ in the context of regional labour markets" describe ways, how to support employment of generation 55+ in the regional context and how to adapt their knowledge, skills and competencies for actual employment conditions. Kateřina Maršíková and Ondřej Moš in article "HRM challenges of SMEs in the Liberec region" introduce specifics of human resource management in small and medium sized enterprises and some challenges which companies have to face to become an attractive employer in the Liberec region and in selected EU countries collected within the SHARPEN project. Ales Pachmann in "Water and migration crises – atmospheric water generators and vortex engines as potential solution" describes problematics of the largest refugee flows since the Second World War with water crises as highlighted as one of the most pressing global challenges. Josef F. Palán in article "The audit of European commission strategic decisions and the proposal of the change hypothesis" analyses the conceptual frame of the Strategy Europe 2020, complementing the fourth priority, which interconnects European development strategy with global reality. Vladimir D. Sekerin, Galina P. Sorokina, Anna E. Gorokhova in article "Prospects of development of transport logistics in Russia" show development of the Russian region in transport logistics, there is long-term relationship of carriers and clients, the increase in number of projects on audit of logistic systems is noted, there is an integration of marketing and logistic tools and technologies of management, modern logistic management allows to accelerate turnover of the capital, to reduce product cost and services, to reduce costs of distribution of goods.

THE SUPPLY OF HEALTH HUMAN RESOURCES IN POLAND AND IN PLOCK REGION

Magdalena Kludacz-Alessandri, Marlena Piekut

Warsaw University of Technology
The College of Economics and Social Sciences
Łukasiewicza 17, 09-400 Płock

Keywords:
Availability of medical staff, region of Plock, Polish healthcare system

Abstract:
Access to medical staff differs across Europe and the particular countries. Poland is a country that has the smallest number of physicians in whole European Union. This country struggles with healthcare provider shortages, but another problem is an uneven distribution of workers. It means that shortages are often more profound in rural areas. This problem affecting the nation's healthcare system will be presented on the example of a region of Plock. The aim of the study is to analyse the availability of medical staff in a region of Plock in the years 2007-2015. Particular attention is paid to the number of health personnel per 10.000 inhabitants in the city of Plock. The analysis regards the physicians, nurses and midwives. The problem of availability of medical staff in Plock region is shown on the background of the average for the Mazovia province and the whole country. The research material is based on the statistical data extracted from Central Statistical Office of Poland.

Introduction

One of the important elements determining the level of social development of the region and the quality of life of its inhabitants is the availability of medical services. Adequate access to medical services in the region, justified by the needs of its residents, is one of the most important issues facing modern health policy. Ensuring equality in access to health services should be the primary goal of the health care system, which should provide an adequate regulatory framework.

The availability of medical services, both primary and specialized medical care, is primarily affected by the amount of human resources (medical staff) available for the health care system. Human resources, when pertaining to health care, can be defined as the different kinds of clinical and non-clinical staff responsible for public and individual health intervention (World Health Organization, 2000). The widespread access to medical staff affects many important aspects of life of the population - the level of public health, mortality, and the living standard of the population. The higher is the number of doctors, the shorter is the waiting time for a consultation or treatment. A sufficient number of nurses, in turn provides full and adequate care in hospitals. Lack of these resources near residence may be the reason for the decline in the number of medical services provided to the inhabitants of the region which in turn results in unsatisfied health needs (Kludacz & Piekut, 2013). A particular problem for health care system can be territorial inequalities in the placement of health facilities and medical staff, as well as the inequalities in access to these resources by various social groups.

The aim of the study is to analyze the availability of medical services in the region of Plock, especially the presentation of the state of human resources in the years 2007-2015. The studied region includes the city of Płock and the poviat of Płock. Particular attention has been paid to the number of medical staff (physicians, nurses and midwives). The analysis was conducted in terms of the number of medical personnel per 10 0000 inhabitants (saturation index). The problem of availability of medical services in the Płock region is presented against the background of Mazovia province and the country. The data collected by the Central Statistical Office of Poland for 2007 -2015 were used for the analysis.

Indicator of the number of medical staff per 10.000 populations was calculated by the following formula:

$$I_N = \frac{NM_t}{NI_t} * 10,000$$

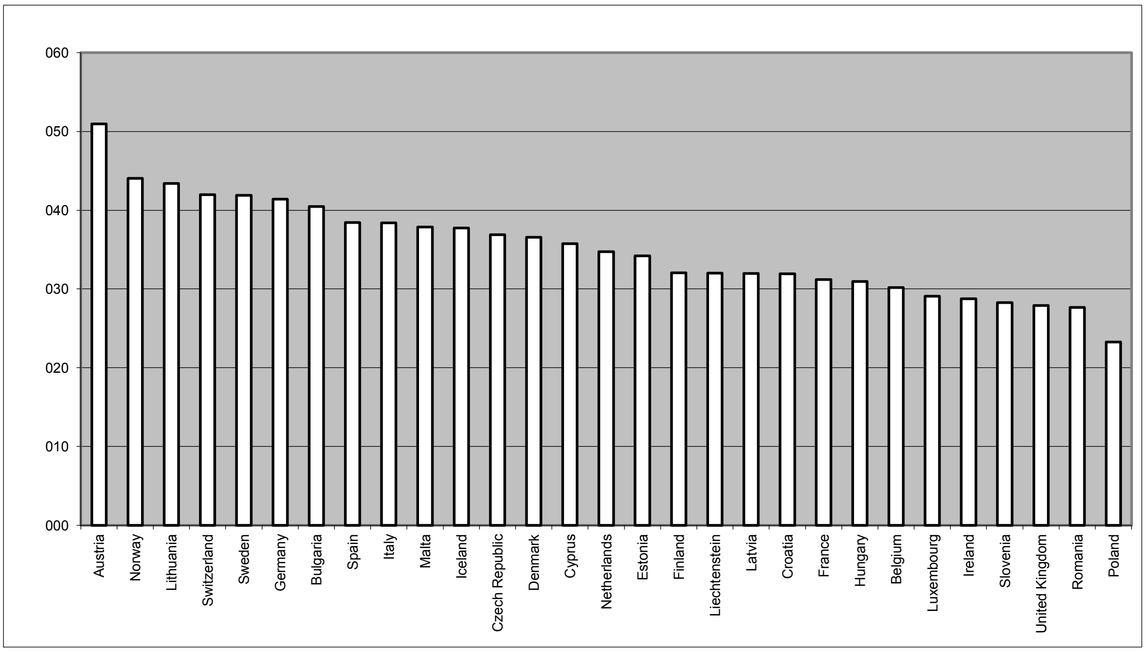
NM_t- number of medical staff in the year t; NI_t - number of inhabitants in the year t

It should be noted that in Poland, the medical staff includes people working directly with the patient. Each person is counted only once, by primary place of employment. It doesn‘t include workers who don't practice in their profession (e.g. working in the administration or in the research).

1. Access to medical staff in Polish healthcare system

In recent years there has been growing concern in a number of European countries about shortages of healthcare professionals and the impact which this will have on the provision of healthcare (Kludacz & Piekut, 2013). According to The World Health Organization, in the global scale there is shortfall of about 4.3 million doctors and nurses. Deficit of medical personnel is estimated at about 15 percent. (Crisp & Chen, 2014). The main problem of Europe is quite significant disparities between particular countries. (Figure 1).

Figure 1: *Physicians per 10,000 population, selected European countries, 2015*



Comment: Because of lack of data, the mean for Finland, Denmark and Sweden refers to 2014, and for Czech Republic to 2013

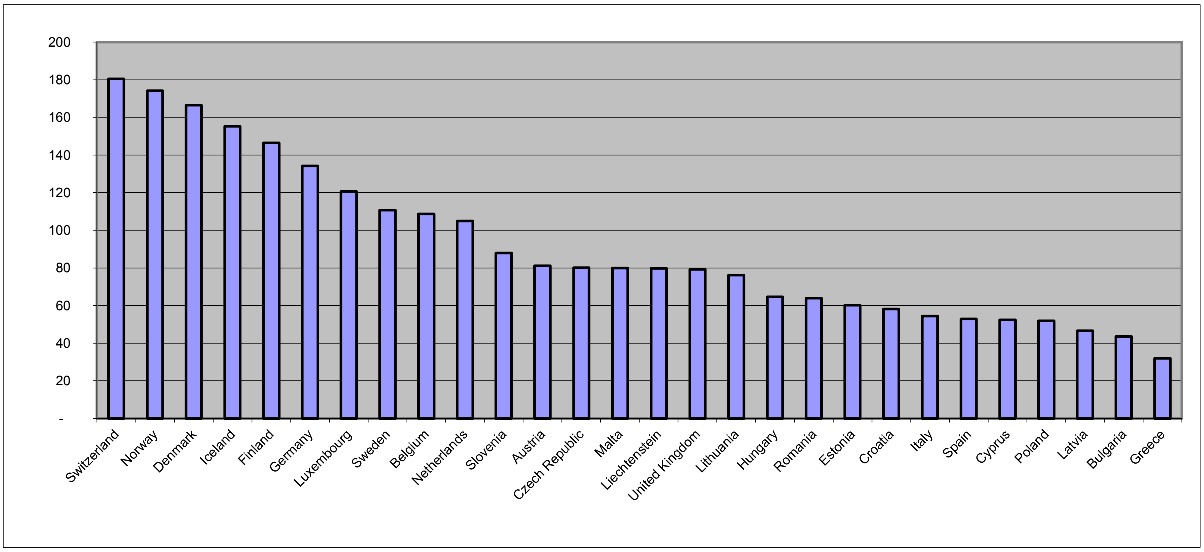
Source: own work on the base of Eurostat database (2015)

In 2015 the most physicians per 10,000 population work in Austria (51), Norway (44) and Lithuania (43.4). The country with the lowest number of physicians per capita in Europe is Poland. The indicator of the number of physicians per 10,000 population is lower than the European average by 12. In 2011, there were also only 23.3 doctors per 10,000 population. For comparison in most developed countries, the index was much higher.

A shortage of physicians is not the only problem of the Polish health care system. Another one is the aging of society and the growing number of physicians nearing retirement age. It is worth noting, that due to demographic changes, in the coming years, there may be a serious problem with decreasing number of doctors. In 2015, in Poland, as many as 30 percent of physicians were 65 years of age or older and another 28 percent were between 55-64 years. Ten years ago the age structure of physicians was more favourable. In one moment a large part of physicians may go into retirement and they won't be replaced by the young doctors. Moreover, the situation is forecasted to become even worse, as the supply of new doctors is constrained by small admission limits at medical universities and increasing willingness of young physicians to seek employment in Western Europe. According to the Polish Chamber of Physicians and Dentists, the average age of a doctor with specialization is gradually rising and reached 54.5 years in 2016, and the annual inflow of new specialists relatively constant. (Pupka- Lipinski & Lipinski, 2017).

The situation with the number of nurses working in Poland is not better (Figure 2). In 2015, there were 52 nurses per 10,000 inhabitants, which is lower than the European average by 39. It means that Poland is again almost on the last place in Europe. A little bit worse situation is only in Latvia (46 nurses per 10,000 population), Bulgaria (43 nurses per 10,000 population) and the worst situation is in Greece (32 nurses per 10,000 population). The most number of nurses per 10,000 population works in Switzerland (180), Norway (174), Denmark (166), Iceland (155) and Finland (46).

Figure 2: *Nurses per 10,000 population, selected European countries, 2015*



Comment: Because of lack of data, the mean for Finland, Denmark and Slovenia refers to 2014

Source: own work on the base of Eurostat database (2015)

Unbalanced distribution of health personnel between and within countries is a worldwide, longstanding and serious problem. All countries, rich and poor, report a higher proportion of health personnel in urban and wealthier areas (Dussault & Franceschini, 2006). The problem of an uneven distribution of workers in the Polish healthcare system will be presented on the example of a region of Plock.

2. Access to human resources in a region of Plock

The main research problem at this stage was to examine the number of physicians, dentists, nurses and midwives in the Płock region, and to compare this figure to the situation in Poland and in the Mazowieckie voivodeship. Data on medical staff in a Płock region are presented in Table 1.

Table 1: *Number of physicians, dentists, nurses and midwives in Płock region in 2007-2015*

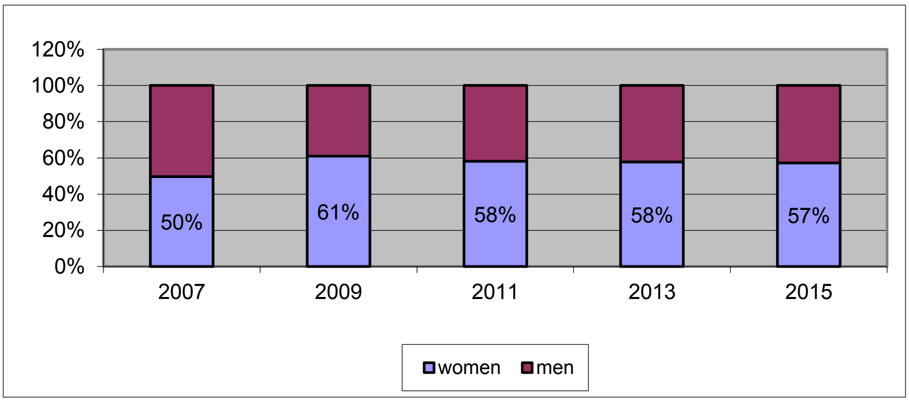
	2007	2009	2011	2013	2015
Practising phisicians					
City of Plock	466	461	486	485	507
Poviat of Plock	37	33	32	44	46
- men				25	24
- women				19	22
Region of Plock	503	494	518	529	553
Practising dentists					
City of Plock	44	45	42	41	29
Region of Plock	61	63	50	48	42
Pracising nurses and midwives					
City of Plock	1171	1239	1146	1197	1206
Region of Plock	1267	1336	1236	1314	1339

Source: author on the base of data of the Central Statistical Office

In 2015, according to records kept by the Central Statistical Office of Poland, a total of 553 licensed physicians, 42 dentists, 1339 nurses and midwives were employed in the medical centers located in a Płock region and definitely most of them were employed in the city of Plock. It is worth emphasizing that as many as 839 (43%) of the medical staff worked in another non-primary place of employment, of which 641 were physicians. The highest number of medical staff is employed in the Provincial Hospital in Płock - 1164 at the end of 2015, of which 2250 were physicians and 645 nurses. Compared to 2007, the practicing physicians, nurses and midwives experienced an increase in the number of persons entitled to practise medicine only the number of practising dentists has decreased.

In 2007 in the region of Plock the number of men and women physicians was roughly equal, while in the years 2009 - 2015 most physicians were women. In 2015, women were 57% of physicians in the region of Plock (Figure 3).

Figure 3: *The share of physicians in Plock region in the years 2007- 2015, by gender*



Source: author on the base of data of the Central Statistical Office

Figure 3 illustrates that share of women in the total number of physicians in Plockis region is higher (between 57-61 percent) almost in the whole analysed period. The feminization index reaches the highest value in 2009 – 61 percent.

On the other hand, according to statistical data for 2013 and 2015, there is more men than women physicians working in the rural areas of the Plock region. According to some literature women are less prone to accept rural posts and are underrepresented in rural areas in general (Doescher, & Ellsbury et al. 2000). Comparisons between male and female physicians have shown that women tend to prefer urban locations, where they have access to salaried work in institutional settings (Bowman, & Gross, 1986).

It is worth paying attention to almost 10 percent increase in number of physicians in the analyzed period. Five years ago hospitals in Plock was short of specialists in anesthesia, rehabilitation, pediatrics, neonatology, neurology, rheumatology, interna, psychiatry. Now the situation is better but still there is not enough of many specialists e.g. oncologists and anesthesiologists. As a result of the lack of specialists there are queues for consultations and medical services. For example the patients have to wait eight months for a visit to the neurologist, seven to the cardiologist, four to the endocrinologist. The problem with acces to other healthcare professionals is also visible. Their number has decreased in analyzed period - dentists (by 31%), nurses and midwives (by 5,5%).

3. Healthcare personnel in a Plock region in comparison to a situation in Mazovia Province and Poland

The ratio of the number of medical staff per 10,000 inhabitants was used to carry out a comparative analysis, and to compare the situation in the Płock region with the situation in Mazovia province and in the country. The calculated indicators for individual medical professionals are presented in Table 2.

Table 2: *Number of health professionals per 10,000 population in the period of 2007-2015*

	2007	2009	2011	2013	2015
Practising phisicians					
City of Plock	37	36	39	39	42
Region of Plock	22	21	22	23	24
Mazovia Province	23	23	23	26	27
Poland	22	22	22	22	23
Practising dentists					
City of Plock	3,3	3,6	3,3	3,3	2,3
Region of Plock	2,7	2,7	2,1	2	1,8
Mazovia Province	2,6	2,6	2,6	2,5	2,6
Poland	3,5	3,2	3,2	3,2	3,3
Pracising nurses and midwives					
City of Plock	93	99	92	97	99
Region of Plock	54,6	57,7	52,5	56	57,5
Mazovia Province	55	55	56	59	59
Poland	53	54	54	58	57

Source: author on the base of data of the Central Statistical Office

In 2007, the number of physicians per 10 thousand population in a Płock region was 22. It has not change for four years, but then has increased to 24 in 2015. This indicator is slightly lower than the average for Mazovia province (27 doctors per 10,000 inhabitants), and slightly higher than the national average (23 doctors per 10,000 inhabitants). In 2015, the highest number of physicians per 10,000 inhabitants was recorded in the Mazovia and Lodz provinces - 27. In the second place was Podlaskie province - 25. The lowest number of physicians per 10,000 inhabitants was registered in Wielkopolska province - 15. The situation in the Plock region is therefore close to the national average. Much better situation is in the city of Plock with almost 42 physicians per 10,000 inhabitants. It means that the largest concentration of medical physicians is observed in the urban areas.

In the years 2007-2009, there were about 2.7 dentists per 10,000 inhabitants, both in the Płock region as well as in Mazovia province. In 2015, in the Płock region, the number of dentists decreased by as much as 31 percent, which led to a decrease in the analyzed index to level 1.8. It is much less than the average for the city of Plock (2.3), Mazovia province (2.6) and Poland (3.3). In Plock region in 2015, the number of nurses and midwives per 10,000 population varied from 12 in the rural regions of the poviat to 99 in the city of Plock. The average for the whole region was 57.5. This gap in favour of richer city is significant. The number of nurses and midwives per 10,000 inhabitants for the whole region of Plock doesn't diverge from the national average and the average for the Mazovia province. In 2015, the average for the Mazovia province was 59 and for the country - 57.

The data showed that Health and social services in city of Plock are characterized by a rich array of health services and human resources in comparison to outlying areas. The medical workforce tends to be concentrated in urban areas (reflecting the distribution of health care infrastructure) because the hospitals and main medical facilities are located in the city and they employ numerous physicians and medical professionals to provide comprehensive medical services to patients. A city of Plock is more attractive to health care professionals for its comparative social, cultural and professional advantages. On the other hand working rural areas is often connected with the low status. It further contributes to health professionals' preference for settling in the big towns, where positions are perceived as more prestigious (Zaidi, 1986). Also inadequate remuneration and working conditions result in promoting rural-to-urban migration (Ferrinho, & Van Lerberghe2000). The health professionals working in urban areas have also better possibility to seek career advancement there, and to work in the private sector. The obstacle for health professionals to accept positions in rural areas is also lack of equipment and appropriate facilities.

Another factor affecting the distribution of health personnel is a specialized care and a model of medical education. The specialists opt for urban practices in greater proportion because they need the access to the infrastructures they need to conduct their practice and to the pool of potential clients. On the other hand the graduates from medical schools who selected a primary care specialty, such as family medicine are more likely to practise in rural areas. (Rosenblatt,Whitcomb et al. 1992). Most rural medical facilities in Plock region operate with mainly a primary physician who is trained in a broad range of medical services.

4. Discussion

Among the most important factors affecting the availability of medical staff in health care are the level of financial health expenditure, demographic and epidemiological factors, globalization leading to staff migration, technological progress and the level of development of medical science (Crisp, & Chen, 2014). The shortage of human resources in Polish healthcare sector is mainly a result, on the one hand, of the natural losses associated with retiring older generations and migration of healthcare professionals to Western Europe (Pupka- Lipinski & Lipinski M. 2017). This shortage leads to decrease in quantity and quality of healthcare services, increased healthcare cost, decline in service coverage to rural areas and accessible only to those who can pay or afford it (Sinha, & Sigamani, 2016). As a result of the low availability of medical staff, there are constantly growing queues for specialists and corruption in health care. Preventing these negative phenomena requires knowledge of the appropriate human resource management principles at central level.

The one of the problems with medical staff shortages in Poland are the open labor markets in the EU, which results in the partial outflow of medical staff employed in the Polish health care system to work outside of the country. Since Poland's accession to the EU, the Polish Chamber of Physicians and Dentists has issued over 10,000 certificates which are necessary to work as a doctor in another EU country. According to the survey of the Polish Chamber of Physicians and Dentists, today 37% of young physicians is considering moving abroad (Pupka- Lipinski & Lipinski M. 2017). Migration of doctors is a problem of many less developed countries. The physicians and nursed are in demand worldwide, and they are often able and eager to move, to improve their salary and broaden their experience (Mullan, 2005). Target countries of emigration for Polish medical staff in Europe are: United Kingdom, Ireland, Germany, Sweden, Norway and Denmark (Kludacz & Piekut, 2014). The migration of nurses from Poland has also particular importance, especially given the increasingly ageing population in European societies, which will entail an increased demand for nursing and care services. According to the questionnaire surveys conducted in Poland nearly one in three respondents intended to leave Poland to work as a nurse. The main destinations for migration for Polish nurses are Germany, England and Norway (Szpakowski, & Zając, 2016). In view of the low level of human resources in the Polish health care system, the migration of Polish health professionals will probably have crucial implications for the quality of healthcare services in the coming years. There are many reasons of increasing migration of Polish physicians and nurses, such as: financial matters (low salaries), underfunding of the healthcare system in general, difficulty in obtaining specialization, disorganization of the system, bureaucracy at work and lack of respect for medical professionals and their work. However, some studies stress that the main and strongest factor responsible for a decision made by medical staff to seek work abroad is a professional dissatisfaction and especially a low salary (Lesniowska, 2005). Among other important factors affecting professional satisfaction for medical staff are: inadequate working conditions, e.g. understaffing, poor premises, and a lack of basic equipment (GUS, 2013).

Conclusion

Healthcare is one of the most important social issues due to the aging of the population, the growing expectations of the people of the countries and regions regarding the availability of medical services and healthcare professionals. Maintaining the healthcare workforce is fundamental to improve the quality of services and patients' satisfaction. Access to good-quality health services is crucial for the improvement of health outcomes.

One of the symptoms of the crisis in the Polish health system is the low availability of medical staff. The information presented on the health care professionals employed in the region of Plock and in the city of Plock confirms the changes that have been observed in the whole health sector in Poland. The analysis of the availability of medical staff in Poland and in the Plock region leads to many conclusions:

- In Poland is observed one of the lowest indicators of the number of physicians and nurses per 10000 inhabitants compared to other European countries. The Polish health system lacks both general practitioners and specialist doctors;
- The future of medical staff may be a major problem. At present over 30% of physicians in Poland are over 65.
- A major problem in developing countries, like Poland is the migration of health workers to more affluent regions, resulting in citizens in rural areas experiencing difficulties receiving adequate medical care.
- Unbalanced distribution of health personnel between urban and rural areas is also a problem of Plock region, where more than 90% of the health personnel are concentrated in the capital of region – the city of Plock. Physicians and nurses are reluctant to relocate to the villages that offer poor communications with the rest of the region and the country

The main problem of Plock region is an imbalanced distribution of health personnel that can contribute to great disparities in health outcomes between the rural and urban population. Accessing good-quality health care services can be incredibly arduous for people residing in rural areas. For many reasons, medical personnel and resources may not be available or accessible for such residents (Kabene, & Orchard, et al. 2006). Urban areas are more attractive to health care professionals for their comparative social, cultural and professional advantages (Van Lerberghe & Conceicaõ, et al., 2002). Large cities offer more opportunities for career and educational advancement, better employment prospects for health professionals and their family, lifestyle-related services and amenities, and better access to education opportunities for their children (Zurn & Dal Poz, et al. 2004), (Dussault, & Franceschini, 2006).

For the purpose of dealing with problems of medical staff shortages in Poland and the regions it is necessary to establish formal structure responsible for planning of human resources for health. The institutions responsible for situation in Polish healthcare system (Ministry of Health) should start cooperation with professional association of medical staff (e.g. the National Chamber of Physicians and Dentists), data collection institutions, medical universities and health service providers to develop strategies for planning of medical staff that are based on demand of the population (Domagala, 2013). The interesting idea could be to develop and apply the national health care information system (Soltes, Balloni, Gavurová, & Pavličková, 2013). This system could support the cooperation between various institutions and identify the hospital needs and demand regarding also human resources. The other changes could be related to the improvement of the education and training system for medical staff, the strengthening of private and public sector co-operation, the changes in the funding system, the adaptation of the education and vocational training system to the needs of the labour market, improvement of employment conditions for medical staff and facilitating the return of medical staff from professional emigration. (Kludacz, 2015)

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Acknowledgment

The first author acknowledges the financial support of the French Government and the French Embassy in Poland

EMPLOYMENT OF THE GENERATION 55+ IN THE CONTEXT OF REGIONAL LABOUR MARKETS

Jan Lojda
Vysoká škola technická a ekonomická v Českých Budějovicích Okružní 517/10, 370 01 České Budějovice

Keywords:
Employment, seniors 55+, labour market

Abstract:
Focus of the article is on ways, how to support employment of generation 55+ in the regional context and how to adapt their knowledge, skills and competencies for actual employment conditions. The author of the paper analyses the labour market capacity of the regional level and adapts it to the needs of the employers. As a fundamental problem of employment, citizens of the 55+ generation see their low adaptation skills to the current working conditions. It outlines various forms of improving the qualification and employment of the 55+ generation and offers employers a satisfactory solution.

Introduction

Labour market in the Czech Republic is characterised by the strong regional diversification. Each region has different demographic, social and economic conditions. In individual region there is clearly affected the wide area of employment. While efforts to reconcile labour market requirements with the structure of school leavers are long-term and difficult, it is very important that regional education reflects the above-mentioned specificities and adapts the study offer in a way that is consistent with the region's regional development concept and which contributes to match supply and demand for labour. The structure of employment is determinate by the professional structure of labour force. Applicability of employees 55+ is complicated because of their different (mostly obsolete) education, resistance to change and low mobility. Their preparedness to learn new skills and competences is limited by historical roots. They believe in their capability to work and they consider their former education as sufficient. There is underestimated the role of the local authorities in matching demand and supply of the labour force together with the regional development plans. The professional and sector structure and ultimately also the unemployment rate in the regional labour market determine, in particular, the sector. The conditions for the recruitment of new workers are also different, which is reflected in the applicability of the school graduates.

1. Starting points

With regard to the age structure of the population, it is possible to expect an increase in the number of employees in the future as well as the unemployed aged 50+. Following the headline targets of the Europe 2020 Strategy, the Government of the Czech Republic approved national targets and partial national targets for the Czech Republic by 2020 in the area of employment. The national goal is to increase the overall employment rate in the age group of 20-64 to 75%. Sub-national targets include: raising the employment rate of women aged 20-64 to 65%, increasing the employment rate of older workers 55-64 to 55%, reducing the unemployment rate of young people aged 15-64 by one third compared to 2010. (Source: Czech Statistical Office, SLDB 2011 Strategy of Regional Development of the Czech Republic for 2014-2020).

There is the higher quality of human capital resources on urban, especially metropolitan areas, where multiplication effects and a rich structure of job opportunities provide a high chance of choosing the right job and real employment in the labour market. The distribution of human resources in the territory is a result of the process of long-term development of the economic base and is fundamentally influenced by positive or negative developmental impulses in individual parts of the territory, including their differing competitiveness and low regional labour mobility. Employment of the generation 55+ is more difficult from above mentioned reasons. This declaration is well visible in the following chart. There are highest figures namely in the age period 55-59.

Table 1: *Age structure of unemployed people in regions*

	celkem	Věková struktura												
		do 19	z toho do 18 let	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	nad 65	průměrný věk
Praha	26 878	429	181	1 873	3 010	3 108	3 565	3 613	2 783	2 906	3 198	2 164	229	42,4
Středočeský kraj	31819	870	361	2629	3163	3131	3817	4036	3183	3585	4433	2810	162	42,7
Jihočeský kraj	13270	391	158	1126	1412	1191	1405	1446	1307	1610	2148	1192	42	43,0
Plzeňský kraj	10983	319	143	873	1118	1093	1153	1283	1039	1310	1719	1028	48	43,1
Karlovarský kraj	8456	323	164	621	834	812	886	1001	884	1030	1295	701	69	43,0
Ústecký kraj	36533	1515	685	3092	3708	3869	4188	4510	3857	4218	4671	2690	215	41,8
Liberecký kraj	12999	446	199	1116	1321	1317	1498	1629	1358	1488	1713	1051	62	42,2
Královéhradecký kraj	11031	351	166	1040	1244	1043	1208	1244	1110	1196	1644	918	33	42,2
Pardubický kraj	10407	310	139	1023	1142	946	1149	1103	1018	1152	1538	996	30	42,4
Kraj Vysočina	12442	234	65	1134	1328	1163	1300	1381	1221	1498	2094	1062	27	43,1
Jihomoravský kraj	38901	831	284	3537	4246	4003	4573	4795	3859	4382	5315	3179	181	42,3
Olomoucký kraj	20128	459	174	1562	2036	1860	2263	2348	2151	2463	3197	1702	87	43,3
Zlínský kraj	14771	287	111	1323	1540	1336	1519	1713	1460	1862	2316	1369	46	43,3
Moravskoslezský kraj	54456	1510	666	4311	5180	5024	5554	6117	6027	7423	8334	4710	266	43,4
Celkem ČR	303074	8275	3496	25260	31282	29896	34078	36219	31257	36123	43615	25572	1497	42,7

Source: ČSÚ – 06/2017

2. Reasons of employment 55+

Support of persons over 55 years of age in employment does not correspond with the need to solve the social problem or direct threatening of older workers. Such a problem exists and there is difficult to define it only from statistical indicators. The causes of age management in demographic trends, such as population aging, and the need to employ older people in the organization are coming from the simple reason. There are no other age segments available at the labour market. Companies have no chance to recruit younger staff. Contemporary is entering this problem growing income differentials and stability job-related qualifications between different areas of employment and among workers of different education. Work flexibility due to technological, economic, organizational changes or changes in the concept of management is demanded. Changes concern both workers (worker flexibility) and the labour market. Flexible work and employment at the individual level has a negative impact on older employees in particular (Nemec&Surynek 2012). The population projections in the Czech Republic predict the development of the different age groups until 2050. It is clear that the only group to grow in numbers is the population aged over 65. The share of young population aged 19 and below as a reserve of future labour force will decline slightly, the share of the labour force at the age of 20-54 will drop sharply, but the share of people aged 50-64, it means people of eminent interest, 2037 to rise to begin to decline. The shares of the senior population aged 65+ shows a permanent, almost linear growth. By 2050, it will rise to 31% from today's 15%. These projections are related to the so-called old age dependence ratio(Cimbálníková et al., 2012).

Table 2: *Population structure by sex and age groups*

	2010	2020	2030	2040	2050
Population in thousands	10 283	10 284	10 102	9 795	9 438
Men	100%	100%	100%	100%	100%
0 - 19	20,2	19,2	18,2	17,4	17,5
20 – 54	52,2	50,5	46,5	42,0	39,5
55 – 64	14,4	12,8	15,3	16,4	14,5
65 -	12,8	17,5	20,0	24,1	28,5
Women	100%	100%	100%	100%	100%
0 - 19	18,3	17,4	16,5	15,8	15,9
20 – 54	48,8	46,8	42,9	38,6	36,1
55 – 64	14,8	12,8	15,1	16,1	14,0
65 -	18,1	23,0	25,6	29,5	34,0
Both genders	100%	100%	100%	100%	100%
0 - 19	19,2	18,3	17,3	16,6	16,7
20 – 54	50,7	48,6	44,6	40,3	37,8
55 – 64	14,6	12,8	15,2	16,3	14,2
65 -	15,5	20,3	22,8	26,9	31,3

Source: ČSÚ; http://www.mpsv.cz/files/clanky/2237/srovnani-demografie.pdf (20. 06. 2013)

Statistics, research results and available forecasts show that the position of 55+ people on the labour market is currently perceived as a problem. It is clear that higher age is a major factor in making people more difficult to apply to the labour market, and that any loss of employment may already mean a final dependence on the social system for workers over 55 years of age. These people are more likely to face economic and social threats, despite all the potentials they can offer on the labour market and in social life.

The unfavourably evolving demographic situation has an impact on the pension and social security system. Objectively, older people have a number of disabilities that can seriously compromise their work. The first problem is the general view of older workers as less efficient, less adaptable and therefore less employable. This view may result in working discrimination of people in this age group. Work performance can actually be affected by lower performance in physical work, less agility, reduced mobility. Sensory perception is weakened (worse vision and hearing), worse short-term memory, more difficult and longer regeneration. This applies in particular to physical forces. Cognitive abilities change, but not in the sense of their weakening. Older people may get into collision with younger people, both because of the differences in lifestyle and behaviour, as well as because of greater adherence to accepted values. Older workers have lower aspirations and less self-confidence, On the contrary, they are more critical of themselves. Difficult and longer time they learn new things and cope with change. However, large individual differences between people or differences in social and cultural affiliation can completely overcome differences in age.

3. Differences in regional labour markets

The situation of the local and regional labour markets is possible to describe by unemployed population. The data, which are taken over from the Czech Statistical Office, quite convincingly show that according to the population in the region, the numbers of unemployment are higher in regions. The most of unemployed people has only elementary school. Significant it is in Ústecký region or Moravskoslezský region. If we confront this data with the demand for workers, we cannot identify any useful correlation between these data. If we make a look at workers with an apprenticeship certificate, we can see that demand and supply is well balanced.

The figures concerning bachelor and magister level of education are in the minority, but a-level represent big sample of applicants. There seems to be pool near in all regions for future employment. If we consider, that 15% of these potential applicants are 55+, we investigated to niche for intensive work in the field, in the terms of encouraging people to work and to be active in later age.

It is also necessary to concentrate on the sector´s structure of the regions. Although some changes are taking place in this area, some regions have retained their original character, which is reflected in the employment structure. In traditional industrial regions, the need to employ a certain type of skilled workers, who at the age of 55+ find themselves outside the interest of companies as potential employees, is diminishing. Employing this group of people is relatively difficult because many refuse retraining and their labour mobility is low. The reason for this is often the cost of moving. State support, which would increase mobility, focuses more on the cost of commuting than on work-related mobility.

Table 3: *Scholarship of unemployed people structure: by regions*

	Uchazeči celkem														
	celkem	Vzdělanostní struktura													
		bez vzděl.	neúplné zákl.vzděl.	zákl. vzděl.	nižší stř.vzděl.	nižší str. odbor.vzd.	str.odb.vzd. s výuč.lis.	str. a str.odb. bez mat. a v.l.	ÚSV	ÚSO s vyuč.a mat.	ÚSO s mat.bez vyuč.	vyšší odb.vzděl.	bakalář. vzděl.	VŠ	doktor. vzděl.
		A	B	C	D	E	H	J	K	L	M	N	R	T	V
Praha	26 878	105	34	5 212	24	243	6 679	227	1 155	1 201	6 273	514	929	4 144	138
Středočeský kraj	31819	114	208	8812	20	646	10688	217	1076	1379	5547	394	601	2065	52
Jihočeský kraj	13270	69	88	3378	3	261	4777	93	396	547	2255	150	317	902	34
Plzeňský kraj	10983	31	73	3202	6	223	3767	66	283	482	1839	91	238	667	15
Karlovarský kraj	8456	2687	201	1580	5	264	2160	37	131	212	855	29	100	187	8
Ústecký kraj	36533	4252	602	12577	27	1286	10577	172	725	1087	3805	144	385	866	28
Liberecký kraj	12999	547	333	3452	8	352	4427	71	330	412	2077	107	252	617	14
Královéhradecký kraj	11031	42	37	3304	9	274	3649	68	332	445	1809	106	260	662	34
Pardubický kraj	10407	211	104	2463	10	280	3632	62	287	431	1862	131	246	664	24
Kraj Vysočina	12442	15	11	2349	3	255	5116	70	388	569	2366	159	316	797	28
Jihomoravský kraj	38901	30	46	9927	16	709	13604	185	1381	1793	6678	371	957	3093	111
Olomoucký kraj	20128	18	40	5681	14	617	7216	122	618	910	3012	155	433	1248	44
Zlínský kraj	14771	3	15	2869	11	335	5789	95	517	827	2616	132	405	1126	31
Moravskoslezský kraj	54456	358	946	16934	24	1689	20202	274	1517	2416	6330	275	875	2534	82
Celkem ČR	303074	8482	2738	81740	180	7434	102283	1759	9136	12711	47324	2758	6314	19572	643

Source: ČSÚ; http://www.mpsv.cz/files/clanky/2237/srovnani-demografie.pdf (20. 06. 2013)

Long-term unemployment of 55+ people is undoubtedly a very serious problem, which should be given much more attention. In the long run, the consequences may be reflected in the reduction of the available human capital, the pressure to raise wages or the growth of social benefits paid. The percentage of unemployed who have been unemployed for more than 12 months is the highest among all age groups in the 50-74 age groups. The average EU 27 is almost 50% of all the unemployed. Such a 55+ unemployment rate is the same problem as youth unemployment. One possible explanation is so-called Age Discrimination on the part of the employer. This phenomenon is hard to prove and solvable, yet it is obvious that in times of economic recession it is much more likely for older workers that they will lose their job and then get worse, new job positions. Other structural causes of high long-term unemployment in the 50-74 age groups are specific knowledge and skills, often obsolete, for which they are forced to look for work more selectively. Employers are concerned that older people will be less adaptable and willing to increase their skills in the field, and are thus induced to shake their jobs for other, technologically and skill full less demanding ones.

Table 4: *Structure of vacancies in regions according to education requirements*

		Struktura volných míst													
		Vzdělanostní struktura													
	celkem	bez vzděl.	neúplné zákl.vzděl.	zákl. vzděl.	nižší stř.vzděl.	nižší str. odbor.vzd.	str.odb.vzd. s výuč.lis.	str. a str.odb. bez mat. a v.l.	ÚSV	ÚSO s vyuč.a mat.	ÚSO s mat.bez vyuč.	vyšší odb.vzděl.	bakalář. vzděl.	VŠ	doktor. vzděl.
		A	B	C	D	E	H	J	K	L	M	N	R	T	V
Praha	14 620	3 997	254	16 895	479	1 619	4 117	592	1 986	988	1 841	668	1 953	1 967	18
Středočeský kraj	18196	336	32	13492	186	1320	4595	495	356	501	1046	161	127	833	0
Jihočeský kraj	7641	176	5	5686	74	905	4047	79	164	334	644	50	34	258	2
Plzeňský kraj	6289	349	34	8555	145	973	3331	22	163	230	809	50	62	301	0
Karlovarský kraj	4386	87	0	2235	51	399	1565	22	202	221	500	70	35	269	0
Ústecký kraj	19775	203	19	4144	282	510	2819	20	375	223	525	75	48	586	8
Liberecký kraj	7413	54	8	3783	25	306	2295	16	75	105	735	113	39	283	0
Královéhradecký kraj	6110	110	5	3742	20	542	2285	20	117	169	534	70	33	258	1
Pardubický kraj	5841	182	19	9815	103	551	3322	118	252	289	434	95	49	295	0
Kraj Vysočina	7072	86	0	2997	117	422	2289	11	88	161	410	47	18	142	1
Jihomoravský kraj	21306	119	3	7766	59	662	4402	142	569	275	915	78	219	359	2
Olomoucký kraj	10783	102	13	3584	71	548	3072	42	239	305	583	44	51	249	2
Zlínský kraj	7979	140	17	3576	73	771	2741	54	159	280	361	48	39	168	1
Moravskoslezský kraj	27519	244	0	5078	75	803	4677	40	348	380	1010	74	155	393	1
Celkem ČR	164930	6185	409	91348	1760	10331	45557	1673	5093	4461	10347	1643	2862	6361	36

Resource: ČSÚ; http://www.mpsv.cz/files/clanky/2237/srovnani-demografie.pdf (20. 06. 2013)

To understand better the regional problems of staffing people 55+ we need to consider the geographical indicators as well. Looking at the map of the Czech Republic there is significant horizontal differentiation in the direction West and East. There is ever strong position of the main regional centre, but we can identify also the region with the large number or small villages like regions Highland or Central and South Bohemia. Higher rate of urbanisation is in the regions of North and West Bohemia or North Moravia.

Low mobility is also more problematic in the specific regions. Many people 55+ prefere passive waiting and thei life attitudes and requirments are not meeting the potential of their region. Even where mobility is not an obstacle to economic mobility, they remain in their lifelong residence and prefer to choose a path of limited income rather than active job searching for the necessary retraining.

4. Business recommendations

Thanks to the better health care, which is increasing human´s physical potential, job restructuring and thanks to the creation of a space for the use of work abilities in the changing working environment (with the elimination of disruptive effects), the adaptation of aged workers start to be realistic. Of course there is recognised need to respect the rest time periods, implement more ergonomic principles, but in general there is the chance to keep people 55+ well stimulating and increase the involvement, and keep them in the strengthening physical and mental fitness. This is in the hands or personal manager to develop for each person 55+ personal strategy in the direction of applying the different experiences and skills of age-diverse staff, promoting job satisfaction. (Nemec & Surynek, 2012)

The HR Managers have to change their strategy and working with existing employees. Concerning the recruitment of the new staff, there is necessary to emphasize on people, who were educated in the past and who confess values, which are valid in the beginning of their professional life. However these potential adepts do not meet exactly requirements and job description namely in terms of attitudes. There are two problems to be solved. The first one is their potential to be adapted for the new required knowledge and skills and second their social adaptability for the new social situation. There is the risk that they could be able to learn new competencies, but they will not accept actual company culture. The actual company culture means namely communication processes, problem solving and common decision making. Other point could be the ability to work in the changing IT environment. Also the middle aged people, who are able to work with PC and have basic knowledge how to use IT for personal purposes, they are sometimes resistant to accept new IT applications. However the trend in IT use across a variety of corporate portals (including attendance records, travel orders, etc.) start to be widely spread. So there is no excuse and exception for no employee in the company. When assessing the suitability of an applicant, the HR manager should take into account his ability to learn new thinks. There are many methods to recognize the ability of self-help or assisted learning. Similarly, job seekers need to focus on their social adaptability. Young men or women are well prepared to communicate openly and to express their needs and problems. People from generation 55+ are ashamed of their ignorance, because they were educated and refused to talk about problems. The role of HR manager is to help them open up and give them sense of respect and seriousness.

Speaking about regional labour markets, there is significant, that this group of job seekers will be more psychologically closed compared to people from large agglomerations, Social pressure in the cities and industrial agglomerations keep people more active and open to the new challenges.

Now turn attention to existing employees. There is assumption that generation 55+ have generally the same barriers, which are not applied to existing employees. HR manager must consider that in the company is usually big diversity from different age segments. The biggest problem is the age group of young employees up to the age of thirty and employees before retirement. It is precisely these employees that we should keep in employment and give them new challenges to fill their work and do not feel burnout. On the contrary, they need to be motivated to further develop their skills and competencies. Why to keep employed people before retirement in staff? It is because the labour market does not offer compensation. It happens namely in regions, where the young generation goes to work in larger cities and agglomerations.

The task for the HR manager is clear. It is to bring young and older workers to work together and share experiences and competencies. One way how to manage such a situation is application of E-portfolio methodology. E-portfolio like the tool for self-recognition can help to both young and older workers recognize their strengths and weaknesses and find out how they have the skills and experiences that others might need. But it is only the first step in “intergeneration” HR management. The decisive factor is how to bring both generations to share mutual merits. The HR manager must take into account not only resistance to mutual communication, but also other value attitudes. Both generations tend to underestimate each other and complicate mutual approximation. For these reasons, this process needs to be controlled and not left to the employees themselves. Large companies like to use the relationship between employees outside work activities known as outdoors. Outdoors offers enhanced sharing of corporate values. In the case of the 55+ generation, and especially in the region level, this activity may not be suitable. It should be taken into account that generations 55+ may also have certain health restrictions that may cause them to stay outdoors.

However, there is one tool that can make it easier for businesses to process. The tool is motivation. However, it is to be expected that some older workers will perceive the motivation as an embarrassment and will only react formally to it. Nevertheless, it is possible to work with the declaration of mutual benefits and benefits.

"Even the most genius people are becoming victims of flattery."

Moliére

Motivation as an instrument (especially if it is based on admiration) allows you to change the behaviour of people through economic, social and self-realization factors. Motivational factors are very sensitive, but in the case of older workers there is a clear need for recognition. They need recognizing their lifelong experience, recognizing their practice, and recognizing their view of the world as a guideline for understanding their attitudes.

The good example of the good practise is creation of employee couples. Always one younger and the other older employee can communicate and compare their experience and knowledge. This connection, combined with mutual learning or enriching experience, is an effective tool for increasing the self-esteem of both partners in a couple. The condition is that this process is preceded by the processing of E-Portfolios and also that the whole process has a clear timeline and is monitored.

Finally is possible to stress, that to be from region is not disadvantage, but challenge. Just like an employer or employees

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PROSPECTS OF DEVELOPMENT OF TRANSPORT LOGISTICS IN RUSSIA

Vladimir D. Sekerin – Galina P. Sorokina – Anna E. Gorokhova

Moscow Polytechnic University
38 Bolshaya Semenovskaya St., Moscow, 107023, Russian Federation
E-mail: bcintermarket@yandex.ru

Keywords:
Logistic management, transport logistics, logistics, marketing

Abstract:
In the paper tendencies of the world market development of transport and logistic services are revealed. It is shown that development of the Russian transport logistics restrains lack of accurate regulatory legal base, understanding and trust from consumers of transport and logistic services, backwardness of technical providing information and communication systems. It is proved that positive shifts were outlined in development of transport logistics: there is long-term relationship of carriers and clients, the increase in number of projects on audit of logistic systems is noted, there is an integration of marketing and logistic tools and technologies of management. It is shown that introduction of modern logistic management allows to accelerate turnover of the capital, to reduce product cost and services, to reduce costs of distribution of goods.

Introduction

The attention to logistics in various countries is caused by that traditional reserves of increase of competitiveness such as quality, the prices, and also the marketing approaches connected from orientations of productions to production necessary on a commodity market sputtered out (Merton, 1968). As the world practice confirms, reduction of logistic costs for one percent is equivalent to almost ten-percentage growth of output (Sekerin & Gribov, 2014). Practical application of modern logistic management technologies forms possibilities of acceleration of turnover of the capital, decrease in product cost and services, reductions of expenses on distribution of goods (Boyko, Sekerin & Šafránková, 2014). In this regard the perspective direction of increase of the Russian transport companys' efficiency is expansion of new administrative approaches in their activity.

1. Tendencies of the world market of transport and logistic services

On the international classification the market of transport and logistic services includes the following main segments:

- Services of a cargo transportation and forwarding.
- Warehouse services.
- Administrative logistics.

According to the World Bank, in 2015 growth rates of world economy were slowed down to 2.4%. In the developed countries GDP growth made 1.8%, including in the USA – 2.4%, the EU – 1.6%. Economic growth in developing countries remained more dynamic, than in developed, however its rates decreased from 4.2% in 2014 to 3,4% in 2015. Among the main reasons the international experts call: falling of the prices of raw materials; devaluation of national currency; unbalance of the budgetary sphere; high inflation and deficiency on accounts of the current operations – the imbalances created in years of the economic growth stimulated by crediting.

In medium-term prospect the economic environment will remain unstable. According to the forecast of the World Bank, growth rates of world economy in 2016 will make 2.4% with the subsequent increase to 2.8-3.0% in 2017 - 2019. Dynamics of the developed countries in 2016-2019 is predicted at the level of 1.7-1.9%.

The main potential engine of growth in group of the developed countries is USA which economic dynamics can be in the next years a major factor of revival of world economy. In 2015 growth rates of economy of the USA made 2.4% that exceeds an average value of the developed countries. According to forecasts of the World Bank, rates of a gain of GDP of the USA in 2016 will decrease to 1.9%, thus in 2017-2019 acceleration of 2.1-2.2% is possible.

Among the long-term tendencies of development of world economy and trade capable to change dynamics and the direction of fright traffics in the international message, it is possible to allocate the following (Byun, Sung & Park, 2017):

- Low growth rates of world economy and trade, low prices of raw materials, high volatility of the financial markets, reduction of volumes of foreign trade and inflow of the capitals to developing countries.
- Reorientation of the capitals from the markets of developing countries on the markets of the USA (in branches and productions of a new production cycle), partial return of hi-tech industrial productions to the territory of the developed countries (reinsuring/reshoring).
- Formation of mega blocks, change of a configuration of world trade and global chains of deliveries, decrease in a role of the WTO as regulator of international trade.
- Delay of growth rates of the Chinese economy, orientation to development of domestic market, change of structure of investments: from material and labour-consuming productions – to capital-intensive and hi-tech production (Šikýř, 2015).
- Low growth rates of production and consumption in the countries which economy substantially depends on an export of raw material resources.

In developing countries of the loudspeaker of growth will be significantly lower than the previous five-year period in view of the low prices of raw materials and in general low dynamics of world trade and demand from the developed countries, reduction of inflow of the capitals, toughening of financial conditions and need of more rigid consolidation of the state budgets. Growth of developing countries in 2017-2019 is expected at the level of 4.9-5.1%.

In China the policy of the operated moderate decrease in growth rates at preservation of solvency of the leading Chinese banks and corporations proceeds. In 2017-2019 growth rates of GDP of China will decrease – with 6.5 to 6.3%, first of all as a result of delay of growth of crediting and investments. Growth will be supported by measures for stimulation of domestic demand due to increase of the income and consumption of house farms, and also development of infrastructure projects.

In 2015 in world trade delay of growth of physical volume (from 3.5% to 2.8%) against reduction of prices of raw materials and reductions of volumes of export of finished industrial products was fixed.
Instability of external demand and growth of the offer will be contained during a forecast period by growth rates of export of power and raw materials. In 2016, according to the forecast of the IMF, rates of a gain of world trade will decrease to 3.1%, and in 2017 will make 3.8%. Increase of demand and dynamics of import of the developed countries will become the most important factor of revival of world trade in 2017.

In medium-term prospect the main negative tendencies can be realized, first of all, in economies of developing countries. Growth in many large countries with an emerging market will be much lower in comparison with the last five-year period. Transitional economies will have more severe financial and credit conditions in process of normalization of monetary policy to the USA and coming into effect of restrictions from the offer. Plays a negative role geopolitical intensity in connection with events in Ukraine which, eventually, increased risks of investment into economy of developing countries.

New waves of outflow of the capital from developing countries having unstable balances are expected: India, Indonesia, Brazil, Turkey, and decline in rates of national currencies. The central banks of the countries which don't have big currency reserves and active balance of payments on a current account will be compelled to increase interest rates, or to resort to soft or rigid devaluation of national currency. It can lead to increase in burden of the external debt nominated in foreign currency and to the sharp growth of inflationary pressure.

In 2014 global cumulative costs of transport and logistics were estimated at $7.7 trillion (about 10% of world GDP). The highest growth rates (over 30%) for the last decade were recorded in 2007 that was explained by rapid development of the Asian market, in particular China, and also some other countries, such as Russia, India, Brazil.

55% of world costs of transport and logistics are the share of a share of logistic outsourcing (actually the market of transport and logistic services in a format 2PL, 3PL, 4PL). In 2014 the volume of the global market of the transport and logistic is US$ 4.26 trillion, having shown growth in 3%.

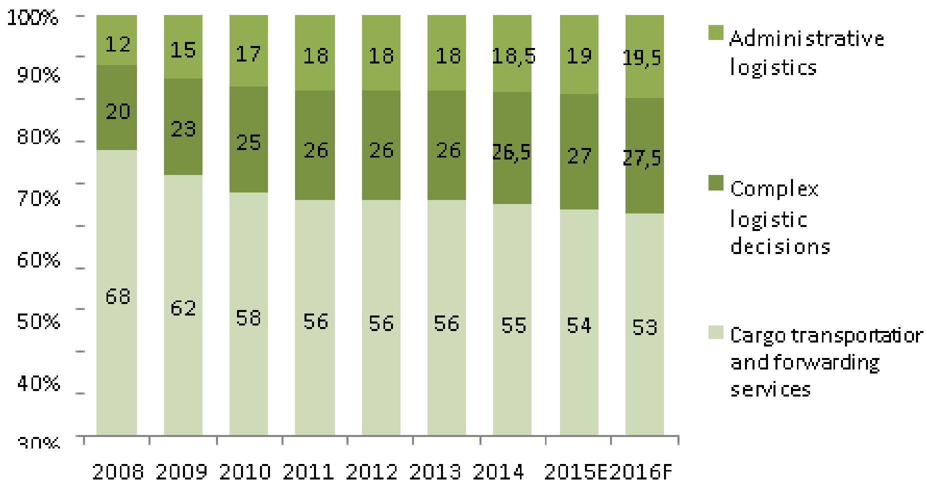
On average the world market of transport and logistic services grows the rates exceeding dynamics of global economy (in the current US$), thus its share in world GDP after sharp falling in crisis 2009 (with 5.4) increased to 5.0% and in 2014-2015 made 5.6%.

In 2015 against falling of world GDP for 6% (in the current US$) the size of the market of logistic outsourcing was reduced by 3.8%, to US$ 4.1 billion. Significantly the income from the international cargo transportation owing to delay of growth rates of world trade, the low prices of fuel and falling of freight rates decreased. Negative influence of these factors was strengthened by effect of devaluation of national currencies in relation to US dollar. And reduction of volume of GDP and the market of transport and logistic services in a dollar equivalent in a varying degree felt on itself both EU countries, and the developing states (except the Asian region, including China).

According to the forecast of the IMF, in 2016 restoration of nominal growth rates of world GDP to 1.1% with acceleration to 5.1-5.6% in 2017-2019 is expected. At such optimistically scenario the world market of transport and logistic services can return on a trajectory of steady growth (over 5% a year) in 2017.

Among the major a tendency in the market of transport and logistic services it should be noted increase of demand for complex logistic decisions in the last decade from the companies and the enterprises that is directly connected with acceleration of process of transfer on outsourcing of warehouse and administrative services. Thus reduction of a share of transport-forwarding services in the total volume of the market of transport and logistic services (fig. 1) is noted

Figure 1: *Structure of the world market of transport and logistic services, 2008-2015, as a percentage*



Source: Armstrong & Associates, M.A.Research assessment

2. Tendencies of the Russian market of transport and logistic services

In Russia today the transport and logistic market experiences difficulties that is caused by declining production in the majority of sectors of economy, and, therefore, decrease in freight traffics; strengthening of the competition between different types of transport; growth of requirements from clients consignors to quality and completeness of service of the logistic operator, and also to the level of the transport and logistic expenses; vast geographical scales of our country, poor development of infrastructure of Russia and fast-growing demand for transport and logistic services (Dudin, Lyasnikov, Veselovsky, Sekerin & Aleksakhina, 2014).

In modern conditions the key segment of the Russian transport and logistic complex cargo transportation – endures economic recession. In 2014 decrease in this indicator by 3% in comparison with the level of 2013, and in 2015 – for 5% in comparison with the level of 2014 is noted. In 2015 in comparison with previous year the biggest decrease in goods turnover is noted on automobile transportations (-7%), for railway transport falling for 1,1%, for an inland water transport – falling for 0,8% is recorded. Thus some revival happened in sector of cargo air transportation, the gain of goods turnover made 2,4%, in sector of shipping – growth by 15%. All this confirms timeliness and relevance of statement of new tasks before the Russian economy in general and the transport and logistic sphere, in particular.

Slow development of transport logistics in Russia is noted. The main problems of transport logistics which appeared on its way of development:

- an inefficiency of use of routes of deliveries of production from suppliers to consumers;
- backwardness of transport infrastructure, first of all, in the sphere of highways; insufficiency of cargo terminals, their low technological equipment;
- lack of the modern vehicles meeting the international standards in all means of transport;
- inefficiency of use of own and leased vehicles;
- waiting for loading and unloading operations essential losses from idle time of vehicles take place;
- various losses from inefficient functioning of vehicles take place.

Above-mentioned problems interfere with perspective development of transport system in general. Threats of delay of all-economic growth in the Russian Federation, decrease in its competitiveness in the world market, difficulties of development of the separate transport organizations are as a result formed. In modern conditions topical issue of increase in volumes of cargo transportation, increases of economic efficiency of functioning of the Russian cargo and passenger forwarding agents and carriers. For its decision carrying out the correct and timely analysis of a condition of the transport and logistic market is required; adequate estimates of opportunities and conditions of development of the transport organizations; exact definition of the directions of their development.

Development of the Russian transport logistics restrains lack of accurate regulatory legal base, understanding and trust from consumers of transport and logistic services, backwardness of technical providing information and communication systems.

Nevertheless some positive shifts were outlined in development of transport logistics. In particular, even more often there is long-term relationship of carriers and clients, significant increase in number of projects on audit of logistic systems is noted in recent years, there is a formation of new concepts of management, the area of use of innovative technologies extends.

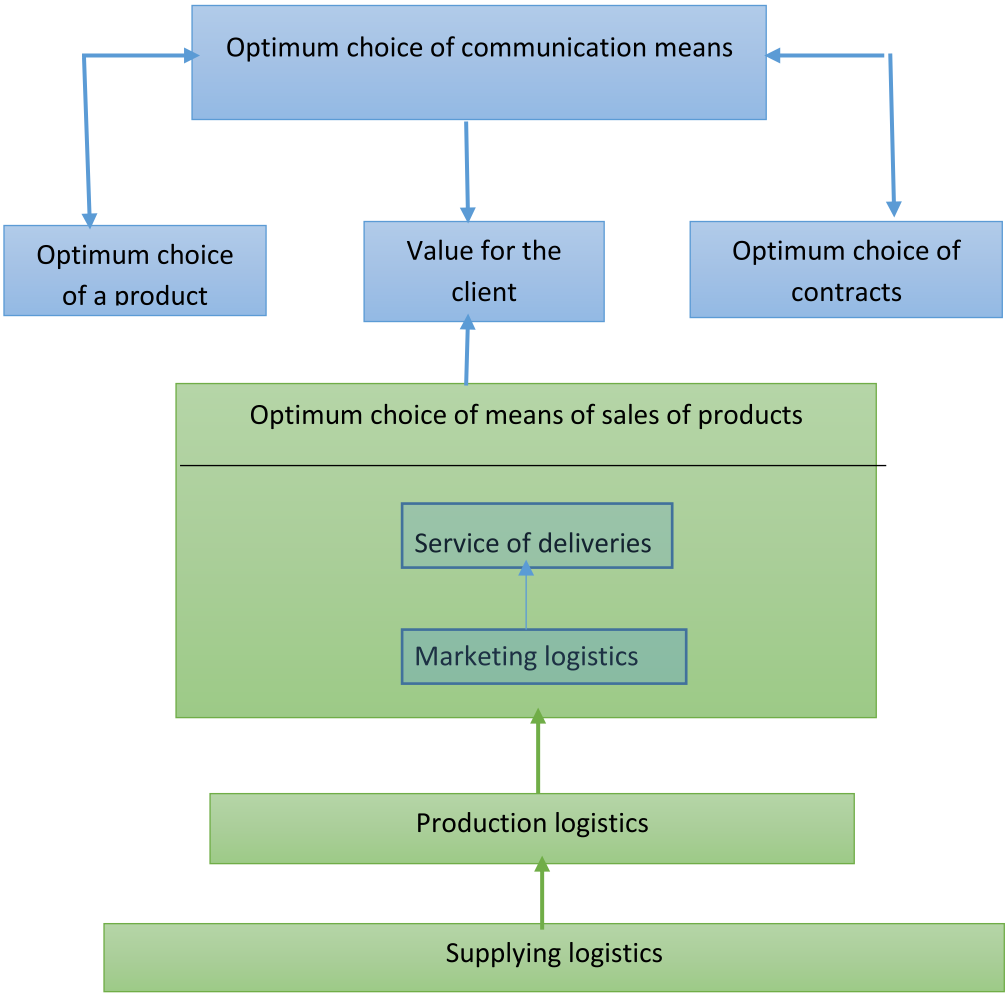
3. Improvement of management in the Russian transport and logistic companies

Now flexibility and ability to realize changes in response to opportunities and threats, arising in the environment of conducting economic activity becomes the main feature of transport and logistic branch. Processes of integration and globalization have considerable impact on transport logistics now, in this regard identification of the main modern logistic trends, and also interests of the main participants of the logistic market is of interest (Carayannis & Grigoroudis, 2014).

In modern conditions the interrelation of marketing and logistics in transport process is even more often shown. It is caused by that in the conditions of growth of the competition in all fields of activity including in transport, both concepts of marketing, and the concept of logistics promote formation of serious competitive advantages of economic subjects (Gerhart & Milkovich, 1990). Marketing promotes advance on the market of products of economic entities, to demand formation, identification and a gain of potentially interesting market niches, formation of loyalty of consumers, etc. Use of logistic concepts at the organization of transport processes promotes decrease in expenses and growth of efficiency of the enclosed resources to the transport sphere. All this explains interest of transport companies in expansion of practice of use in the economic activity of marketing and logistic tools.

Marketing interaction - as the administrative concept focused on the market and logistics — as the administrative concept focused on improvement of management of streams generates possibilities of growth of information and material value and usefulness of products which are estimated by buyers or clients (fig. 2). The studied integration forms base for a definition in the general structure of logistics of the so-called marketing logistics aimed at providing clients (buyers) with expanded opportunities concerning the order by production.

Figure 2: *Marketing and logistics as value determinants for the client*



Source: authors

In the field of marketing logistics there is a strengthening of the competition in the following areas today (Zhang & Yang, 2013):

- growth of concentration in the sphere of distribution,
- reduction of number of competitors at simultaneous significant increase in quantity of brands,
- reduction of terms of deliveries,
- reduction of life cycle of goods,
- production cost decreases,
- transition to digital technologies and wide circulation of the Internet,
- hyper fragmentation of the markets,

- saturation and fragmentation of distribution channels of advertising,
- reduction of impact on consciousness of the consumer (it becomes more difficult to draw attention of the consumer).

When developing strategy and plans of transport companies it is required to orient correctly in objective tendencies of change of the marketing concept in the Russian economy. In modern conditions the following tendencies are observed:

- there is a change of the system of marketing focused on the local markets, the system focused on the market nationally and in the long term - on the global market;
- studying of demand is replaced by studying of consumer motives;
- the importance of the not price competition interfaced to strengthening of a role of information increases;
- the strategy of pushing through of transport services assuming aggression in service imposing to buyers are actively developed and carried out, the importance of strategy of involvement of consumers to goods decreases;
- great opportunities for vertical and horizontal integration are observed;
- application of diversification of productions, expansion of the nomenclature, commodity elections;
- fast changes in generations of goods and services, their design features, design decisions, appearance, the used materials are noted;
- high dynamism of development of various intermediary structures is shown: dealers, broker firms, sales agents, purchasing offices;
- measures for sales promotion are actively used: mailing by mail samples, catalogs, preferential prices for clients, etc.;
- the market of complex services dynamically develops;
- the importance of various social consequences increases: changes in social structure of society formation of classes of owners and considerable average, and also rooting of stereotypes of consciousness of western "consumer society".

The higher for society efficiency of marketing strategies, the more considerable to apply opportunities logistic concepts and to form rational (optimum) logistic systems, including, and in the sphere of transport activity as in this case at the expense of productive forms of economic activity the main additional income of enterprise structures is formed. After all as a result of finding of additional reserves at all stages and stages of reproduction processes the foundation for improvement of their organizational and administrative forms including within the independent economic, especially integrated educations is laid.

Conclusion

One of ways of improvement of relationship of the transport and logistic companies with consumers of transport services is creation of system of complex transport service with use of mechanisms of marketing and logistics. As a result of introduction in activity of transport companies of technologies and tools of marketing logistics prerequisites of reduction of logistic expenses and growth of efficiency of transport companies will be created.

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ANALYSIS OF THE MODERN MARKET OF 3PL SERVICES

Anna E. Gorokhova – Galina P. Sorokina – Vladimir D. Sekerin

Moscow Polytechnic University
38 Bolshaya Semenovskaya St., Moscow, 107023, Russian Federation
E-mail: bcintermarket@yandex.ru

Keywords:
Transport logistics, transport and logistic service, 3PL service, complex logistic service, 3PL-provider

Abstract:
3PL service in the world develop not the first decade, in Russia such service became actual only after crisis of 2008. In paper the content of 3PL services concept is investigated, the current state of the 3PL services market is analysed, prospects of development of the 3PL services market in Russia are revealed. It is proved that main objectives of cooperation of trading and production companies with logistic intermediaries is obtaining competitive advantages for the account: reductions of operational logistic expenses, the general increase of efficiency of functioning of logistic system and, as a result, decrease in product cost, increase of flexibility of firm and ability to adapt for continuous changes of conditions of business, reduction of risks, reductions of duration of operational and logistic cycles.

Introduction

3PL service in the world develop not the first decade, in Russia such service became actual only after crisis of 2008. Every year the world economy moves away from real sectors, from production, the services sector extends (Zhang & Yang, 2013). The number of economic subjects who are occupied not with production, but providing various services grows. Money makes money. Logistics is not an exception.

Each new company to aspire it is simply to gain income, thus anything without doing therefore an increasing number of tasks of the organization is entrusted to intermediaries, dealing only with investment issues (Boyko, Sekerin & Šafránková, 2014). Actually it is also the main plus of 3PL: the company doesn't go in for logistics, doesn't make mistakes at its forming, thus it saves the budget. The economy on outsourcing can average to 10%.

In spite of the fact that since 2008 passed 7 years, national 3PL of operators in Russia didn't appear. Now all main 3PL operators are foreign companies with long-term experience. A striking example – FMLogistics. And those who apply for this role, actually those aren't, and in fact are usual transport companies. But in a pursuit of quickly changing market and not to miss clients, call themselves somehow.

In this regard it is advisable to investigate the content of concept 3PL of services, to analyse a current state of the market 3PL of services, to reveal prospects of development of the market 3PL of services in Russia.

1. 3PL-services concept and condition of the world market of 3PL-services

Services in management of deliveries chains and optimization of logistic business processes, consulting in the field of logistics; provides use digital and IT technologies, cloudy technologies and integrated solutions for management of transport and warehouse logistics (Sekerin & Gribov, 2014).

Depending on the level of involvement of the independent companies (carriers, forwarding agents, logistic providers) for the solution of business challenges in interests and on behalf of the customer (the producer, the distributor etc.) are allocated 1PL, 2PL, 3PL, 4PL and 5PL-logistics.

1PL (First Party Logistics), as a rule, is understood as autonomous logistics when all necessary operations (transportation, warehousing etc.) are carried out by the cargo owner independently by means of own infrastructure and the personnel.

2PL (Second Party Logistics) – the simplest form of logistic outsourcing. The third-party specialized company within contractual obligations assumes performance of tasks of transportation of goods and to management of the elementary warehouse operations.

3PL (Third Party Logistics) – more developed outsourcing form: except standard tasks, the professional logistic company (3PL-provider) provides a wide service range with a considerable value added and possibility of involvement of subcontractors.

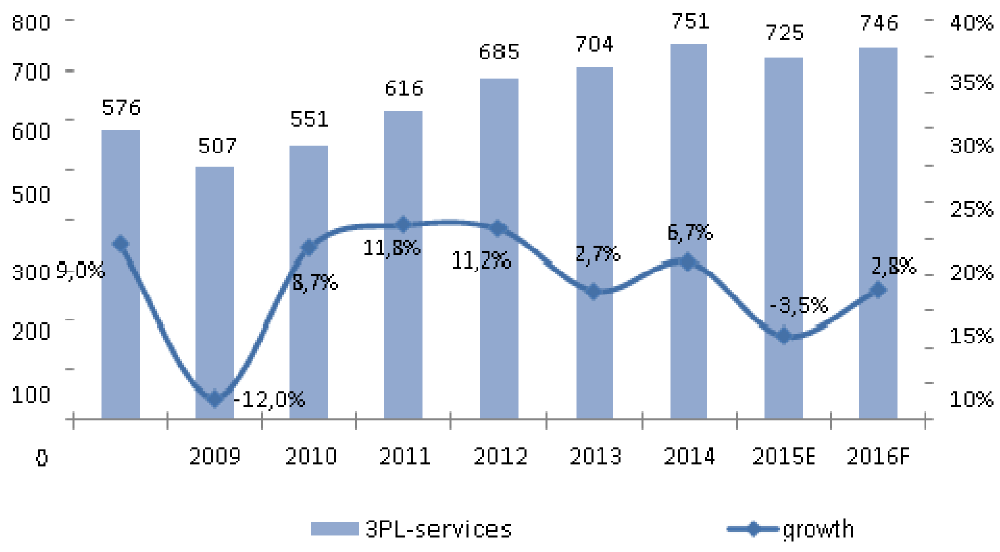
4PL (Fourth Party Logistics). The main function of system logistic integrators is planning and coordination of information flows of the client, optimization of a chain of deliveries, including integration of clients of the company, customers of clients and suppliers.

3PL-providers (third party logistics providers) are the firms rendering to clients (industrial, trading and other companies) complex logistic service. Such companies take some or all logistic functions under the control. Providing full range of services, the logistic provider becomes closely integrated partner of the customer and provides functioning of the major links of a chain of distribution of firm therefore its work with clients usually is based on the basis of average and long-term contracts. Often contracts fix a liability of such providers for quality of service of a certain part of a logistic chain that creates the atmosphere of an individualization of logistic service and has positive impact on the market of contract logistics in general.

Cost the volume of a segment of 3PL-services is defined as gross revenue of logistic providers which includes services of cargo transportation own or attracted transport, services of the third-party organizations (subcontractors) and actually service of a value added (forwarding, warehouse logistics, administrative logistics). The average world indicator of penetration of 3PL-services in 2014 made 17.6% of size of the market of a logistic outsourcing. The total volume of the world market of 3PL-services in 2015 is estimated at US$725 billion (fig. 1).

About 35% of total amount of revenue of 3PL-operators provide the services provided to 500 largest world companies (Global Fortune 500). Thus the share of 3PL-providers in total costs of Top-500 of leading companies of logistics exceeds 20%. The business cycle of logistic provider substantially depends on dynamics of development of separate branches or groups of productions in which clients (industrial, trading or service companies) work.

Figure 1: *Dynamics of volume of the world market of 3PL-services, 2008-2016, US$ one billion*



Source: Armstrong & Associates, M.A. Research assessment

The world market of logistic services is fragmented, more than 50 thousand operators act on it, over 95% from them are rather small by the size and have limited material and financial resources. 36% of all sales volume fell to the share of 50 global companies dominating in the market in 2015.

The majority of the leading logistic companies along with the organization of transportations, rendering of services for cargo handling and warehousing of goods, provide also complex services in management of chains of deliveries within long-term contracts (contract logistics).

According to the accepted classification, the contract logistics includes the following services: warehousing and processing of freights, the organization of their delivery by transport, and also traffic control of goods throughout all chain of deliveries. The contract logistics develops due to outsourcing of part of functions of the company's clients in the sphere of the organization and support of dealer networks and creation of chains of the movement of goods from the supplier to the client *(inbound logistics)* and from the client to consumers of his goods *(outbound logistics)*, and also the return movement of material values from consumers to the supplier *(reverse logistics).*

By estimates of the leading 3PL-operators, in 2005-2008 the size of the market of contract logistics increased on average by 8% a year. Under the influence of crisis in 2009 the revenue of the companies working in this segment was reduced from-5% (Kuehne & Nagel) to-10% (DHL Supply Chain, CEVA Logistics).

In general the contract logistics leaves crisis, than other segments of the market of transport and logistic services more slowly. At the same time, crisis pushed trade production companies to outsourcing of bigger number of logistic functions and concentration on the main business. Increase of demand for the complex logistic services allowing to optimize chains of deliveries and to lower expenses is noted, the number of contracts with 3PL-operators increases. The new impulse gave to development rapid growth *of e-commerce* which increased demand for services of contract logistics from Internet retailers, including logistics of "the last mile". According to the leading 3PL-operators, this tendency will define dynamics of the world market of contract logistics and in the next years.

According to Transport Intelligence, in 2014 the volume of a segment of contract logistics made US$234 billion (€176 billion), and its share in the total volume of the market 3PL of services exceeded 30%. According to Kuehne & Nagel, in 2015 the size of the market of contract logistics grew by 4% to €183 billion that turned out to be consequence of improvement of an economic situation in Europe and increases of demand in North America and Asia.

In a dollar equivalent falling made 13.2% (US$ 203.2 billion) as a result of an adverse change in the exchange rate of euro to dollar. Concentration of the market of contract logistics is low: on it tens of thousands of the specialized companies operate, thus the share of 10 largest logisticians in the total amount of revenue makes 20%.

The most important direction of development of the world logistic market is expansion of the large western logistic companies to developing countries. The following tendency is rather accurately traced: the markets of countries of Eastern Europe and the CIS, and for North American – the markets of the countries of Latin America are especially attractive to the European operators. The companies of Asia-Pacific countries choose the markets of China and India.

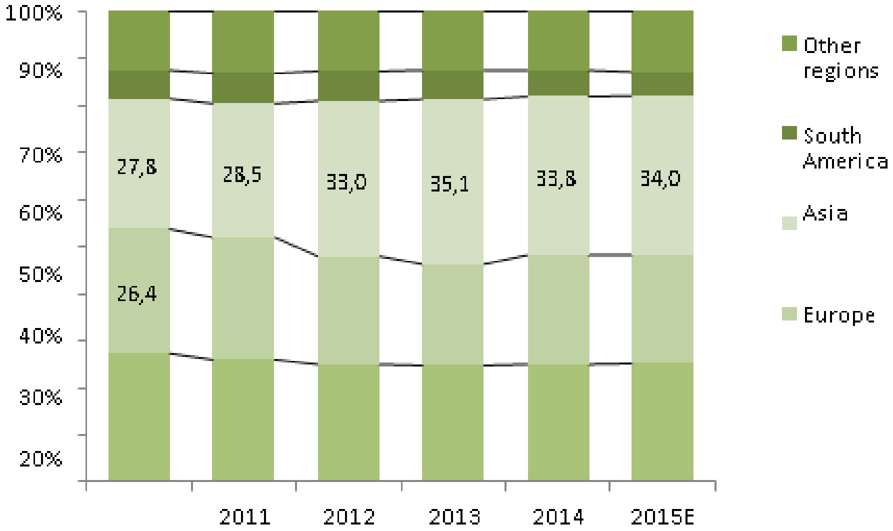
Orientation of strategy of most of the leading logistic operators to strengthening of presence and volumes of operations in Asia, including service of regional trade becomes the general trend on medium-term prospect. Thus in response to decrease in demand for international transport the global 3PL-operators working in Asia began to be focused on creation of regional structure of storage and distribution, but not on development of export activity.

According to Armstrong & Associates, and mature the transport and logistic market of Europe is the most developed today. Taking the third position in the world on the volume of logistic expenses and the size of the transport and logistic market (18% in 2014), the countries of Europe provide 23% of revenue in segmente3pl-services.

At the same time, by the absolute size of the market of 3PL-services Europe concedes to the countries of Asia and North America. The total volume of revenue of 3PL-operators in the Asian market in 2014 made US$ 253.7 billion (against US$ 174.4 billion received in the European market), and its share in a world segment 3PL reached 33.8%.

The second position (25%) is taken by the North American market of 3PL-services with a capacity of US$188,2 billion. However at the level of the certain countries the market of the USA from shares in a world segment of 3PL-services in 21% is still in the lead (fig. 2).

Figure 2: *Geographical structure of the world market of 3PL-services, 2010-2015, %*



Source: authors

2. The market of 3PL-services in the USA

According to Armstrong & Associates, cumulative logistic expenses in the USA in 2014 made US$1,44 trillion (8,2% of GDP of the country), the size of actually transport and logistic market of the USA (costs of transport and logistics without taxes, percentage payments, depreciation and insurance) is estimated at US$1,23 trillion.

In structure of the transport and logistic market the segment of cargo transportation (74% of market size) prevails. Superiority holds the motor transport occupying about 80% of this sector. The share of railway transport makes 7.1%, on river and aviation it is necessary on 4.6%. Expenses on forwarding don't exceed 4%. Cumulative costs of storage and distribution are estimated at the USA within 9% of total amount of the market, another 4% are spent for logistic management.

According to the experts, about 81.3% of volume of the transport and logistic market are the share of logistic outsourcing (US$ 1001.3 billion in 2014). In the market of logistic outsourcing the share of 3PL-operators makes 15.8%.

In outsourcing logistic business of the USA, as well as in other countries of the world, two main groups of the specialized companies work: with own park of vehicles, hoisting-and-transport and other equipment, and also warehouse capacities (asset-based) and intermediary (non-asset-based).

In structure of the American market of 3PL-outsourcing the services connected with the organization of international transport (30% in 2014) and forwarding of internal transportations (36%), and also services of a value added in responsible storage and distribution (23.7%) prevail.

The great demand on internal transportations in the USA is connected, first of all, with the growing popularity of Internet trade. Quickly the number occupied performed by and delivery of orders for e-commerce increases. So, according to the analytical company BI Intelligence, only in July, 2016 there were 1700 new vacancies of drivers of trucks for delivery of purchases. 2600 more new experts employed the companies providing warehouse services for the companies of electronic commerce. Also 1800 couriers were in addition employed.

Good results were shown by the operators working mainly at domestic market of the USA that allowed increasing consolidated revenues of Top-50 of the companies significantly. According to Armstrong & Associates, the revenue Top-50 of the logistic companies of the USA in 2015 made US$ 115,5 billion (+ 8%), and their share in market size reached 71.7% in comparison with 67.7% in 2014.

3. The market of 3PL-services in Europe

By an assessment Armstrong & Associates Inc., cumulative logistic expenses in Europe in 2014 made US$1660,6 billion (€ 1248,6 billion, 9.2% of GDP). The volume of costs of transport and logistics is estimated at US$ 1337.2 billion (€1005.4 billion).

64,6% of costs of transport and logistics are the share of the logistic outsourcing including services in transportation, processing and warehousing of freights, and also administrative logistics (SCM and 4PL) and value added services (VAS).

In 2014 the volume of the European market of transport and logistic services increased by 8.5%, to € 649.5 billion from which €131,3 billion (20.2%) were the share of a segment of 3PL-services. The European market of transport and logistic services showed restoration of volumes after reduction in 2013.

The largest in Europe is the market of transport and logistic services of Germany which volume in 2014 was estimated at €220 billion. Then in decreasing order there are markets of France, Italy and Great Britain with a capacity from €80 billion up to €110 billion. Germany, France, Great Britain, Italy and Spain – it is the share of the five of the leading countries to 72% of the market of transport and logistic services and 3PL of services of Europe.

The largest European 3PL-providers are logistic divisions of Deutshe Post World Net holdings (DHL Supply Chain & Global Forwardingl) and Deutsche Bahn Group (DB Schenker Logistics), and also Kuehne & Nagel.

By data from the reports for 2015 published by twelve European 3PL operators, the cumulative turn of the largest players made €112 billion, having increased by 6,4% in comparison with 2014.

The share of the largest European logistic companies in the world market 3PL of services in 2015 made 17.2% (the volume of the global market was estimated at €653,1 billion, US$ 1 = € 1,11).

The greatest increase in sales in euro in 2015 was recorded in the GEODIS, Norbert Dentressangle and Wincanton companies.

4. Prospects of development of the market 3PL of services in Russia

In structure of the Russian market of logistic outsourcing services 2PL prevail, the share of gross revenue of logistic providers in a turn of the market of transport and logistic services makes 6.2%, the share of services of a value added of 3PL doesn't exceed 3%.

In 2015, according to participants of the market, growth rates of a turn of the companies working in a segment of complex logistic services were significantly lower than dynamics of the market of transport and logistic services in general that turned out to be consequence of decrease in size of a value added due to reduction of the prices and tariffs in the conditions of fierce competition. The maximum focus on the client, the offer of the new products and services aimed at reduction of expenses in chains of deliveries became basic elements of competitive fight and factors of growth of the most successful logistic operators (Dudin, Lyasnikov, Veselovsky, Sekerin & Aleksakhina, 2014).

The consolidated gross revenues of logistic operators in 2015 were stated in 174.8 billion roubles. Over 70% of a turn provide operations on transportation and forwarding of freights (own and attracted transport), about 30% are the share of segments of warehouse and administrative services, including management of chains of deliveries. 3PL-operators occupy rather big share in the Russian market of warehouse services (31,8% in 2015), thus their participation in the organization and performance of a cargo transportation doesn't exceed 4,6%. In these segments of the market of transport and logistic services the main volume of services provides the transport-forwarding companies (segment 2PL).

The low share of 3PL-services in a turn of the market of transport and logistic services substantially is a consequence of the existing structure of production and according to fright traffics in the Russian Federation which is characterized by prevalence of raw materials and semi-finished products – hydrocarbons, of ore, coal, mineral fertilizers, the wood and timber.

The raw companies are, as a rule, ready to transfer only basic services in transportation and cargo handling to outsourcing, reserving management of chains of deliveries. Cargo delivery from the producer to the consumer (within the country or to border) is carried out mainly by rail within direct contracts with forwarding companies or the companies carriers (first of all with JSC RZhD and its affiliated structures, and also independent operators of a rolling stock) at the minimum forwarding margin.

At the same time, as shows experiment "the Russian Railway Logistics", complex transport and logistic service of the export companies of raw materials is capable to lower significantly their logistic expenses at the expense of the organization of optimum chains of deliveries of production to borders of the Russian Federation (to seaports and overland boundary transitions), and also optimization of internal logistics of the enterprises.

In general in the market of contract logistics and complex industry solutions which basis in Russia, as well as in all Europe, are services 3PL providers, there is a considerable volume of a pent-up demand (Byun, Sung & Park, 2017). Main objectives of cooperation of trading and production companies with logistic intermediaries of this class are obtaining competitive advantages for the account:

- reductions of operational logistic expenses, general increase of efficiency of functioning of logistic system and, as a result, decrease in a product cost,

- increases of flexibility of firm and ability to adapt for continuous changes of conditions of a business (Šikýř, 2015),
- reduction of risks,
- reduction of duration operational and logistic cycles.

The main demand for services of 3PL-providers is formed by the companies which are specializing on production and trade in goods with a high value added, engaged in foreign economic activity or realizing the projects demanding special conditions and schemes of cargo delivery by several means of transport. So, in 2013-2014 on growth rates the logistic providers who are carrying out supply of equipment within projects of oil and gas and power sectors of economy, the companies working in an express delivery segment, and also the operators providing complex services (including transportation of combined freights, storage and distribution) for retail networks were in the lead.

In 2015 the best results showed the companies which actively joined in logistic service of online stores including formation of orders, warehouse logistics and delivery to the consumer. In the conditions of the high level of the competition increase of demand for logistic outsourcing in a segment of retail trade, including the organization of work of distribution centers and ensuring delivery of goods in shops was noted (Carayannis & Grigoroudis, 2014). Thus the logistic operators capable to propose the new technological solutions directed on decrease in expenses in chains of deliveries had serious competitive advantages. In 2015 in the market of warehouse services there was an ambiguous situation. Against decrease in rubble rental rates (on average for 11% in a qualitative segment) rather high level of demand on direct rent of warehouses (2PL service) from end users – wholesalers, distributors and, especially, retailers. Thus transition of part of tenants to warehouses of higher category which became comparable at cost to less qualitative objects was noted. In most cases complex logistic service (including the organization of chains of deliveries) is assumed by specialized divisions of the company's tenants. However, recently cases when the tenant or the owner of a warehouse signs the contract for logistic service (and even warehouse service on the platform) with logistic providers even more often began to be noted. Such practice is used, in particular, by producers of automobile accessories, spare parts, large distributors of consumer goods and retailers.

At the same time, following the results of 2015 and the special first half of the year 2016 the market of warehouse services was compelled to leave a number of averages by the size of the logistic companies rendering services of responsible storage which couldn't cope with reduction of business of the clients. At the general falling of size of the market of warehouse services on qualitative squares at 14,6% in 2015 the volume of the carried-out operations in warehouses decreased more considerably (in certain cases by 3 - 4 times), because of sharp delay of turnover of goods, reduction of the range and reduction of volumes of storage. Those companies which were focused on two-three major customers and which business was insufficiently diversified left from the market. Thus the remained players could reduce and optimize significantly expenses and increase efficiency of the business.

At the same time, according to participants of the market, strengthening of export operations against devaluation of rubble, increase in demand for logistic outsourcing from the trading and distribution companies developing e-commerce, need for new logistic decisions for reduction of expenses in chains of deliveries will promote a gradual exit of a segment of 3PL-services from recession.

Conclusion

3PL service in the world develop not the first decade, in Russia such service became actual only after crisis of 2008. In paper the content of 3PL services concept is investigated, the current state of the 3PL services market is analysed, prospects of development of the 3PL services market in Russia are revealed. It is proved that main objectives of cooperation of trading and production companies with logistic intermediaries is obtaining competitive advantages for the account: reductions of operational logistic expenses, the general increase of efficiency of functioning of logistic system and, as a result, decrease in product cost, increase of flexibility of firm and ability to adapt for continuous changes of conditions of business, reduction of risks, reductions of duration of operational and logistic cycles.

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HRM CHALLENGES OF SMES IN THE LIBEREC REGION

Ing. Kateřina Maršíková, Ph.D. / Ing. Ondřej Moš, M.Sc.

Katedra podnikové ekonomiky a management
Ekonomická fakulta, Technická univerzita v Liberci
Studentská 1402/2, 461 17, Liberec
e-mail: katerina.marsikova@tul.cz, ondrej.mos@tul.cz

Keywords:
Human Resource Management, Small and Medium Sized Enterprises, Liberec Region, Trends in HR

Abstract:
The paper aims to introduce specifics of human resource management in small and medium sized enterprises. Nowadays companies have to face a lack of potential employees in the Czech labour market. For small and medium sized enterprises (SMEs) which represent the majority of business entities in the Czech Republic and which are limited with the scope of HR activities and financial support, finding of the best employees means a big challenge. The theoretical part describes specifics of HRM in SMEs and its current trend including employer branding. The second part of the paper introduces some challenges which companies have to face to become an attractive employer. Challenges are pointed out on data of selected SMEs in the Liberec region and in selected EU countries collected within the SHARPEN project.

Introduction

The paper focuses on the topic of human resource management in small and medium sized enterprises. The aim is to highlight trends and challenges which SMEs have to face in current business environment. People – human resources – human capital is a crucial factor of companies' success. This topic is analysed within the SHARPEN project (SMEs HRM Attraction, Retention and Performance Enhancement Network). This 3 year project aims to analyse specifics and challenges in HRM processes in SMEs. Namely it opens door to cooperation between universities and SMEs in 5 different European regions. Primary data presented in this paper were collected during the pilot shadowing and qualitative and quantitative survey within 5 Czech SME in the Liberec region and other 9 SMEs in Finland, Germany, Lithuania and the UK. The pilot questionnaire in the Liberec region was distributed among 5 Czech firms in Liberec region in April 2017. Students who participated in SHARPEN project in these companies collected quantitative as well as qualitative data during their shadowing phase in the first year of the project. The questioned either HR managers or employees responsible for HR processes in these SMEs. Even though this constitutes a relatively small and not representative sample, the results have in a lot of ways been in line with the knowledge gained in this paper's literature review. For other named countries students used the same methodology and personal approach to get comparable data across all 5 named countries. As this was a pilot year data collection aim to help the identification of crucial factor and prepare environment for quantitative blanket survey planned in the project in autumn 2017.

1. SMEs and Human Resource Management

It is often suggested in the Management literature that Human Resource Management (HRM) is in many SMEs performed in a poor manner (Dundon a Wilkinson, 2003). Furthermore, some authors argue that SMEs which are unable to efficiently deal with HRM issues often fail in their business (Dess et al., 2003). One of the reasons for why might HRM in SMEs be inefficient is of course the fact that there is no HR department or specialist in the firm (Koubek, 2011). In itself that does not mean that the firms' managers cannot perform good HR, it however puts another burden on their shoulders, which can lead to the aforementioned inefficiency. Another reason, which is connected with the previous one, is that when there is no full-time HR worker, the HRM issues are seen as important only when they begin to acutely interfere with the firms' business (Tocher and Rutherford, 2009).

It is not surprising to state that SMEs are disadvantaged on the labour market when compared to large firms. Large firms have the necessary resources to perform efficient HRM and when they do, it pays off. A positive relationship has been found between HRM and overall performance of large firms (Young, 2009; Saridakis, 2017). Research suggests that the same applies to SMEs (Michie and Sheehan, 2008; Patel and Cardon, 2010). Some authors (e.g. Cardon and Stevens, 2004; Hornsby and Kuratko, 2003; Koubek, 2011), put forward that HRM is even more important to SMEs than it is to larger firms, since SMEs can be much more affected by the quality of their personnel than large firms.

2. Current HRM challenges of SMEs in Europe

According to the European Comission, youth unemployment rate in 2016 in EU-28 was 18,7 %. In the Czech Republic, it was 10,5 % which was the second lowest rate in the EU-28 (European Comission, 2017a). Due to the fact of the low unemployment rate, it is very difficult to get reliable and hardworking employees.

Based on the literature overview the current trends of HRM in SMEs were identified as (Horváthová, Bláha and Čopíková, 2016):

- Recruitment of young and technically skilled people (including graduates).
- Using of social media as a suitable communication channel for recruitment.
- Develop an employer brand.
- Employee retention.

In many SMEs, there is a need of **recruitment of young and technically skilled people** (called as Generation Y). Together with this issue it is important to start working with social media. An important part of recruitment is a right choice of a communication channel. Social networks are one of the best recruitment tools and the most common social networks nowadays are LinkedIn, Facebook and Twitter. According to *International Business Machines Corporation (IBM) Institute for Business Value* and its research called *HR managers*, social networks are regularly used by 66 % of them and another 26 % are learning to use it. 42 % of HR managers use social networks as well as corporate communications and the same percentage is learned (IBM Institute for Business Value, 2013).

Just hiring young people is not enough for future prosperity of SMEs. Young people nowadays have completely different needs and desires than older generations. Even their working habits and expectations are different (The Economist, 2016). According to the *Gen Y* *and the World of Work* survey from 2013 by the global specialist recruitment group *Hays*, interesting work (60 %), job security (47 %) and personal wealth (40 %) belong among the three most important expectations of respondents in their professional careers. The three most important factors that make up a choice of the future employer include training and development programs (53 %), offered benefits (41 %) and flexibility (37 %). We can also expect that representatives of Generation Y will not be working for the same employer for many years. 28 % of respondents want to change 1-3 employers, 46 % even 4-6 employers, 16 % 7-9 employers and 10 % would like to go through 10 and more employers (Hays, 2013).

2.1 "Generation X"

People of Generation X were born between the years 1965 and 1981. In the Czech Republic, they are called also *Husák's children* according to Gustav Husák who was the president of Czechoslovakia between 1975 and 1989. Taylor and Gao (2014) describe Generation X as people who grew up in financial, family and social doubt. In employment, they are loyal and sometimes passive. Anyway, they want to learn new skills and to be well employable. Their motto is *"To work hard and play hard"*. They like stability and do not want changes. Very often, is for them their work more important than their family and they are faced with the burnout syndrome. The divorce rate has dramatically increased in this Generation. They are not used to discuss with the boss about their personal needs. They do not like conflicts. Money is a big motivation for them. Very difficult for them is the fact that they are unable to work with modern technologies as well as the younger generation. According to Kubátová and Kukelková (2013), one of the most typical features of Generation X is long-term employment. Most individuals of this generation have found a job immediately after their graduation where they are working since this time. For these people it is typical to stay at one place where they have found territory.

2.2 Generation Y

In recent years, new terms such as *Generation Y*, *Millennials*, *Generation Next*, *the Net Generation*, *Echo Boomers*, *iGeneration*, *Generation Me* or *the Next Great Generation* have emerged. Who are they? What are their interest and dreams? How to deal with them?

Under the all terms mentioned above are understand people who were born between 1980 and 1995 (by some experts between 1980 and 1992). These people have grown up during a time of technological and economic disruption and currently, they are starting off their professional career and entering the labour market. In 2025, the global labour force will be composed of these people by 75 %. Over the next five years, this group will be in leadership positions and will have a growing influence on a decision-making of organisations and companies (Horváthová, Bláha and Čopíková, 2016).

According to a report of *Price Waterhouse Coopers* (PWC), there are several differences compared with an older generation. Generation Y wants to have a meaningful work. Their career is supposed to be one of choice, not one chosen out of desperation. Moreover, young people are more flexible than their parents (PwC, 2011).

Generation Y was born into a period of relative peace. Since their early childhood, they have been persuaded that they can achieve everything they want. People from the Generation Y are highly ambitious and finding an interesting job full of challenges and freedoms is very important for them. Their colleagues are more like friends to them. They require a higher standard of living, feel more responsible for their social security, and put emphasis on self-actualization (Kazdová and Smrčková, 2012).

The biggest difference between Generations X and Y is in their personal life, especially for the Generation Y partnership and family relationships are on the first place. They work very efficiently, flexibly, and can make time for their own hobbies, sport and relaxation. They prefer health, manage their duties and activities in a completely flexible regime, and at the same time, they come up with lots of new ideas and innovations that they really care about. They need an individual approach to development and education. Coaching allows them to find their own solutions in their career and personal life. The greatest motivation for them is meaningful work that they enjoy and that develops them. They are very creative, they say what they think and want to achieve the best results. Very often, however, they lack “drive”, the endurance to work for a long time to achieve a predetermined goal (Kazdová and Smrčková, 2012).

Generation Y is literally living with modern technology. Technology is absolutely natural to them. High digital literacy is the main characteristic that distinguishes them from the older generations. These young people want to be online, always communicate, write own blogs, have own websites, tweet, respond, publish their opinions, experiences, photos, videos, use social networks and create teams that they like to work for. It is a generation for which it is important to work in teams, to use modern technology, to work in own and comfortable space (Home Office) and in an own way (part-time, space-sharing) and to communicate globally and to work interculturally (Kazdová and Smrčková, 2012).

Other demands, attitudes and overall expectations of this generation lead to a change in style of work and communication in the relationship of employee-employer. In this understanding has a very important role the HR staff. Based on the knowledge of differences and needs of this generation, HR staff should change established practices to adopt Generation Y. Line managers will have to prepare themselves for this generation coming to the teams. They will have to prepare for someone, who needs more attention. If organisation fails to adequately respond to the specifics and needs of Generation Y, it will be unable to fully exploit the potential offered by this group of workers (Horváthová, Bláha and Čopíková, 2016).

2.3 Generation Z

Youths born between the years 1995 to the present are members of the newest net generation, defined as Generation Z. These youths were born into a totally different technological world than what their predecessors, called Generation Y, were. It is the first generation to be born into a completely digital world (Geck, 2007). What differentiates these adolescents from those of every other generation is that they are the most electronically connected generation in history. One key difference from Generation Y is that most members of Gen Z don’t remember a time before social media. As a result, they tend to live much more online and via their smartphones.

2.4 “Generation Alpha” of “Always-On Generation”

These people are or will be born between 2011 and 2025, in other words, only in the 21st century. Thanks to the Internet, since their early childhood they have easy access to people, information and all world knowledge. The Internet is for them an *external brain*. They are impatient and not capable of deeper thinking. Generation Alpha grows at a time of general population ageing caused mainly by the baby boom of the 1960s and low birth rates in following years. They will be those who will take care of older generation. Work fluctuations are assumed unless the employer offers them the right conditions (Martin and Jackson, 2010; Rezlerová, 2009; Kubátová and Kukelková, 2013).

3. Social media in recruitment

Social media is a broad category, encompassing practices such as podcasting, blogging, text messaging, internet videos, and HR e-mail marketing, which are some of the more widespread applications used in recruitment (Joos, 2008).

What makes social media unique is that they allow the users to make a public profile and make their social network visible to others. Communication takes place primarily between humans who already are a part of their extended social network. This gives the opportunity to expand the social network, which can help active job seekers find a job and help employers find the job seekers.

However, there are some limitations to the use of social media in the recruitment process. It is easy to destroy an organisation’s reputation through social media and there is also some uncertainty related to social media and the number of qualified applicant for a position or whether the use of social media also leads to a higher number of not qualified applicants.

Nevertheless, if social media are capable of destroying an organisation’s reputation, they should probably be capable of helping to build a good reputation as well. The use of social media for organisations has benefits such as free, unlimited use and shorter response time. Social media can be also useful for attract potential employees and because of the evolved use of social media in recruiting and employer branding campaigns, it is found to be important to assess whether this way of using social media actually work (Sivertzen, 2013).

According to a survey by *Cisco* from 2013 which was attended by 1,800 respondents, 90 % of Generation Y check e-mail or news on social networks before going to school or work. These people are obsessed with real-time information. It is no wonder, therefore, that more than half of respondents (56 %) said that possible ban on access to social networks in the workplace is a reason why they would not want to work in a company (Mediaguru, 2013).

4. Employer Branding of SMEs

It is well known that a high employee turnover and internal conflicts may cause severe damage to productivity and company income. In order to prevent that, employer branding is focused on getting a good reputation for both current and future employees. First of all, it is needed to define the concept of branding, according to Swystun (2007), “a brand is a mixture of attributes, tangible and intangible, symbolized in a trademark, which if managed properly, creates value and influence”.

Edwards (2010) argues that “employer branding is an activity where principles of marketing are applied to HR activities”. Professor Edwards compares employer branding with product branding, this last one considers how a product is represented to customers while employer branding considers current and potential employees as “branding targets”.

According to Bax (2011), “employer branding is about delivering an authentic and compelling experience to candidates and employees alike by breathing the corporate values”. That means that an employer branding strategy is a “focused corporate message to current and potential employees that conveys the company’s culture and identity in a truthful and compelling manner”. Obviously, he remarked that a long-term vision is needed to nurture your organizational culture this cannot be just a quick fix or an advertising campaign to generate a rush of new applicants.

5. Characteristics of the Liberec region

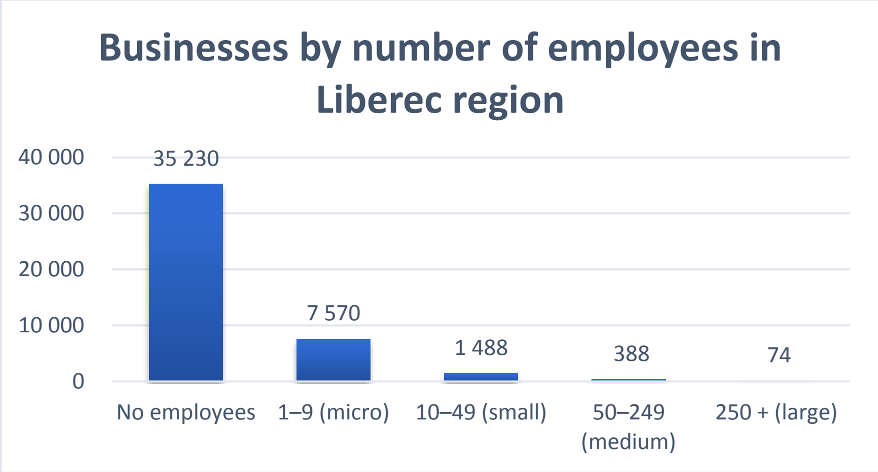
The Liberec region is situated in the north of Czech Republic (CZ) and is classified as a NUTS 3 region. It is one of the smallest regions of the CZ both in area (3 163 km2) and population (440 636). The number of inhabitants has been slowly increasing, with the exception of year 2012, since the year 2005. Significant proportion of the population growth (422 inhabitants, 48 % of overall growth) is due to international migration, with the most people arriving throughout the year 2016 being from Slovakia, Mongolia and Ukraine. The average age of inhabitants has been steadily growing for the past three decades, reaching almost 42 years of age in the last year. Additionally, the productive part of the population has been declining for the past decade reaching 65.1 % of overall population. Many aspects of the region are influenced by its neighbourhood with Germany and Poland. (CZSO, 2017a)

5.1 Business environment and the labour market in the Liberec region

In the year 2016, there have been 218 500 economically active inhabitants in the Liberec region. 9 600 of these were unemployed, making the unemployment rate 4.4 %. This is the lowest unemployment rates since 2011 and is forecasted to further decline in the following months. In comparison, the CZ as a whole was experiencing an unemployment rate of 3.6 % in the last quarter of 2016 (CZSO, 2017b). Average monthly wage in 2016 was 27 326 CZK in Liberec, which is 2.65 % higher than the national average of 26 643 CZK. Most workers (37 %) were employed in the manufacturing sector followed by wholesale and retail trade, human health and social work activities and education. (CZSO, 2017a)

In terms of number of businesses operating in given CZ-NACE category, most businesses in Liberec region fall into the wholesale and retail trade category, followed by manufacturing and construction (MPSV, 2017). As to number of employees, the situation in Liberec is comparable to the situation in the whole CZ. The graph No.1 below shows that most businesses have no employees and the higher the number of employees gets, the lower number of businesses there is (CZSO, 2017c). SMEs thus represent 99 % of all companies and guarantee a large number of workplaces. For these reasons, SMEs´ development is one of urgent points in the Liberec region economic agenda and also in the whole Czech Republic and the European Union (SMEs here are defined according to European Commission, 2017b).

Figure 1: *Businesses by number of employees*



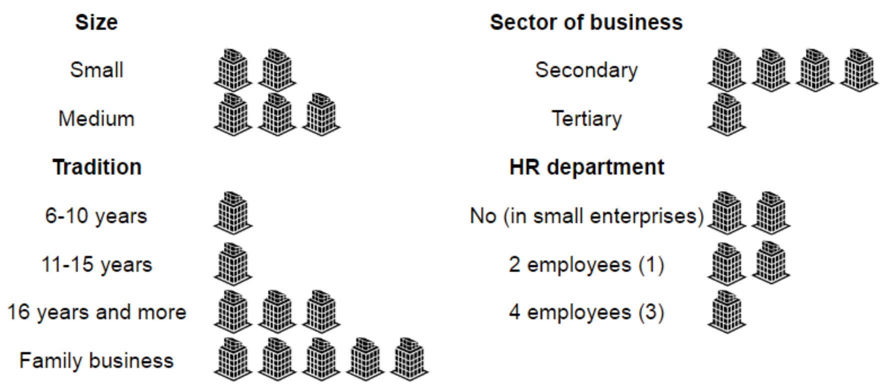
Source: CZSO, 2017c. Ekonomické subjekty v Libereckém kraji k 31. 12. 2016. Available at: https://www.czso.cz/csu/xl/170125_res

In summary, Liberec region is in a similar situation as the rest of the country. Population is getting older, number of productive inhabitants is getting smaller and there are not enough workers. This situation is especially challenging to SMEs, who constitute the majority of businesses in Liberec region. Large manufacturing firms attract most of the available workforce and SMEs are left with no or less qualified workers.

5.2 Challenges of SMEs in the Liberec region

In this chapter the author present finding of the pilot qualitative survey done within the first year of the SHARPEN project in 5 chosen SMEs in the Liberec region. For charting of HRM in SMEs, we have chosen 5 different SMEs operating in different industries. Figure 2 shows the basic characteristics of these SMEs. Two of our chosen companies were small sized (10–49 employees) and three are medium sized (50–249 employees). Four of them operate in the secondary sector (production and industry) and only one operates in the tertiary sector. All of these companies have long-term tradition and all of them consider themselves a family business. Two of the companies' did not have an HR department, 2 of the chosen SMEs have 2 employees in an HR department and one medium sized had 4 employees in this department.

Figure 2: *Characteristics of chosen SMEs*



Source: Sharpen survey 2017,own elaboration

Following table shows HRM functions that have been identified as most and least often used in the chosen SMEs.

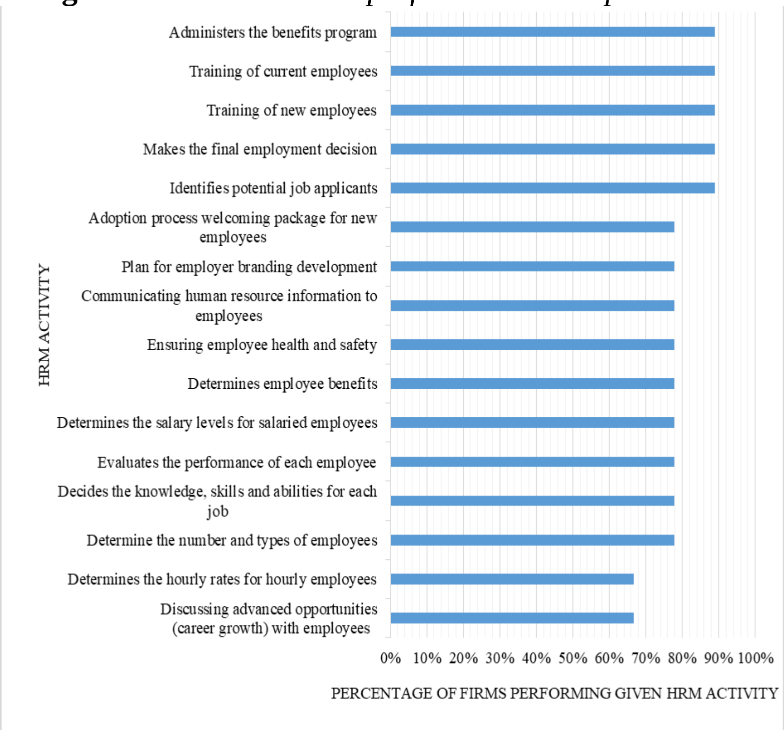
Table 1: *HRM activities in selected SMEs in the Liberec region*

HRM functions and activities which are performed in the chosen SMEs	
Most often	**Rare**
Determining the number and types of employees	Benefits programme
Identifying potential job applicants	Discussing advanced opportunities (career growth) with employees
Indentify knowledge, skills and abilities for each job	Talent management
Training of new employees	Plan for employer branding development

Source: Sharpen survey, 2017, own elaboration

Table 1 points out the areas which chosen SMEs in the Liberec region emphasised as the most common and rare. Basic activities done by most of the SMEs were in the process of recruitment - Identifying potential job applicants, HRM planning - Determining the number and types of employees, job definition - Identifying knowledge, skills and abilities for each job and training of new employees (induction process). On the other hand SMEs do not often developed benefits programme, talent management programmes and career growth and plans for employer branding. The also do not use social media very often, especially in connection with the generation Y and Z specific approach.

Figure 3: *HRM activities performed in European SMEs*



Source: SHARPEN survey 2017, own elaboration

Comparing to Czech data other analysed SMEs in other four selected regions in the project show that these SMEs seem to pay more attention to HRM activities (see Figure 3). However based on the qualitative survey done in these 9 SMEs across 4 regions and case studies these companies notify similar challenges in difficulties to attract young generation, using social media for recruitment and make an attractive reward system based on the evaluation of employees.

Conclusion

The aim of the paper is to introduce specifics, challenges and trends of human resource management in small and medium sized enterprises. In the first part there introduced specifics of the human resource management in small and medium sized enterprises. The authors also point out challenges and trends SMEs have to face in human resource activities, mainly in connection with specifics of generation Y and Z and also shaping of an employer brand.

In the practical part there are presented results of the pilot survey done between selected SMEs in 5 different European regions. There were 5 Czech SMEs and 9 SMEs in other 4 European countries selected with the aim to deeply analyse their HRM processes. Comparing basic findings based on shadowing of students in SMEs and qualitative and quantitative data it seems that selected EU SMEs pay more attention to various HRM activities comparing to 5 Czech SMEs selected in the Liberec region in 2017. The authors are aware of no representativeness of the results however the deep analysis of HRM processes in selected SMEs brings an interesting insight look in specifics of HRM in SMEs nowadays.

The selected SMEs and their HR specialist point out that it is important to pay an attention to consistency and real interest in HR, exclusion of formal approach to people, finding leaders who will be respected by employees, to pay attention to employee satisfaction and engagement, to talents with required skills, strengthening of the organisation culture, induction process for all positions and work on building of an employer brand. It is not only about recruiting of good new employees but also to maintain employee retention plans.

The main value added of an existence of the HR specialist in small and medium sized enterprises was identifies in a right employee selection, using of social media for communication and employer branding support, creating a strong team of employees looking for the same goal as employer. HR specialist help to search for quality people with intrinsic values, such as corporate ones, contribute to a pleasant work environment, enjoy working and synergistically contribute to improving the organization's overall performance.

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Acknowledgement

This paper was written with the support of the Erasmus+, KA2 strategic partnership project SHARPEN No. 2016-1-CZ01-KA203-023916.

SOME ASPECTS OF THE MOTIVATION OF TEACHERS IN THE UNIVERSITY (BASED ON MATERIALS FROM RUSSIA AND THE CZECH REPUBLIC)

Abrashkin Mikhail, Martin Šikýř

Institution State Educational Institution of Higher Education Moscow Region „University of technology" (UNITECH), 41 070 Russia, Moscow region, Korolev, ul. Gagarin, 42
E-mail: abrashkinms@mail.ru

Institute of Regional Development and Banking Institute – AMBIS, Nárožní 2600/9, 158 00 Praha 5, Czech Republic
E-mail: martin.sikyr@ambis.cz

Keywords:
Higher education, motivation, teachers

Abstract:
In the context of growing competition among universities in the struggle for entrants, as well as the increasing importance of international educational ratings, higher education institutions face the challenge of improving the qualifications of the faculty and, consequently, the need to introduce modern motivation systems that enhance the quality of education provided by the staff of training Institutions. The effectiveness of teachers often becomes one of the key criteria for assessing the quality of education in an institution, so effective motivation programs become key to a modern higher education institution. Taking into account the fact that the motivation of teachers is based on non-material incentives, the article concretizes them, reveals the most significant ones that would be more in line with the priorities of higher education and the goals of universities.

Introduction

Purpose of work is a generalization of the theoretical foundations and practices of motivating teachers in universities in models of implementing HR strategies. It is proposed to build a technology for building labor relations between university staff and its management based on an intangible motivation system that takes into account the motives for choosing a profession as a place of work, the motives for choosing a particular institution and the motives for the professional activity of the teacher.

The cardinal changes that have occurred in recent decades in a number of countries, the global trends associated with globalization and the rapid spread of information and communication technologies, the formation of a "digital economy" - all these processes inevitably affect the vocational education system and determine the prospects for reforming the higher school. Teachers as a central part of the educational process affect these changes. The effectiveness and effectiveness of their work depends on the development of universities, their competitive advantages. Therefore, organizations should improve the system of personnel management and employee motivation.

The purpose of the publication is based on an analysis of the available scientific literature and the results of the practice of personnel management in universities. The methodological basis of the study is the systemic and dialectical approaches, general scientific and special methods. The theoretical significance of this work is due to the lack of comparative analogies and statistics of the Czech Republic and Russia. The empirical base used in this scientific work can be used as a material for further in-depth development of the problematic issues and the concretization of the motivational factors of the teachers, the development of a development program for the personnel management system of universities. The statistical data of the Russian Statistical Agency and Czech statistics were used in the work. As an empirical base of the research, unstructured interviews of teachers who works in Institution State Educational Institution of Higher Education Moscow Region „University of technology" (Russia) and Institute of Regional Development and Banking Institute – AMBIS (Czech Republic). The authors of this article also analysed a large amount of information about the management of personnel in various. General approaches to the personnel management were reflected in the book "Personalistika pro manažery a personalisty" (Šikýř, 2012), and also in the collective monograph "Features of human capital management in the interests of innovative development of the region" (Averkin et al, 2014) in which M. Abrashkin took part. Information on their activities and work with personnel was taken from open sources of information and based on the results of studies of graduates of bachelors and specialists who prepared the final papers under the guidance of the author of the article.

1. The role of university teachers' motivation in the overall concept of personnel management

In the context of global competition, the international competitiveness of each country is increasingly less dependent on mineral resources, the level of spending on wages and on other production factors. The fundamental basis of the long-term unique advantages in the competitive struggle that a country can achieve or increase are its human resources, i.e. people, their desire to achieve their goals, their knowledge and value system, their creative and innovative abilities. These factors make it possible to ensure economic growth and welfare of the country. Of particular relevance is the management of personnel in universities, as the economies of many states is now based on "knowledge".

Decisions in the field of personnel management in higher education institutions are influenced by a number of factors, many of which neither the managers of personnel departments nor other employees of firms can exert significant influence. These factors can be due to both intra-organizational processes and the external environment. For example, these are the issues of filling the deficit of teachers (Kyriacou & Kunc, 2007) or limited career opportunities (OECD, 2005). Many of them, influencing the university and methods of personnel management, have a rather clearly expressed intercountry character, that is, it reflects the established traditions of a particular society. For example, poor knowledge of English by teachers in Russia is the norm, while in the Czech Republic this is unacceptable. At the same time, there are a number of factors affecting the management of personnel, which are due not so much to the specifics of a particular country as to the organizational culture.

Differences in approaches to human resource management can also be explained using a model that compares competitive and constructive flexibility. The concept of competitive flexibility is that. That national competitiveness is best achieved by minimizing managerial prerogatives and with a minimum level of legislative regulation and no obstacles to the flexibility of the workforce. Constructive flexibility, by contrast, seeks to ensure flexibility, without causing conflicts between organizational units and society. Here, employees have broad legal rights and protection, and employers' social costs may be higher than in countries that tend to be competitive. All universities are in need of attracting, motivating, attesting and controlling the teaching staff. However, practice in different countries is different. The main differences in the practice of human resource management in different countries are determined by different cultural, legal and economic factors. Cultural factors include attitudes toward work, ideas about the relationship of an employee with his working group, the notion of fairness and honesty in various labor situations, as well as the role of wages and other types of material compensation as motivation factors. Legal factors include laws and instructions on providing equal employment opportunities, dismissal, health and safety at work, protection of temporary workers and part-time workers, and many other key factors determining labor relations. Economic factors include the level of unemployment, the rate of economic growth or the degree of rigidity of competition in the domestic market. Intensive competition forces the company to apply flexible labor practices and constantly seek new methods of managing human resources that could strengthen the company's competitive position.

The system of relations with employees, including the degree of state participation in resolving labor disputes and conflicts, the level of trade union movement, the existing relationship between trade unions and employers, the role of the state in providing vocational training. If the state pays little attention to training of workers, companies that need skilled labor have to devote more resources to their training and education than companies operating in countries with a developed state system of vocational education.

In Russia, the system of personnel management in the university has not yet fully adapted to a market economy. It inherited a lot of bureaucracy and superfluous functions. For example, the use of "labor books", a lot of socially useful unpaid work by teachers. The situation in the countries of the European Union is different. At present, European countries are increasingly striving to harmonize existing employment practices in all member countries of the European Union, and the notion of joint decision-making has already been established in most countries.

Nevertheless, in spite of the fact that a large number of laws have been adopted that regulate the management of personnel and human resources, including in higher education institutions (for example, the standards of health and safety at work, the provision of equal opportunities in employment for women, as well as the required minimum Guarantees of employment), national labor laws and business practices vary from country to country. The most significant differences are observed in the recruitment and dismissal of staff, conditions of employment, rules for securing temporary work, the possibility of receiving maternity leave, for family reasons, for training, as well as for the acceptance and dismissal of employees. Currently, European countries are continuing to work to bring together the national practice of human resources management in the countries of the European Union.

2. Features of the university teachers' work

Multidimensionality of the teacher's work is determined by high requirements for knowledge of the taught subject; To the formation in the students of professional qualities in the chosen direction of training, their ability to work in modern conditions; To systematic training of the teacher (Rimska, 2006). From the point of view of the scale of the organization of labor (individual, collective, social), a number of characteristics of the labor characteristics of university teachers are revealed. The individual work of the teacher is determined by the curriculum, work programs, the requirement for educational standards, is controlled by the heads of the department, faculty, administration of the university. The forms and methods of labor organization are largely determined by the teacher himself, which is confirmed by numerous sociological studies conducted in various universities of Russia. All this requires the teacher to thoroughly prepare for general theory and specialized knowledge. He must plan his educational, pedagogical work, conduct educational and methodological development, engage in research work. This implies the need for the teacher to be able to normalize, control and take into account his work.

A feature of the teaching work is also its distribution in time. By the time of implementation, the teacher's work can be divided into two parts: normalized and non-standardized. The ratio between the two components for different teachers will be different. It depends on the ability to organize their work, the desire to participate in public life of the department, faculty or university (Bakuradze, 2005).

The standardized work of the teacher is limited to the time spent in the student and pedagogical team for the purpose of conducting training sessions, participation in the meetings of the department, councils, commissions, that is, limited to the time of performing the basic functions of the teacher. Unlike workers of other fields of activity, teachers do not have clear boundaries between standardized work and free time. Teachers of universities are one of the categories of specialists who have a large and intractable portion of the unregulated time, and working hours are closely related to the off-job.

An important component of teaching work, especially in higher education, is methodical work. Methodological development is necessary in the process of transfer of knowledge, contribute to increasing the level of mastering of the material, since they help to systematize knowledge and facilitate the process of mastering discipline. The scientific activity of the teacher is one of the main elements of the structure of his work, focused on specific results that affect the quality of education

The scientific activity of the university teacher, like his time, is subject to standardization. Planned research works are carried out by teachers in the preparation of training sessions and maintaining the level of professionalism. Planned scientific activity of the teacher is stimulated by payment. Unscheduled developments should be considered separately. A feature of the present time is the almost compulsory availability for the teacher of a scientific degree, if he plans further career or scientific growth.

It should be noted that recently the content of teachers' work has not changed in essence, but there have been changes in the methods of transferring special and scientific knowledge to students, this cannot be ignored in the design of the incentive system for teachers at universities. So, with the emergence of new forms of education (accelerated learning, in-depth study of individual disciplines for participation in competitions for training in universities of foreign countries, distance learning, etc.), the teaching method with the use of information technologies comes to the fore. The knowledge of the teacher of a foreign language and the possibility of teaching it are welcomed by the leadership of higher educational institutions, especially in Russian universities working in the world educational market.

3. Management of the university teachers' motivation

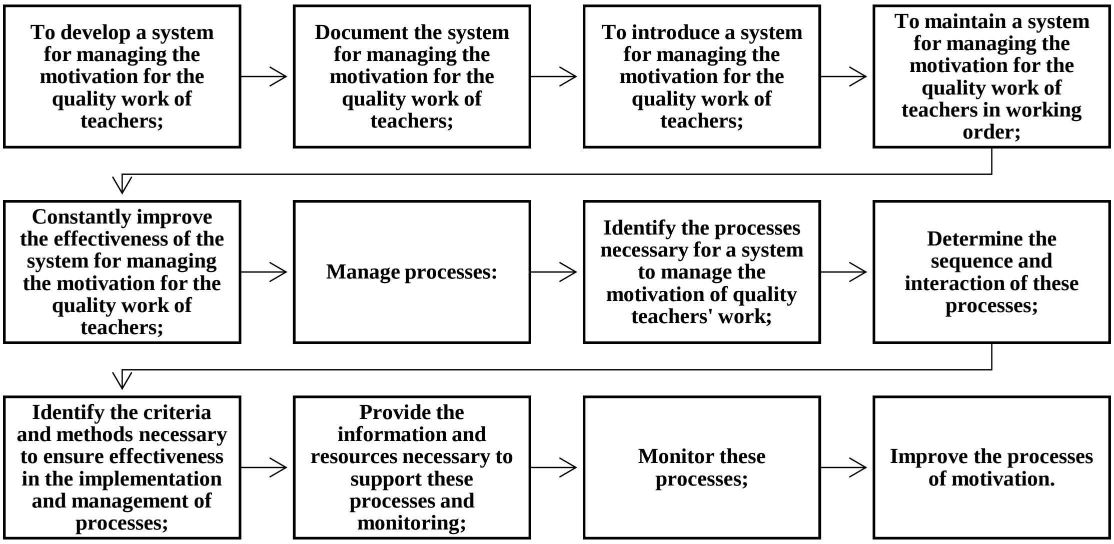
One of the principles for the success of an educational institution in ensuring quality and effectiveness is the continuous involvement of personnel in quality activities. The key

function in achieving the necessary quality of training is the motivation of all the staff of the university, and first of all, the leaders and teachers.
In order to develop and implement an effective system of motivation, it is necessary to realize three stages: to diagnose the motivational environment of the university, to develop a system of motivation in which to use the material and moral means of motivation, to regularly monitor and correct the motivation system. Thus, the educational institution must have a program for the development of a motivation system for the work of teachers. To meet the needs of students, their parents, employers, the state and society as a whole, it is necessary to increase the motivation of teachers for quality work within the competence approach. Management of work motivation is a purposeful activity that involves determining the main directions of the motivation system, as well as the means, forms and methods of managing it.

In our opinion, the general requirements for a motivation management system can be presented in the form of figure 1. The organization must first identify motivational factors, then make documents in the university about motivation and in the end determine whether these motivations contribute to the achievement of the organization's main goals.

Figure 1: *The process of managing the motivation of university teachers*

Source: authors



Policies in the field of managing the motivation of teachers should be based on the basic (system, feedback, normative, variability, innovation, reflexivity) and specific (synergy, contextual specificity) principles. Many teachers receive not large salaries. So, among specialists from other sectors of the economy, they receive the least, often some workers with secondary education receive more salaries. Many teachers also have academic degrees, but they do not go to work in the real sector of the economy: factories, offices, services, etc., although they could receive more money there. This fact indicates that the monetary factors for teachers are less significant than non-monetary ones.

4. Non-material motivation as the main factor in the work of university teachers

The analysis of wages, as well as analysis of a number of works (Zamfir, 2011; Vasilenko, 2009; Grudzinsky, 2003) proves that the main source of motivation for teachers are not monetary factors. In the authors' opinion they can include:

1. Motives of external self-assertion (self-affirmation through external positive evaluation of others). This is the motive of prestige. In this case, the teacher is engaged in the introduction of innovations for the sake of a positive public response to his work. Creating cognitive activities of students, the level of mastering knowledge is not the main goal of the teacher, but a means of achieving the goal - a positive evaluation of his work. In such cases, there is a tendency to turn the use of new, effective methods into an independent task that is subordinated not to the goals of learning, but to the goals of personal success.

2. Professional motive. He acts as a desire to teach and educate students. For this type of motivation, the direction of the innovator's activity toward students is typical. The teacher wants to innovate in the pedagogical process in order to:

- desire to achieve better mastering by students of knowledge and skills;
- the desire to stimulate students to greater activity;
- desire to reveal the individual characteristics of students;
- the desire to develop the creative abilities of students.

In each lecture, such a teacher seeks opportunities for personalized instruction.

3. Motives of personal self-realization. In the self-realization potentially exists for all people, but not for all manifests itself in professional activity. Teachers who aspire to self-actualization prefer creative kinds of work that open up clear opportunities for self-development. Lectures for such a teacher - this is an occasion to realize yourself as a person and a professional. Each time the choice of the best variant of the method, always realized taking into account the interests of students, is carried out. The activity of this teacher is distinguished by a high level of receptivity to innovations, a constant search for oneself in this new one, the need for a qualitatively different vision of the various forms of pedagogical reality. Often the teacher sees himself as an actor who is preparing to play a new role.

In addition to individual characteristics (creativity, volitional qualities, self-esteem, degree of openness to the new, etc.), social factors influence the success of the activity. The success of innovation is determined by the ability of the teacher to take into account and control the features of interpersonal relations in the team. Of great importance is the creation of the so-called innovative climate, without which innovation activity breaks through its path with difficulty.

The recognition process will be effective if the following main tasks are being accomplished:

- Recognition of the work of teachers who have achieved significant results, with a view to further stimulating their activities.
- Interest of the top management of the university in the results of the teacher's work.
- Extracting the maximum effect by popularizing the results of the work of individual teachers who have been recognized.
- Ensuring the process of increasing labor activity and the quality of activities that are the goal of management.

Along with the motives mentioned above, related to the content of teaching work, the motivational core also includes motives that characterize the importance of such working conditions as university stability and the intellectual environment. Any employee wants to have good working conditions, get a good salary, be appreciated by management, have good relations with colleagues, etc., which is organizationally characteristic for organizations of all other kinds. In general, the motivation of teachers can be divided into three large blocks (Figure 2), which are related to the profession, professional development and a specific organization.

Figure 2: *Structure of motives of labor of the personnel of the university*

Motives for choosing a profession as a place of work

- Material benefit
- Forced the circumstances
- Desire to continue a family dynasty
- Prestigious profession
- The desire for self-education
- Possibility to engage in scientific activities
- Aspiration to fulfill a spiritual mission
- The desire to be in an intelligent environment
- Interest in teaching activities
- The desire for self-fulfillment
- The desire to transfer knowledge and experience
- Enthusiasm for the subject area of knowledge

Motives for choosing a particular institution

- University close to home
- Tips and advice from friends
- Image and prestige of the university
- Corporate culture and a favorable psychological climate
- Decent pay
- Opportunities for career advancement
- Stability and reliability of the university
- Realization of scientific and pedagogical potential

Motives of professional activity

- Aspiration to engage in science
- Mutual understanding in the team
- Striving for communication with young people
- Satisfaction with the results of labor
- Material benefit
- Prestige of teaching work

Source: authors

Given the fact that the organization should influence the motivation of the staff and strive to achieve final results, the authors of the article suggest a form of motivational program (Table 1). This program should take into account the mission of the organization, its objectives, development priorities, focus on clients (students), as well as to enable teachers for self-fulfillment.

Table 1: *The form of the motivational program for university teachers*

Goals of motivation	Factors of motivation	Forms and methods of activity	Expected Results
Understanding and acceptance of mission and corporate values	Do a worthwhile, interesting job; Be a leader in the professional community; Have good relations with colleagues	Development of corporate culture	Harmonization of mutual interests, establishment of cooperation, "team spirit"
Inclusion in the management system	Be informed about the results of their work; Participate in decision-making	Coordination with employees of decisions made at the workplace in the working group	Involvement in the affairs of the university, taking responsibility for the results of activities
Increase of labour activity	Have good working conditions and social security	Implementation of social programs	Satisfaction with living conditions in the work collective
Ensuring Job Satisfaction	Have a good salary	Improvement of the system of material remuneration	Payment in accordance with the individual contribution of the employee to the results of the work of the collective

Table 1: *The form of the motivational program for university teachers*

Goals of motivation	Factors of motivation	Forms and methods of activity	Expected Results
Flexible adaptation of working time to the needs of staff and university	Have the opportunity to independently manage the working time	Introduction of individual working hours schedules and working time recording systems	Effective use of working time
Ensuring job satisfaction	Have good conditions in the workplace	Equipment of workplaces taking into account ergonomic and psychological elements of working conditions	Quality work execution
Satisfaction of the need for self-fulfilment in professional activity	Have a stable reliable job, have the opportunity for professional growth and advancement through the career ladder	Personnel programs for personnel training, career planning, creation of a reserve	Intra-University mobility and flexibility in the application of professional qualifications
Satisfy the need for respect and recognition	To be appreciated by management	The introduction of the system of business evaluation of personnel and labour achievements, the improvement of the system of moral encouragement	Achievement of high labour results, development of personal potential of employees

Source: authors

Thus, given the importance of teachers, many universities require a reorientation of campaigns to HR strategies in universities. This particular relevance is presented for the universities of Russia, where general approaches to increasing the prestige of teachers have not yet been formed.

Conclusion

One of the integral components of the development of the university is to increase the efficiency of its employees. Since teachers are the main personnel in the university, it is required to improve the tools of their material and non-material motivation.

Thus, in the current conditions of functioning of a higher school there are many motivating factors that influence the scientific and pedagogical activity of teachers and their satisfaction with work. Our study of professional motivation has shown that the university teacher has to work in a contradictory situation, when the expressed interest in the content and process of labor is faced with its low payment. The very process of activity, connected with its diversity and intellectual complexity, with the possibility of creativity and constant self-development, remains attractive for the overwhelming majority of teachers.

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WATER AND MIGRATION CRISES – ATMOSPHERIC WATER GENERATORS AND VORTEX ENGINES AS POTENTIAL SOLUTION

Ales Pachmann

Vysoká škola regionálního rozvoje a Bankovní institut – AMBIS
Nárožní 2600/9, 158 00 Praha 5, Česká republika
E-mail: apachmann@seznam.cz

Keywords:
Water, refugees, Corruption, Atmospheric Water Generators, Weather Influencers

Abstract:
The world is witnessing some of the largest refugee flows since the Second World War. Meanwhile, water crises are highlighted as one of the most pressing global challenges. In this context, migration and refugee flows are increasingly explained in terms of water scarcity – perpetuated by climate change. The main aim of this article is to show importance of water resources in nowadays human resource management. Applied research is needed on Atmospheric water generators, climate change adaptation technology like qanat systems, and atmospheric vortex engines. There is no clear conclusion to these topics until today while water crises is globally very important topic nowadays. Nowadays climate changes are partly consequence of the destruction of nature by the numans. Such destruction is linked to corruption and ignorance of decision makers.

Nikola Tesla wrote on 9 September 1915 (1915, p. 3):
But the time is very near when we shall have the precipitation of the moisture of the atmosphere under complete control, and then it will be possible to draw unlimited quantities of water from the oceans, develop any desired amount of energy, and completely transform the globe by irrigation and intensive farming. A greater achievement of man through the medium of electricity can hardly be imagined.The present limitations in the transmission of power to distance will be overcome in two way ″through the adoption of underground conductors insulated by power, and through the introduction of the wireless art. The first plan I have advanced years ago. The underlying principle is to convey through tubular conductor hydrogen at a very low temperature, **freeze the surrounding material and thus secure a perfect insulation by indirect use of electric energy.** In this manner the power derived from falls can be transmitted to distances of hundreds of miles with the highest economy and at a small cost. This innovation is sure to greatly extend the fields of electrical application. As to the wireless method, we have now the means for economic transmission of energy in any desired amount and to distances only limited by the dimensions of this planet. **In view of assertions of some misinformed experts to the effect that in the wireless system I have perfected the power of the transmitter is dissipated in all directions, I wish to be emphatic in my statement that such is not the case. The energy goes only to the place where it is needed and to no other.**

Introduction

The contemporary European refugee crisis has demonstrated that Europeans are not that open towards accepting new out groups in their societies, at least not in the numbers proposed by the European Commission in autumn 2015. The plan, which was based on quotas for each EU member state, divided the Union into camps, shook its founding principle of unity in diversity, and threatened the future of the European project as such (Murasovs, Ruza, Rascevskis & Dombrovskis, 2016).

At a time when we are witnessing some of the largest refugee flows since the second world war, and water crises are being highlighted by the World Economic Forum in their 2016 Global Risks Report as the most important concern for the coming decade, the importance of trying to understand the linkages between water and migration is widely accepted (Jägerskog & Swain, 2016).

Such interlink is very logic. People need water and food to survive. Agriculture is impossible without water. No water, no food and no agriculture mean migration. Nearly two billion people in the world lack access to clean water and more than two billion do not have adequate sanitation facilities (Jägerskog, Swain, 2016). There are often many reasons (including underlying push and pull factors), that cause people to flee or migrate**. Often, the underlying reasons for the migration and refugee flows – such as poor governance, and water and land management – are often overlooked when analyzing the key reasons behind migration. Rather, it seems easy to blame drought and climate change, as has increasingly been the case** (Jägerskog & Swain, 2016).

1. Moses as Skilled Migration – Human Resource Manager of Hebrews and Water Question

Moses was leading Hebrews to the Promised Land through wilderness for long forty years. Moses needed to ensure water for Hebrews. It is a question how he managed to do so. Moses is inspirative until today.

After the biblical exodus from Egypt, Moses made water for the people of Israel in the desert by striking a stone. Now Water-Gen is striking water from air. **Water-Gen, an Israeli company whose technology captures humidity in order to make drinking water out of air**, is not likely to experience the cash-flow squeeze that afflicts many fast-growing companies.

That’s because Russian-Israeli entrepreneur and billionaire Michael Mirilashvili, who is also the vice president of the World Jewish Congress, bought control of the company last summer, and because it has high-profile advocates. Israeli Prime Minister Benjamin Netanyahu mentioned it in an interview with CBS’s “60 Minutes” about Israel’s high-tech prowess. At the AIPAC conference last month, Harvard Law professor and Israel advocate Alan Dershowitz took the stage to showcase its technology. In September, the company presented its solution at the United Nations (Solomon, 2017).

Nobodody knows what was real function of Moses Tabernacle which maybe housed the Ark of the Covenant. Logic idea would be that Tabernacle was also able to capture humidity in order to make water out of air. Such potential is indirectly supported by Nikola Tesla statement from September 9, 1915:

The records, though scanty, are of a nature to fill us with conviction that a few initiated, at least, had a deeper knowledge of amber-phenomena. To mention one, Moses was undoubtedly a practical and skillful electrician far in advance of his time. The Bible describes precisely and minutely arrangements constituting a machine in which electricity was generated by friction of air against silk curtains and stored in a box constructed like a condenser. It is very plausible to assume that the sons of Aaron were killed by a high tension discharge and that the vestal fires of the Romans were electrical. The belt drive must have been known to engineers of that epoch and it is difficult to see how the abundant evolution of static electricity could have escaped their notice. Under favorable atmospheric conditions a belt may be transformed into a dynamic generator capable of producing many striking actions. I have lighted incandescent lamps, operated motors and performed numerous other equally interesting experiments with electricity drawn from belts and stored in tin cans (Tesla, 2015).

Between the Tabernacle and altar of burnt offering was bronze laver with water. Among other items altar of incense and oil lamps were inside tabernacle. Tabernacle had a **rectangular, perimeter fence** (of fabric, poles and staked cords. Gate to the fence was almost in one line with altar of burnt and bronze laver with water and entry to the Tabernacle. In such a way fence could play potential role in wind channeling towards Tabernacle and in such a way make air more hot across the altar of burnt with fire and humidified by bronze laver with water. Inside tabernacle was colder air that ambient air and could be reached dew point for water condensation.

Nowadays science can support such idea in many ways. For example amazing Reznikov conclusions: “The feasibility of evaluated concept for the **electrostatic enhancement of water vapor harvesting from the air is experimentally proved. The five-fold improvement of the water collection rate with the improvised, non-optimized prototype is demonstrated”** (Salazar, Minakata & Reznikov, 2015).

The experimental investigation of electrospray-supported condensation confirms a significant, 57%, improvement in condensation rate in steam condenser (Salazar, Minakata & Reznikov, 2015). Importace of abovemnioned topics is confirmed in a way that the Czech republic government approved participation in Expo 2020 in Dubai, where it will have its own pavilion and present a technology of water production from the air.

2. Nikola Tesla and his ideas about precipitation of the moisture of the atmosphere

Author of this article knows that attempts to get moisture from air by atmospheric water generators are poor in comparison with attemps to get moisture of the atmosphere in a way of heavy rains and in relations to hurricanes and such phenomena.

Let us get back to the Moses Tabernacle. Bible is saying foloowing:
EXODUS: 13:21–22
21 And [s]the Lord went before them by day in a pillar of cloud to lead them along the way, and
by night in a pillar of fire to give them light, that they might travel by day and by night. **22 The**
pillar of cloud by day and the pillar of fire by night did not depart from before the people
(biblehub).

Moses probably knew how to control such clouds and fire and in the place where it was needed while it did not depart from before the people.

Let us talk about so called **dust devils**. They are comparable to tornadoes in that both are a weather phenomenon involving a vertically oriented rotating column of wind. Most tornadoes are associated with a larger parent circulation, the mesocyclone on the back of a supercell thunderstorm. Dust devils form as a swirling updraft under sunny conditions during fair weather, rarely coming close to the intensity of a tornado (Glossary of Meteorology, 2000).

A **dust devil** is a strong, well-formed, and relatively long-lived whirlwind, ranging from small (half a meter wide and a few meters tall) to large (more than 10 meters wide and more than 1000 meters tall). The primary vertical motion is upward. Dust devils are usually harmless, but can on rare occasions grow large enough to pose a threat to both people and property (Glossary of Meteorology, 2000).

Dust devils form when hot air near the surface rises quickly through a small pocket of cooler, low-pressure air above it. If conditions are just right, the air may begin to rotate. As the air rapidly rises, the column of hot air is stretched vertically, thereby moving mass closer to the axis of rotation, which causes intensification of the spinning effect by conservation of angular momentum. The secondary flow in the dust devil causes other hot air to speed horizontally inward to the bottom of the newly forming vortex. As more hot air rushes in toward the developing vortex to replace the air that is rising, the spinning effect becomes further intensified and self-sustaining. A dust devil, fully formed, is a funnel-like chimney through which hot air moves, both upwards and in a circle. As the hot air rises, it cools, loses its buoyancy and eventually ceases to rise. As it rises, it displaces air which descends outside the core of the vortex. This cool air returning acts as a balance against the spinning hot-air outer wall and keeps the system stable (Ludlum, 1997).

Certain conditions increase the likelihood of dust devil formation.

- **Flat barren terrain, desert or tarmac:** Flat conditions increase the likelihood of the hot-air "fuel" being a near constant. **Dusty or sandy conditions will cause particles to become caught up in the vortex**, making the dust devil easily visible.
- **Clear skies or lightly cloudy conditions: The surface needs to absorb significant amounts of solar energy to heat the air near the surface and create ideal dust devil conditions.**
- **Light or no wind and cool atmospheric temperature:** The underlying factor for sustainability of a dust devil is the extreme difference in temperature between the near-surface air and the atmosphere. Windy conditions will destabilize the spinning effect (like a Tornado) of a dust devil (wikipedia, 2017).

Location of Moses Tabernacle was very promisable for such phenomena. Dust devil could be in princpiple related to the Pillar of Cloud mentioned in Exodus. Pillar of fire was also possible in similar way.

A fire whirl or swirl, sometimes called fire devils or fire tornadoes, can be seen during intense fires in combustible building structures or, more commonly, in forest or bush fires. A fire whirl is a vortex-shaped formation of burning gases being released from the combustible material. The genesis of the vortex is probably similar to that of a dust devil. As distinct from the dust devil, it is improbable that the height reached by the fire gas vortex is greater than the visible height of the vertical flames because of turbulence in the surrounding gases that inhibit creation of a stable boundary layer between the rotating/rising gases relative to the surrounding gases (wikipedia, 2017).

So, Exodus Pillar of Cloud and Pillar of Fire could be explained by Vortex phenomena and most probably could be created and controlled by Moses. Perhaps controlled in a way as Nikola Tesla claimed that Arch of Covenent was just a big layden jar and some static electricity charges (and whatever other potential phenomena) could be generated.

A dust devil picks up small dirt and dust particles. As the particles whirl around, they bump and scrape into each other and become electrically charged. **The whirling charged particles also create a magnetic field that fluctuates between 3 and 30 times each sekond** (Koch, 2005).

These electrical fields assist the vortices in lifting materials off the ground and into the atmosphere. Field experiments indicate that a dust devil can lift 1 gram of dust per second from each square metre (10 lb/s from each acre) of ground it passes over. A large dust devil measuring about 100 metres (330 ft) across at its base can lift about 15 metric tonnes (17 short tons) of dust into the air in 30 minutes. Giant dust storms that sweep across the world's deserts contribute 8% of the mineral dust in the atmosphere each year during the handful of storms that occur. In comparison, the significantly smaller dust devils that twist across the deserts during the summer lift about three times as much dust, thus having a greater combined impact on the dust content of the atmosphere. When this occurs, they are often called **sand pillars** (Kok, 2006).

3. Atmospheric Vortex Engine

The concept of a **vortex engine** or **atmospheric vortex engine** (**AVE**) was independently proposed by Norman Louat and Louis M. Michaud.

Michaud's patent claims that the main application is that the air flow through the louvers at the base will drive low-speed air turbines, generating twenty percent additional electric power from the heat normally wasted by conventional power plants. That is, the vortex engine's proposed main application is as a "bottoming cycle" for large power plants that need cooling towers (wikipedia, 2017).

The application proposed by Louat in his patent claims is to provide a less-expensive alternative to a physical solar updraft tower. **In this application, the heat is provided by a large area of ground heated by the sun and covered by a transparent surface that traps hot air, in the manner of a greenhouse.** A vortex is created by deflecting vanes set at an angle relative to the tangent of the outer radius of the solar collector. **Louat estimated that the minimum diameter of the solar collector would need to be 44+ metres in order to collect "useful energy". A similar proposal is to eliminate the transparent cover. This scheme would drive the chimney-vortex with warm seawater or warm air from the ambient surface layer of the earth. In this application, the application strongly resembles a dust devil with an air-turbine in the center** (wikipedia, 2017).

The genesis of Michaud's project, which began as a hobby in 1969, wasn't to produce energy at all: **He was aiming for water.** If you could heat air and then capture the condensation as it cools, he thought, it might offer an alternative to conventional distillation. That didn't pan out. But when Michaud read about how the atmosphere is warmed from the bottom and cooled from the top, he thought, "Oh! That's why we're producing energy in tornadoes."Creating a tornado sounds pretty easy, to hear Louis Michaud tell it. All you've got to do, he says, is "produce warm air, give it a spin, and basically have it rise." He has built machines that do this—and of course, it wasn't quite so easy. With prototype after prototype of his Atmospheric Vortex Engine, the Ontario, Canada-based engineer set out to prove that humans could make their own twisters. He's done so on a small scale, creating narrow, wispy swirls easily dispersed by a strong wind. **To power entire communities, though, it would take a much larger and stronger vortex—30 meters (98 feet) wide and 14 kilometers (8 miles) tall, Michaud says, adding that the force wouldn't be dangerous because it would be stationary and**

controlled. He envisions funneling waste heat from a power plant, for example, into his system; the spinning air would power a turbine as it naturally rises through the atmosphere (Nunez, 2015).

Conclusion

Potential of vortex engines is enourmous in a way of potential weather influence what is subject beyond the scope of this paper. However static electricity should be investigated in this way for potential fast atmospheric water harvesting based on mentioned Reznikovs´ research. Also application of nanotechnology particles into such artifical votex could be considered to utilise potential piezoelectric effects and such. Atmospheric vortex engines and atmospheric water generators should be investigated more deeply. Perhaps can come into true Nikola Teslas´ dream to have the precipitation of the moisture of the atmosphere under complete control, and then it will be possible to draw unlimited quantities of water from the oceans, develop any desired amount of energy, and completely transform the globe by irrigation and intensive farming. A greater achievement of man through the medium of electricity can hardly be imagined. In authors opinion it is sign of corruption or ignorance of the whole civilisation that such possibilities are not properly investigated or publicly known. Author of this paper does not have information that Moses Tabernacle and surrounding area were ever considered as potential atmospheric water generator and vortex engine despite such conclusion is logic and partly supported by texts in the Bible.

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THE AUDIT OF EUROPEAN COMMISSION STRATEGIC DECISIONS AND THE PROPOSAL OF THE CHANGE HYPOTHESIS

Josef F. Palán

Vysoká škola regionálního rozvoje a Bankovní institut – AMBIS
Nárožní 2600/9, 158 00 Praha 5, Česká republika
E-mail: josef.palan@ambis.cz

Keywords:
European commission, strategic decision audit, strategy Europe 2020, global risks, force field model, immigration phenomenon, change hypothesis, sustainable growth.

Abstract:
The author analyses the conceptual frame of the Strategy Europe 2020. He suggests complementing the fourth priority, which interconnects European development strategy with global reality. For the analysis of the European Union status quo is used the force field model. The immigration phenomena is considered by the author as a very probable stopper of the European Union shift to the desirable state of a dynamic stability, which can be characterized by the well integrated political, economical and cultural environment. In this context he recommends to focus the European commission strategic decision process together with its global partners to the elimination of immigration exodus causes i.e. to the quick stabilization of a political and economical environment of states which are the major source of the immigration in relation to their cultural environment and traditions. Further the author recommends immediately to secure external boarder protection of Shengen common area on the level, which will be comparable with United States and simultaneously clearly formulate the European immigration politics in the way to guarantee sustainable growth competitive European Union within the global context.

Introduction

In the course of 2015 the European Union found itself in a difficult stage of its political, economic and cultural development. Such a development has been due to different external and internal factors. The Global Risks Report **(**WEF-Global Risks, 2016) issued regularly at the beginning of each calendar year by the World Economic Forum confirms the key role of geopolitical factors as related to the economic and cultural development of mankind.

"Globalisalition generated permanently sustainable growth for generations. It made the world smaller and transformed it by interconnecting and strengthening the mutual dependence of national states and their economics. Nevertheless the benefits resulting from globalisation were not equally divided – it can be said that a minority reaped too much of its fruit. Although the growth of emerging champions contributes to balancing the economic strength between countries, it is evident that on the world scale the economic disparity increases"(WEF-Global Risks, 2011). The conclusions above were even more true during the following five years. Devastating in economic and political terms was the so called ´Arabic spring´, not to mention the civil war in Syria supported from outside without taking into account the "functional Syrian government and the real Arabic national state with its historical roots" (Thatcher, 2002) and millions of refugees of whole families struggling along in refugee camps. This all leads to the largest exodus in the history of the modern world. In 2011 Syria ranked 111 in The Global Competitiveness Report **(**WEF-Global Competitiveness Report, 2011). As a memento, we should remember the outlook for world democracy outlined by Dahl (1989: 239).

In the Summary to the Strategy Europe 2020 the European Commission declares: "Europe can succeed only if it proceeds unanimously - as a Union. We need a strategy that would help us to overcome a crisis strengthened and that would make European Union a smart and sustainable economics supporting integration and having a high level of employment, productivity and social solidarity. Europe 2020 outlines the vision of European social market economy for the 21st century.

Strategy Europe 2020 presents three interconnected priorities:

- Smart growth: develop economics based on knowledge and innovations.
- Sustainable growth: support more competitive and ecological source-efficient economics.
- Integration supporting growth: support of high employment economics based on social and regional solidarity"(EC-Europe 2020, 2010).

Summarising the above, we can say: "The Europe 2020 is the umbrella strategy of the EU aiming at enhancing of the economic growth of EU over the years 2010 – 2020. In this regard it takes into account a number of the economic growth factors listed by the contemporary theories of economic growth, such as the neo – classical economic growth theory (employment), new economic growth theory (innovations, research and development) and partly in the theory of evolutionary economic growth (economic governance). Furthermore, Strategy Europe 2020 considers the sub-theory of sustainable economic growth (poverty reduction, climate change, renewable energy, and energy efficiency), as well as indirectly – the impact of fiscal indicators upon GDP growth" (Kedaitine et al., 2014).

A key component of Strategy Europe 2020 should also be its international trade and investment policy. "Pursuing of our goals by setting strategic priorities i.e. smart, sustainable growth and integration support growth create a strategic framework for formulation of our international trade and investment strategy and for our common international policy etc. Generally speaking, we implement and will carefully implement a differentiated approach relating to the economic level of our partners. In other words, we pay systematic attention to the consistency of our trade policy with development policies focused on elimination of need and poverty"(EC-Trade, Growth and World Affairs, 2010). Having in mind the importance of the statement in the EC document: Trade, growth and world affairs, we propose to extend the explicitly declared priorities of Strategy Europe 2020.

Preliminary hypothesis: Proposal on supplementing Strategy Europe 2020 – fourth priority

Goal: Explicit declaration of fulfilling the political and social dimension of the EU sustainable growth strategy relating to the world.

Action: Definition of the fourth priority: International politics on the basis of partnership respecting the specificities of national states, international trade and investment policy on the basis of reciprocity and mutual benefit.

Since the 'Strategy Europe 2020' has been launched in early 2010, its first analysis by the European Commission came on 5 March 2014 to see how its five major objectives have been accomplished on regional and member states level. "EC concludes about there has been a slow economic growth and a mixed progress in the Strategy objectives accomplishment in the 2010-2020 interval, e.g. the education, climate change and energy related objectives approach their full achievement have been nearly achieved, whereas the labour employment, research-development-innovations and poverty reduction ones differently perform. Besides, less satisfaction arises when good regional progress comes to be analysed at the national level, i.e. on the EU's Member States level" (Andrei, 2015).

We can conclude, that "the Strategy Europe 2020 provides a useful economic road map for some member states. It demands, e.g. investment in research and development (R&D) in education and high-tech industries but promises considerable medium-term growth in return. Findings indicate an 'innovation gap' between Middle and Northern European member states and those in the South. Countries, that are able to invest and spend on product and process innovation will gain economic capabilities to generate growth, while those members that are currently unable to do so are threatened with falling behind even further. Structural funds of the EU should be used to replace shortcomings in domestic investment in R&D and help to develop tailored country-specific road maps for sustainable growth" (Ruser and Anheier, 2014).

Materials and methods

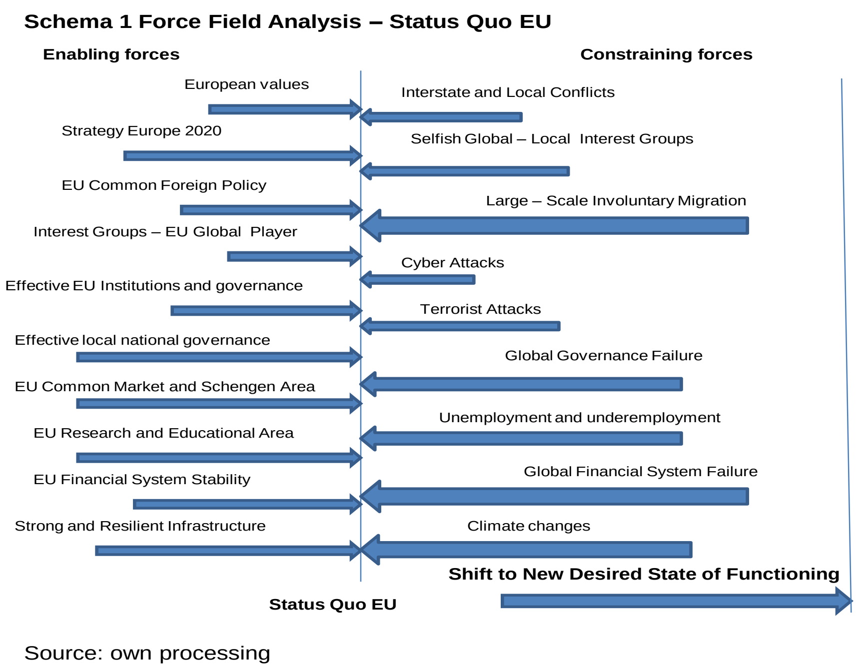
The research is aimed to assess the process of strategic decision-making of European Commission and propose elimination of revealed problems, which could negatively influence successful development of European project. The basis for the audit is the strategic framework for decision-making of the European Commission created by Strategy 2020. Framework analysis of its architecture as related to the outside environment of EU follows. To be able to objectively assess the complexity, changeability and ambivalence of EU internal and external factors, the author used the field force model whose adapted version known as Implementation Forces Analysis was used within the framework of the strategic management process for diagnosis of driving forces and forces of resistance to change. The proposed field force model characterising the EU status quo was preceded by content and comparative analysis of relevant data based on selected publications, journals and electronic sources. A synthetic inspiration source was 'The Global Risks Report 2016'(World Economic Forum, 2016).

Results

Audit of the European Commission decision-making process

Let us analyse more closely the process of EC strategic decision-making, whose effectiveness substantially affects achievement of EU operational and strategic objectives including solution of crisis situations. First let us describe the role of EC: "European Commission defends the interests of EU in terms of international relations and is the ´guard´ of agreements. The Commission also defends the unity of EU against individual interests of member states and fulfils the role of key moderator. Its impartiality and detached point of view should be stabilisation factors despite ideological differences of member states governments. **It can be seen as an executive body of EU with vast bureaucratic machine.** The strong political position of EC is supported by the fact that besides European civil initiative it is the only institution holding the right of legislative initiative in economic and currency union (secondary law). It controls compliance with European legislative and in case of infringement initiates bringing the case to the European Court of Justice. The institutional changes resulting from Lisbon Agreement, namely the new capacity of European Union ´President´ (European Commission chairman) did not substantially affect the central political role of the Commission. European Commission is supervised by European Parliament, which can recall the commission as a body"(Hodač et al., 2014). It should be noted that the decisive political strategy and priority objectives of European Commission should be clearly declared by European Council (European Council President). The Council outlines, by consensus of prime ministers of individual member states, operational and strategic aims of European Commission. The progress to achievement of the set aims should be supervised by the European Parliament, and also by the European Council President. Support for extension of management competences in favour of the European Council President was clearly declared by Fabrini (2015). The unbelievably slow handling of crises, e.g. involuntary large-scale immigration to Europe and the Ukrainian crisis on which some EU member states, Unites States and their allies participated in past years confirm this, and seriously harm the further positive development of the European project. The complexity and difficulty of strategic decision-making of European Commission, European Council, European Parliament and European Central Bank are represented by the force field model depicting the forces acting toward the further development of European integration including resistance forces. Their subsequent acting defines the dynamic balance of EU, see Figure 1.

Figure 1: *Force Field Analysis – Status Que EU*



Source: author

The audit of strategic decision-making of EC comes from the force field model, see ´Fig. 1 Force Field Analysis - Status Quo EU' supplemented with a rough estimate of the magnitude of acting driving forces and restraining forces based on the probability of their occurrence and rate of impact. The values are taken from The Global Risks Report (**WEF, 2016)**. The set of driving forces contains forces favourably affecting the political, economic and social stability of EU and contributing to its further development. The author includes the following forces:
European Values, rooted in Antic, Jewish and Christian tradition of European thinking.

Strategy Europe 2020 is creating the conceptual and system framework for medium and long-term strategic management of EU by the European Commission. The contemporary architecture of Strategy Europe 2020 does not integrate namely the common foreign policy, see Preliminary hypothesis, i.e. author's proposal to include it in the strategy.

EU Common Foreign Policy creating good to optimal conditions for supplying the European project with specific proactive activities for its development. It is the deficit of implementation of well formulated EU global strategy published 30 October 2015 that is currently the source of instability and uncertainty in the further heading of EU. Its effective implementation requires proactive and dynamic decision-making and implementation process on the level of EU bodies and member states.

Interest Groups – EU Global player especially the functioning of EC and its operational and legislative initiative are strongly influenced by professionally managed lobbyist groups. The need to strengthen the influence of interest groups focussing on increasing the significance of EU in solving current global international political topics (civil war in Syria, increasing political and safety instability of Libya, Arabic spring and its consequences etc.) is evident and in the interest of the European project continuation.

Effective EU Institutions and Governance are crucial for the viability and further political, economic and cultural development of EU. Namely the effectiveness and efficiency of their operation in the context of current global and local problems are largely discussed. The lengthy and hardly understandable way of dealing with the phenomenon of large-scale immigration in terms of its consequences and inefficient efforts to cope with its complexity and roots seriously endanger the further development of EU.

Effective local national governances are preconditions efficient functioning of national economics. Stable pluralist political systems of member states create a solid basis for a further development of European integration toward European federation, shifting the role of EU to global political and economic powers.

EU Common Market and Schengen Area represent one of the driving forces of European prosperity. Effective functioning of EU Common Market requires permanently optimal conditions. Essential is appropriate protection of the Schengen Area, at least on the level of protection of Great Britain or Unites States. Without such protection a reasonable immigration policy with appropriate level of solidarity can be formulated with difficulty.

EU Research and Educational Area is also among the driving forces of EU economic prosperity and helps to create conditions for economic approximation of EU regions and sustainable development of EU. Aims of Strategy Europe 2020 are being achieved in this area. Investment into education and research should become the chief priority of all EU member states, including support from EU structural funds.

EU Financial System Stability is an essential condition of EU economic growth. In regard to the global close interconnection of the financial sector, the sources of instability, real or psychological, represent the driving forces of undesirable failure of financial institutions. The risks connected with the failure of the financial mechanism and institutions are still of importance in terms of occurrence probability and potential impact on global scale. In this respect, it should be stated that the functioning and regulation of the financial system are a high priority of EU.

Strong and Resilient Infrastructure is an essential condition of sustainable economic growth based on entrepreneur activities in the private and the public sector. Its continuing modernisation and suitable diversification can be significant driving forces of economic growth in a local and also global context. The development of infrastructure is massively supported mainly in new member states by investment from EU structural funds.

There is a set of restraining forces acting against the above mentioned set of driving forces of EU sustainable development, important for its political, economic and cultural development. Some of them can completely block successful development of EU. These forces are called potential blockers and are plotted with the strongest and longest lines. Successful implementation of the broader framework of Strategy Europe 2020 (see preliminary hypothesis) requires elimination of the restraining forces and maximal strengthening of the set of driving forces. In the following, the set of restraining forces will be discussed in detail.

Interstate and Local conflicts-the probability of occurrence and impacts of these risks is considerably high. It is sufficient to consider the local conflict in Ukraine and its economic and social impacts. A plain example is the civil war in Syria supported by six countries. Unforeseeable consequences of forced migration of Syrian population to Europe and migration from the neighbouring countries document the failure of global governance and cooperation with negative effects on EU and its allies.

Selfish Global - Local Interest Group. The growing strength of highly selfish professional interest groups forwarding their interests by lobbying and influencing political elites may have unforeseeable political, economic and social consequences, not only on local scale. We can speak about erosion of pluralist democratic systems. An example is the dying away financial crisis that brought about significant national debts and vast social impacts. Understanding and elimination of these forces within the scope of European Commission are of increasing importance in both theory and practice (Eising et al., 2015; Klüver et al. 2015). In formulating the title of this restraining force the author was also inspired by Handy´s conclusions (Handy, 1997: 216).

Large – **Scale Involuntary Migration** is a very probable blocker of the next development stage of the European project in terms of occurrence probability and potential political and economic impacts on EU competitiveness. Millions of involuntary migrants from **Middle East** are prepared to enter Europe. This large-scale immigration posing the danger of infiltration of terrorist groups represents a real threat to the stability of pluralist democratic political systems in Europe, and implies unemployment growth, social polarisation resulting from increasing income disparity and nationalism including increase of risks connected with inner safety. Fast and efficient protection of the Schengen Area will not solve the problem. The only reasonable outcome is well handled short-term political and economic stabilisation of Syria, Iraq and consequently Libya under the auspices of UN supported by a coalition of USA, EU, Russia and China.

Cyber Attacks are a real threat for the control systems of developed economies on both local and global scale. In terms of occurrence probability and potential social impacts they are a significant risk i.e. serious social threat.

Terrorist Attacks. In terms of potential social impact they represent a high risk, and higher occurrence probability can be expected especially in connection with the large-scale involuntary immigration to EU and infiltration by terrorist groups.

Failure of global governance consisting in isolated activities of world powers, or institutions striving to maintain and strengthen global influence or even dominance, taking no account of allies, represent a significant hybrid risks based on Machiavelli's divide and rule, with no respect to fundamental civilisation values.

Unemployment and underemployment - not achieved strategic aims in employment related to implementation of Strategy Europe 2020 may become a blocker of the continuing political and economic integration of EU. There is a high probability of their occurrence and impact. Moreover, it can be strengthened by large-scale immigration.

Global Financial System Failure is not a negligible risk mainly because of its impacts. Let us be reminded of the fundamental economic axiom: *A permanently sustainable economic growth of national economies and global economy requires a stabilised and efficient global financial system.*

Climate changes besides the large-scale involuntary migration, climate changes may be another blocker of economic development of EU, mainly due to the failure of adaptation mechanisms and reduction of their effects. In a medium-term horizon we may see extreme climate changes, natural disasters, water and food shortage.

Note. The proposal of change hypotheses is implicitly incorporated in processed analytical summaries for individual forces of change.

Discussion

The author's proposal for a completion of Strategy Europe 2020 with the fourth priority aims in the area of foreign affairs confirmed the initiative of Federica Mogherini, the High Representative of the Union for Foreign Affairs and Security Policy, who launched the priority "*A stronger global actor*" (Mogherini et al., 2015), *which represents de facto EU Global Strategy.* The EU needs a strong common foreign policy to:

- respond efficiently to global challenges, including the crises in its neighbourhood,
- project its values,
- contribute to peace and prosperity in the world.

Policy areas can include*: Foreign policy*, *European Neighbourhood Policy*, *International Cooperation and Development, Humanitarian Aid and Civil Protection, Trade Policy, Security and Defence and EU enlargement*. The European Common Security and Defence Policy aims to strengthen the EU's ability to prevent and manage crises through the development of civilian and military capabilities.

The future role of EU on the global level is aptly discussed by Russer and Anheier (2014). Let us quote: "What role will the EU play on the global stage? The struggle of some of its members in the current economic crisis, its apparent inability to punch its political weight in international negotiations or play a dominant part in international crisis management (the Arab Spring, Syria) cast no doubt on the capabilities of the EU as a global player. In order to regain its strength, the EU has to deal with pressing economic and political questions. It has to provide a credible and feasible road map for economic recovery and social cohesion. At the same time, it has to increase the effectiveness and efficiency of European governance without risking its legitimacy etc. Only the combination of a functioning and legitimate system of economic governance on the one hand and credible and feasible recovery on the other can convince member states to give 'Europe' sufficient autonomy that the EU can regain its authority and play a key role on the global stage". Their conclusions are also confirmed by results of force field analysis Status quo EU, see Figure1.

The multipolarity issue of the global governance system as a potential source of political and economic instability can be the driving force of hybrid risks, which gain importance in the European context. It is also the geo-strategic competition between leading political and power blocks that can become the source of local power conflicts for various ´noble´ reasons including implicit fight for rare sources. To support our conclusions let us present Blagden´s research results (Blagden, 2015). Let us quote "The international system is returning to multipolarity-a situation of multiple Great Powers-drawing the post-Cold War 'unipolar moment' of comprehensive US political, economic and military dominance to an end. The rise of new Great Powers, namely 'BRIC's-Brazil, Russia, India and most importantly, China-and the return of multipolarity at the global level in turn carry security implications for western Europe".

Conclusion

The discussion above shows the complexity of the development of outer environment strengthened by its permanent variability and ambiguity. The environment and process of strategic decision-making of EU control bodies are therefore influenced by a set of key factors, which can significantly change in time in terms of occurrence probability and impact rate.

The ability to proactively identify and control the critical factors should be decisive in evaluation of the effectiveness and efficiency of EU control bodies. **The quality of the process of strategic decision-making is crucial for the success of the European project,** and is of key importance for permanently sustainable economic growth and quality of life in EU.

In conclusion, the author would like to express his agreement with the opinion that the "State-of- the -art of EU is not sustainable on long-term basis. There are basically two alternatives – heading to federation or return to more autonomous cooperation. The second alternative offers forms of two- or multi-speed EU with different participation of countries and different level of their autonomy"(Hodač et al., 2014).

However, of utmost importance for successful continuation of the European project and political and economic stability of whole Europe will be the ability of EU control system to deal efficiently with the causes of large-scale involuntary immigration, including the process of adaptation and integration of accepted immigrants in compliance with standards of international law.

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Vydavatel:
Civitas per Populi, o.p.s.
Střelecká 574/13
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Adresa redakce:
Civitas per Populi, o.p.s., Střelecká 574/13, 500 02 Hradec Králové
redakce: Iveta Šilhánková
ISSN 1805-3246