HUMAN RESOURCE MANAGEMENT 797

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HR SHARED SERVICES CENTERS AS PART OF A NEW BUSINESS MODEL OF THE ORGANIZATIONS

Mirjana Petković[1], Biljana Đorđević[2]
[1]Faculty of Economics Belgrade, mirjana.ekof@beotel.net
[2]Faculty of Economics Niš, biljana.djordjevic@eknfak.ni.ac.rs

Abstract: *In the attempt to find an optimal business model, HR function can give the specific contribution to this aim by restructuring its activities and organization. In this sense, recognizable tendencies in the design of modern HR function are the foundation of HR SSCs. It is expected that this centers, through centralization of processes, activities and resource, will provide high quality of services and expertise in the field of HRM and effective cost control. Consequently, it is expected that this centers will give contribution to greater profitability of organizations. Bearing in mind the distinctive place that HR SSCs may have in the business models of modern organizations, the aim of this paper is to draw attention to their basic characteristics, factors which conditioned their appearance, the benefits that can be generated, as well as the possible negative aspects of their foundation.*

Keywords: *business model, HR SSCs, HR function, advantages, disadvantages.*

1. INTRODUCTION

Environment in which the most organizations today operate is very dynamic and turbulent. In such environment sudden and nonlinear changes often happen thanks to the activities undertaken by the competition or thanks to the changes in the requirements of the market. If organizations are to survive and continue development in such environment they must constantly monitor events in that market and create business models which will make the best connection between the market demands, on the one side, and the organizations' intention to gain the highest possible profit, on the other side. This leads to the proposition that once established business model must change and adapt as the major variables on which it was structured changed. The basic variables in every business models are: the value for the customer, profit formula, key resources and key processes (Johansen, Christensen, and Kagermann, 2008).

Aside from the fact that changes in business models affect the way in which organizations design their transactions to create the greatest possible value (Amit, Zott, 2001), these changes almost always have an impact on the employees. Business models' changes may require the need for employees to change their behavior and to accept some new changes in their daily work routine. Besides that, in the case of radical business models' changes they may become the surplus in the organization (Robinson, Reilly, Wolfe, 2006). Business models' changing also affects the design and activities of the HR function. This happens because of the fact that HR function has always been expected to provide systems and procedures which will be adequate support for current business. Consequently, any change in the business model and/or strategy inevitably requires that the HR function has to reassess the portfolio of its activities, as well as the adequacy of its internal design.

Having in mind that modern business conditions are very complex and that organizations often need to adapt existing or to create new business models, the goal of this paper is to show the position of the HR function in business models immanent to modern business conditions, in particular the importance that could have human resources shared service centers (HR SSCs.) These centers, because of the benefits that can generate become an almost indispensable element of the interior design of the modern HR function, especially in the large organizations.

2. HRM FUNCTION PLACE IN THE NEW BUSINESS MODEL

HR function, with its services and expertise, was always expected to be support for the current business needs. Since this function in the past was usually considered as the cost center, this support was primarily provided by activities and internal design which were cost-effective. In that line, employees are often seen as a resource which should be “obtained” at the lowest possible price and their competencies used in the most efficiency manner.

Today, in modern business conditions, product price is not usually the main source of the organizations’ competitiveness. Employees as differentia specifica of organizations have become the main source of their competitiveness. Consequently, this influenced the changes in the position and the role of the HR function which has become strategically important participant in the process of overall organizational competitiveness. Nowadays, this function is expected to contribute to the competitiveness of organizations in the several ways (Mercer, 2011):

- by being more strategically oriented, and contribute creating competitive advantage through human resources,
- by supporting analytical business information and metrics to adopt confident business decisions,
- effectively perform HR services to their customers (employees and management),
- be a support line managers in the daily activities of management employees, and
- be cost effective.

To make the HR function respond to all these demands, in many modern organizations are implementing changes in its interior design. One of the most effective HR function redesign model is created by the renowned theorist in the field of human resource management, *Dave Ulrich.* His model is based on the idea that the modern HR function can cope with the challenges it faces if its activities are grouped into three sections called "three legs of the stool." “Three legs of the stool”, i.e. three groups of activities in the *Dave Ulrich`s* model are (Ulrich, 1995):

- *HR Business Partner.* Within this group of activities HR professionals are expected to communicate directly with company’s leaders and propose solutions relating to human resources strategy. These experts are not involved in the transaction activities in the field of HRM, but perform activities of consultants and planners connecting business with adequate HR programs;
- *Centers of Excellence and Expertise.* The focus of this segment of the HR function is to create HR policies and programs which primarily serve to the line managers;
- *Shared service center.* This center performs daily activities in the field of HRM, such as payroll, benefits administration and other transactional activities with a focus on achieving the highest possible efficiency.

Dealing with the question of the interior design of modern HR functions, researchers from consulting firm *Mercer* also supports the *Dave Ulrich`s* model, but suggest that in the relationship between these segments should dominate HR SSCs (Figure 1). The researchers of this consulting company based their view on the fact that if a larger segment of transactional services held in these centers, HR professionals can devote greater extent for its expertise to the strategic needs of the business when it comes to human resources. In addition, developed HR SSCs will enable bringing the effective strategic decisions concerning employees because it always requires a large amount of analytical information, reports, measurements, etc. (Mercer, 2011), which also falls within the purview of these centers.

With this shift in the design of the HR function and this function it would receive much greater strategic importance for the successful implementation of business models and the overall competitiveness of the organization.

3. HR SHARED SERVICES CENTERS

Since the HR function in the modern business environment is faced with the imperative of making contribution to successful implementation of the chosen business model, in which significant place could have HR SSCs, in the following text we will analyze their main characteristics (concept, factors which influenced their appearance, structure, functioning, advantages, disadvantages, etc.). By knowing these facts the leadership of the organization could make grounded decision as they are an optimal solution to the design of the HR function in the intention to be adequate support for current business needs.

HR SSCs are commonly ***defined*** as places which integrate people, processes and technology in order to effectively deliver HR services to internal customer (Corporate Leadership Council, 2006). Their appearance is related to the late 90's, usually as part of a broader process of restructuring the HR function in large organizations. This is confirmed by the results of some studies that have shown that these centers are integral part of the design of the HR function in two thirds of the companies that employ more than 5,000 workers, and in companies that employ between 250 and 1,000 employees this percentage is around 17% (CIPID, 2007). Geographically, the data show that HR SSCs are most common in the U.S. and the UK, but they are becoming commonplace in Australia, Canada, the Netherlands and the Scandinavian countries, too. Also, the increase of HR SCCS is recorded in the Western European countries, such as Germany, Switzerland and Belgium, but also in developing countries where these centers are formed with the arrival of large foreign companies and banks (Mercer, 2008).

Due to the growing practice of forming HR SSCs some authors see them as a new point in a continuum that reflects the evolution of the design of this function (Figure 1).

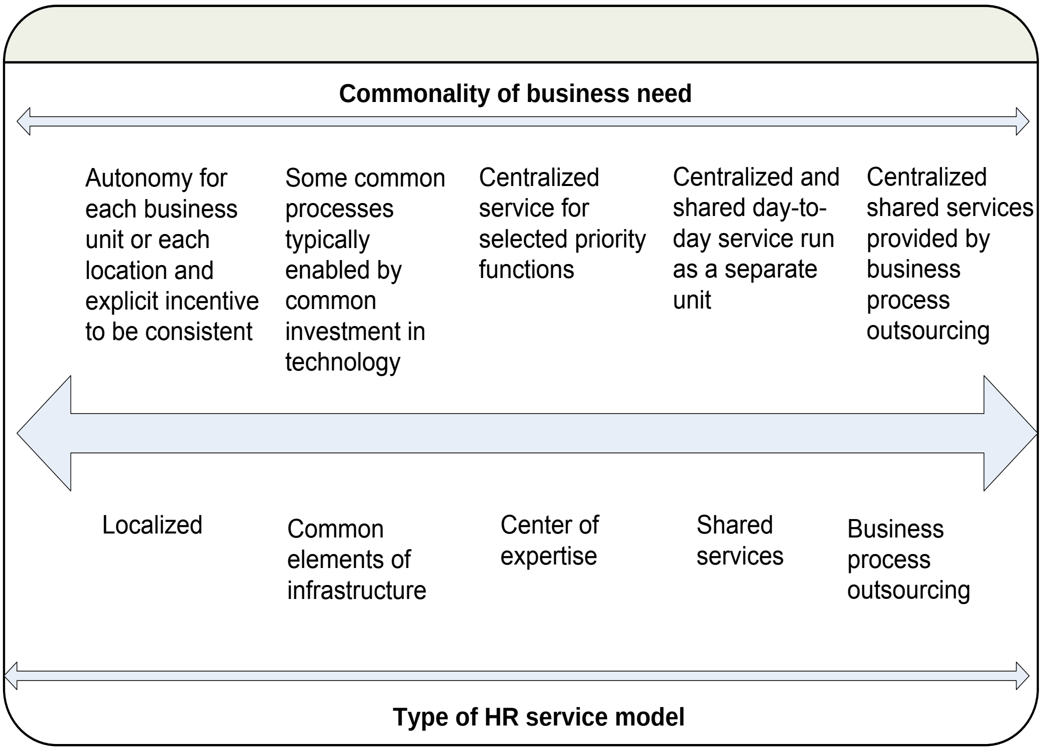

Figure 1: Continuum of HR services design

Source: Mercer, (2008). Finding your place on HR shared services continuum. Retrieved from http://www.mmc.com/knowledgecenter/Finding_your_place_on_HR_shared_services.pdf

Factors that caused the need for the HR function to make changes in direction of the formation of SSCs are, on the one hand the desire to meet the different needs of customers at the highest possible level, but on the other hand, to provide greater degree of standardization in service delivery. Proponents of this concept also believe that this is an effective way to provide greater consistency in the delivery of HR services and better control costs. In this regard, there is an opinion that modern HR function has to be very agile and “very good at delivering differentiation when it is essential to business success, but ruthless at driving consistency when it is not essential“ (Mercer, 2008, p. 2).

A factor that specially contributed to the appearance and the decision of many organizations to found them, is also a need to change the focus of this function where proportionally less time will be allocated to perform administrative activities, and more to its role as a strategic business partner. Consequently, the formation of HR SSC HR would provide professionals more space and time to deal with strategic issues which for the company have essential value. The other reasons for the formation of HR SSCs include the following (Reilly, 2000): increasing the customer satisfaction with services, the introduction of a single point of contact with customers, implementing the approach of an integrated "total solutions", providing greater cost transparency and consistency of information, achieving economies of scale for investment in technical and communication infrastructure and so on. Key reasons for the establishment of HR SSC in some companies are presented in Table 1.

Table 1: Primary drivers for creating shared services

Company	Key drivers
Bayer Group	• Increase quality • Improve speed of delivery • Reduce costs
Philips International	• Simplify HR service delivery for managers, employees, and HR business partners by standardizing processes • Leverage advanced technology to create “one-stop-shop” through HR portal • Enable strategic support to business through HR business partners • Increase cost agility
Siemens	• Increase consistency in support of “One Siemens” culture • Reduce costs and improve efficiency • Improve global metrics • Allow HT business partners to provide strategic support to business

Source: adapted according to Aon Hewitt’s study (2011). Trends in Global HR Shared Services. Retrieved from http://www.aon.com/attachments/thought-leadership/Trends_Global_HR_Shared_Services.pdf

Positioning HR SSC in organizations can have different solutions depending on the assessment of the leadership of the manner in which these centers can contribute to the highest possible quality of service and efficient control of operating costs. Practice shows that in this respect are possible following ways (Corporate Leadership Council, 2006):

- *HR SSCs are located within a larger shared services function.* This solution is often in larger organizations. In this case of SSCs are usually grouped into shared services function with finance, information technology, security, etc.
- *Free-Standing HR Shared Services.* This solution means that organization create a shared services function focused solely on HR-related transaction.
- *Outsourcing HR Shared Services.* To provide better control of costs and to create a single point of contact for HR services, some organizations decide to outsource lower-level HR services. In this case HR personnel may focus on more complex HR issues, such as formulating HR

strategy, solve complex cases and manage vendor relationship. The vendor relationships usually assumes that group of HR personal contact the super vendor which then directs employees to the appropriate vendor with oversight of the relevant topic area, such as pension management or life insurance.[1]

Functioning of HR of SSCs in practice is usually multilayered, and usually consists of four levels. The first level is called *self-service* and implies that employees by using technology alone come up with the necessary information or the same change (e.g. personal data). Ideally, 60-70 % of such inquiries or requests should be realized in this way. The second level is called administrative service and assumes that representatives from SSCs take calls from the employees and by using online knowledge bases and by direct accessing to information about employees responds to their queries. The share of these requires is typically between 25 % and 30 %. The third level is called *subject expert* and means that experts in the particular field of expertise respond to users` questions or requests. These activities typically make up 10-15 % of all service requests. Finally, the fourth level is called *policy expert* and assumes that experts respond to users about highly specialized issues, for example in the field of labor law and the like. It is usual that such requests make up 5 -10 % of all service requests (Corporate Leadership Council, 2006).

Since HR SSCs already have enough long tradition, especially in the U.S., to some extent the practice of measuring their effectiveness is stabilized. The effectiveness of these centers is usually measured in three segments: financial aspect of their introduction, procedures and customer satisfaction services. Table 2 shows the most common indicators that are determining in order to monitor and evaluate the effectiveness of these centers.

Table 2: HR shared services metrics by category

Financial	Procedural	Customer feedback-based
• Cost broken down by offerings and utilization of offerings • Cost per full-time employees • Shared services cost growth relative to corporate revenue growth and/or corporate expenditures	• Number of unsolved customers' requests • Metrics for specific tasks (e.g., time to fill recruiting duties) • Six sigma • Users' time on hold • Utilization rates by phone, e-mail, fax, or Web	• Periodic surveys of internal customer population • Reviews of past calls for customer service quality • Surveys targeting specific user groups

Source: Corporate Leadership Council (2006). HR Shared Services: Determining the Scope, Scale, and Structure. Retrieved from http://www.spa.ga.gov/pdfs/CLCHRSharedServicesDeterminingtheScopeScaleandStructure.pdf

4. ADVANTAGES AND DISADVANTAGES OF SSCs IN THE HR FUNCTION

The implementation of the concept of SSCs in the design of HR function has numerous advantages but also the potential risks. The benefits expected from the establishment of HR SSCs can be systematized into three groups (Schwarz, 2007):

- *Cost advantages.* Numerous studies have shown that the implementation of the concept of SSCs in the design HR function can reduce costs by an average of 25 % to 40 %. One part of costs saving resulting from the reengineering process and the effects of economies of scale, while a portion of the

[1] As a specific example of outsourcing HR services can be mentioned an example of Adecco Group, precisely the branch of the group which is located in Belgium and employs 700 workers. This branch for the Belgian labor market performs a number of HR services such as recruitment, selection, temporary employment, etc. At the same time the services that are provided by Adecco Belgium are specialized for various industry sectors. The companies that are their major clients are XPE Engineering & ICT Finance & Accounting XPE, XPE Pharma & Science, Glotel, Modis, 3W and Lee Hecht Harrison. Adecco has over 120 offices in Belgium, where some are located at the clients' places. The head office and shared service center for HR, Finance and ICT is located in Brussels (http://www.citrix.com/customers/adecco_belgium_en.print.html). This suggests that SSCs in the HR group activities today are not only seen as a concentration of activities within large global companies, but are also formed as a joint services for several companies. In this case they are usually located where the best conditions for performing are.

savings resulting from the savings in labor costs due to the elimination of those HR activities that would be otherwise duplicated, and from introduction of modern technology. In addition, many MNCs decide to form their SSCs in countries where labor is cheaper which also leads to savings in labor costs. Consequently, we can identify trends in these centers as moving from highly cost urban areas to rural areas with low labor costs. In this regard, practice shows that companies in the EU are increasingly opting to aggregate common services in countries with lower labor costs, such as Eastern Europe (Aon Hewitt, 2011).

- *Service advantages*. Standardization of activities as well as the effective delivery of HR services ultimately contribute to the quality of services improvement by standardizing on a certain level. In addition, improvement in human resource management and improvement in communication between the HR function and other business units enables better and faster transfer of knowledge and the improvement of overall organizational performances.
- *Strategic advantages*. Establishment of HR SSCs allows the HR function to focus on strategic issues. By improving its structural flexibility and release from routine tasks this function can focus on strategic corporate objectives. Therefore, this function can become a true strategic partner in achieving company goals.

On the other hand, the establishment of HR SSCs, as we have pointed out, is not without challenges. Some studies have shown that the formation of HR SSCs caused dissatisfaction of line managers because of the increased workload within HR administration. On the other hand, there were also complaints from HR professionals who claimed that these centers have limited their opportunities for career development. Other deficiencies of formation of HR SSCs ranged from reduced quality of HR services, to the fact that the formation of these centers was very expensive investment. Briefly, the potential risks of introducing HR SSCs can be systematized into the following three groups (Schwarz, 2007):

- *Financial risk.* Financial risk stems from the fact that the project of forming HR SSCs can be more expensive than it was originally planned. The increase in costs may be due to the fact that their establishment may take longer period of time due to different resistances or organizational weaknesses. Also, the establishment of HR SSCs usually requires significant investment in IT.
- *Process risk.* This type of risk is related to the potential risk of reducing flexibility in meeting the needs of service users because one of the principles underlying the operation of these centers is that wherever is possible procedural differences for internal users should be eliminated. Consequently, the formation of HR SSCs “by default “significantly reduce flexibility. Specific needs should be satisfied only when the HR SSCs are prepared for that and when it is justifiably[2]. In the case of such HR SSCs is provided high level of operational excellence, and high level of personalized solutions.
- *Employee risk.* Employee risk is associated with the fact that the employees could form resistance to changes that are planned to be implemented. It is a well-known fact that when organizations implement changes, the employees may demonstrate less or more resistance to them since every change means abandoning the previous well known pattern of behavior. This type of risk can even strengthen financial and procedural risk.

5. EXAMPLES FROM PRACTICE

The next few examples illustrate the process of formation, as well as the benefits generated by establishing HR SSCs that could serve as examples of good practice if the companies think about redesigning the HR function in this direction. However, this does not mean that establishing HR SSCs in each company you will automatically result in positive effects. The following examples show the starting circumstances from which listed companies launched in the formation of these centers and what practical solutions resulted from these

[2] In order that HR SSCs cope with the new challenges it is suggested that within them should be formed a suitable base of knowledge that will be combined with the best practices in this area, as well as the technique of case management. More in Hird, M., Marsh, C., Sparrow, P. (2009), "HR Delivery Systems: Re-engineered or Over Engineered?" CPHR White Paper 09/05.

circumstances. As every company has specific characteristics, these examples should be used only for critical analysis and identification of specific causal relationships.

Bayer Group. Bayer Group is a global company that is recognized worldwide in the areas of health care, nutrition and high-tech materials. It employs over a hundred thousand people in more than 300 subsidiaries worldwide. In this company HR SSCs were introduced with the objective to increase the quality of the HR services, the speed in their realization, and to reduce operating costs. Over time the company has achieved all these goals, but the focus remained on the quality of HR services.

Bayer HR SSCs operate on several levels: global, regional and country level. Global HR SSC is located in Germany, the regional center for Europe also in Germany, and there is the regional center for North America located in Pittsburgh. This company established several HR SSCs at the level of the state too, such as centers in Argentina, Mexico, Brazil and Japan.
Since the precondition for successful functioning of HR SSCs is the standardization of HR programs and activities, this company during the formation of these centers considerable attention dedicated to ensure standardization and consistency of the process. Besides that, this company tied to offer the best possible services in a given area (best-in-class solution). The process of standardization of HR services and processes in Bayer began in 2005. First, all HR processes and activities were identified, and then grouped into 28 different clusters. Through this analysis, Bayer has identified three types of processes:

- *Global processes.* These are processes that are implemented in the same manner at each location. This company has identified six global processes, including performance management, short-term incentives and merit increases.
- *Global-at-core processes.* These processes are with a consistent foundation, but some variations at the local level; these include recruitment and training.
- *C processes.* These are processes that are significantly different across countries and include payroll.

Bayer aggregated the administrative aspects of these cluster in its SSCs. In this way, all six global processes are administered in a consistent manner for all employees within this global company. Other processes that require local adaptation are administered through regional HR SSCs or centers that are located in different countries. In order to monitor the effectiveness of these centers Bayer established practice of monthly reports on the performances that are achieved (Aon Hewitt, 2011).

Phillips International. Phillips International is world known company in the field of health care, lifestyle and lighting. It employs over 100 000 employees in more than 60 countries. A key reason for the formation of HR SSCs was a simplification of HR services. This effort was part of a broader mission of Phillips which stresses operational excellence and consistency across all businesses. In order to simplify HR services, Phillips formed global SSC with the single point of contact for all leaders, managers and employees. In this way, experts within the field of human resources (HR Business Partner) are freed up to provide more time to deal with strategic aspects of employment and to be support to managers. With these changes, Phillips recorded increased productivity and reduced costs, although these were not the primary objective of HR function restructuring.

The process of simplification of HR activities in Philips successful illustrates the fact that when it comes to recruitment they removed e 15 "touch points" from HR business partners and eight form managers. In this way, HR professionals are freed up from administrative duties and a recruitment process was significantly simplified. A similar situation was with the other activities in the field of HRM (Aon Hewitt’s study, 2011).

Nestle. Nestle is an example of a company that literally applies the Dave Ulrich’s model since in this the company HR function is composed of three segments: business partners, centers of expertise and HR SSCs. Such organization of the HRM function is implemented in its three global zones in which this company operates: Africa, Oceania and Asia (AOA), American zones - North and South America and the European zone - Central and Eastern Europe. In addition, within 84 countries where the company operates, a three-part model also has been implemented. In other words, within a global three-part model of HR functions operate three-part model of the functions in each country where the company has operations.

The basic principles which the HR function in this company implements in its functioning are as follows (Hird, Marsh, Sparrow, 2009):

- Provide consistency and ease of HR activities when you cannot achieve a competitive advantage through diversities and complexities,
- Provide as much information at the lowest level in the company,
- Local HR strategy should be aligned with corporate strategy,
- HR SSC and HR centers of expertise are centralized and provide service to all segments of business unless it is important that certain practices are localized.

Although presented examples are those in which the formation of HR SSCs generated positive effects, the implementation the SSCs concept in the design of the HR function was not without problems. This is illustrated with the slogan of Bayer's HR transformation group: "Let's make it happen." Repeating this slogan enabled them to successfully face many problems that arose in the implementation of this project in order to realize it fully.

6. CONCLUSION

HR SSCs should be considered as part of the evolution of the HR function design that best integrate the advantages of modern technology and standardization, with the idea that the needs of the employees and management should be satisfied in the best way. At the same time, this enable freeing up HR professionals enough time and energy to devote to strategic needs organization in terms of human resources.

Previously examples in the paper points out that HR SSCs can have a significant role in the business model of modern organization especially as their focus of HR SSCs is to create the greatest possible value for the users of their services at affordable costs. Positive impact on overall organizational performance such designed HR function can generate due to the fact that only high-quality, professional, motivated and satisfied workforce can be a generator of business success. All this issues are depending greatly on the quality of the services that provide HR SSCs. Howevere, in this paper is also stressed the fact that there are some potential risks of introducing these centers, such as financial risk, process risk and employee risk. Knowledge of the potential risks of establishing HR SSCs should enable the organization's leadership not to implement them without previously critical access as well as to prepare appropriate organizational responses to them in advance.

In this regard, the example of Bayer tells us that implementation of the SSCs concept in the design of the HR function requires patience and progressively overcoming obstacles. Also, this example shows that it is very important that once established HR SSCs should be the subject of ongoing analysis of the effects that are generated so that corrective measures can be taken. Therefore, some authors point out that the concept of shared services is still evolving, and that is going on specific "shared services journey" (Schwarz, 2007). This means that concept of HR SSCs have potential to generate many positive effects, but there are also some weaknesses that should be overcome. The main downsides that should be taken in account are huge investment in technology, reduced flexibility for individual and business units need, perception that HR function has been depersonalized, resistance to changes, etc.

REFERENCES

Amit, R., Zott, C. (2001). Value creation in e-business. Strategic Management Journal, 22, 493-520. doi: 10.1002/smj.187

Aon Hewitt's study (2011). Trends in Global HR Shared Services. Retrieved form http://www.aon.com/attachments/thought-leadership/Trends_Global_HR_Shared_Services.pdf

Corporate Leadership Council (2006). HR Shared Services: Determining the Scope, Scale, and Structure. Retrieved from http://www.spa.ga.gov/pdfs/CLCHRSharedServicesDeterminingtheScopeScaleandStructure.pdf

CIPD (2007). The Changing HR Function: Transforming HR. London, United Kingdom: Chartered Institute of Personnel and Development.

Hird, M., Marsh, C., Sparrow, P. (2009). HR Delivery Systems: Re-engineered or Over Engineered? CPHR White Paper 09/05. Lancaster, United Kingdom: Centre for Performance-led HR.
Johansen, M. W., Christensen, C. C., Kagermann, H. (2008). Reinventing your business model. Harvard Business Review, 86, 55-59.
Mercer, (2008). Finding your place on HR shared services continuum. Retrieved form http://www.mmc.com/knowledgecenter/Finding_your_place_on_HR_shared_services.pdf
Mercer (2011). It’s time for the Next Generation HR Service Delivery Model. Retrieved from http://www.mercersignatureevents.com/lachr_2011/resources/It's%20Time%20for%20the%20Next%20Generation.pdf
Reilly, P. (2000). HR Shared Services and the Realignment of HR. Sussex, United Kingdom: Institute of Employment Studies.
Robinson, D., Reilly, P., Wolfe, H. (2006). Business Models and HR Logic or Fashion. Brighton, United Kingdom: Institute for Employment Studies,
Schwarz, G. (2007). Shared Service Center. Retrieved from http://www.inst-informatica.pt/servicos/informacao-e-documentacao/biblioteca-digital/gestao-e-organizacao/servicos-partillhados/shared-service-center-2007
Ulrich, D. (1995). Shared Services: From Vogue to Value, Human resource planning, 18(3), 12-23.

E-SKILLS FOR PUBLIC SECTOR EMPLOYEES

IN THE PROCESS OF E-GOVERNMENT DEVELOPMENT

Mimoza Bogdanoska Jovanovska[1], Tatjana Ratković[2]
[1]Faculty of Administration and Information Systems Management – Bitola, St. Kliment Ohridski University in Bitola, Republic of Macedonia, mimozajovanovska@yahoo.com
[2]Faculty of Organizational Sciences, University of Belgrade, Serbia, ivanovic.tatjana@fon.bg.ac.rs

Abstract: *Public sector effectiveness depends largely on the skills of employees in public administration who face specific challenges due to the nature of their work. Modernization of public sector initiated by introduction of information and communication technologies (ICTs) has led to new demands regarding skills required for public sector employees emphasising the need for achieving digital literacy among them. This paper seeks to address a broad range of challenges faced by developing countries at the beginning of the process of e-government implementation, primarily referring to low level of ICT literacy and e-skills of public administration employees. The aim of the paper is to discover the variables with the highest influence on the process of e-government development in these counties, especially focusing on identifying the appropriate mix of specific skills (with particular emphasis on e-skills) required by public sector professionals (especially non-IT workers) involved in the process of e-government development and implementation. Conclusion of the paper is that a user-centric approach for acquiring e-skills in the public sector should be used in the process of e-government development and recommendations of various channels that may be used for acquiring of these skills are offered. This paper may present value to relevant bodies and institutions in developing countries intending to develop and implement the concept of e-government. The findings can also serve as guidelines for development of a possible curriculum for training and education of public administration employees in these countries.*

Keywords: *e-government, e-skills, human resources, public sector, public administration employees, leadership skills*

1. INTRODUCTION

Rapid transformation of society from industrial to informational, from bureaucratic to citizen-cantered, from service economy to knowledge-based one has influenced the development of human resources skills, making them much more pervasive and encompassing than ever before. The main initiator of these changes has been the introduction of information and communication technologies (ICTs).

Information age, associated with the digital revolution, has emphasized the need for digital literacy, or widespread use of basic IT skills (so-called electronic or e-skills) especially within the public sector. It has highlighted the critical role of e-skills for creation of effective and proactive policies aimed at sustaining investments in ICTs and protection of e-skills from becoming a bottleneck.

E-skills are becoming increasingly important in a knowledge-centric concept such as e-government. The main task of the public sector is to provide a substantial supply of high-quality services for the community in order to achieve efficiency and effectiveness in its performance (which is related to the purpose of citizen-cantered orientation). E-government refers to the achievement of this objective within the field of public administration through the use of ICTs (UN 2003).

2. THE CONCEPT OF E-GOVERNMENT

A commonly used narrow definition of e-government refers to service delivery on the Internet (West 2001). However, during the time definitions extended the scope of e-government from “the use of ICTs” towards “reforms in public administration”, stating that e-government “is not just automation of existing processes…but creation of new processes and new relationships” (InfoDev and CDT 2002, p. 5) between administrative institutions and bodies. So, e-government “has become an indispensable tool in reforming state administration and the work of local government, it is increasing the satisfaction of citizens regarding services, and creating a more flexible, transparent, public administration” (Molnár, 2006, p. 5).

E-government users include citizens, businesses, governments and public administration employees. According to World Bank (2005) e-government may build one of three possible relationships with its users: government-to-citizen (G2C), government-to-business (G2B) or and government-to-government (G2G). The fourth and final relationship is the one between the government and its employees (government-to-employees or G2E), where the government is expected to provide e-learning and facilitate knowledge sharing among its employees using Intranet.

Regarding the implementation of ICT concept in government OECD (2003) and UN (2005) point out that successful e-government requires two main categories of human resources: well-balanced human resources in the public sector comprised of professional engineers in charge of system development, management and maintenance on one hand, and users (clients and public sector employees) equipped with IT knowledge on the other hand. Similarly, López-Bassols (2002, p. 3) notes that ICTs “offer the promise of new business and employment opportunities along with higher productivity gains, but also make new demands on skills…and adequate training programmes for various categories of workers’’.

3. HUMAN RESOURCES AND THEIR SKILLS AS ONE OF THE MOST IMPORTANT FACTORS FOR E-GOVERNMENT DEVELOPMENT

Many studies attempted to identify the most important factors for development of successful e-government which lead to achievement of higher efficiency, effectiveness, transparency and accountability of government day-to-day administration. Numerous variables have been found to have impact on the implementation of e-government in developing countries, such as: changes in work processes, technical/human resources, organizational culture/values, vision/strategy/internal leadership, external/financial support, and laws/regulations/policies, with “technical/human resources” being one of the most important factors (Shin et al., 2008).

Human resources represent a set of individuals who make up the workforce of an organization, a company or an institution in any sector: private, public, NGO, etc. Human resources possess different skills, abilities, knowledge and qualifications needed for performing particular jobs. A skill may be defined as: (1) a learned ability to use one’s knowledge, practice, and aptitude; (2) an ability to perform a task with pre-determined results within a provided amount of time and/or energy; (3) a special competence in performance. According to Skills Investment Strategy (2003) there are two types of skills- essential and occupational. Essential skills are enabling skills that help people perform the tasks required by their occupation as well as other activities of their everyday life. These skills provide a foundation for acquiring other skills and enhance individual’s ability to adapt to changes in the workplace. Essential skills include reading, writing, analytical skills, verbal communication skills, computer skills and thinking skills, among others. Occupational skills refer to job-specific technical skills that are required in order to perform specific tasks for a particular job.

Skills may be acquired through a variety of channels (OECD, 2001; López-Bassols, 2002)- through natural abilities, formal education, work experience, training (on-the-job or external) and other (e.g. self-training, non-formal training). On-the-job learning is often considered as one of the most effective ways for gaining necessary knowledge and acquiring tacit skills (Barrett, 2001; Lucking, 2003; Ma, 2004; Tessema et al., 2007). Methods of skills development or training programs in organizations can be either formal or informal. The latter is done through on-the-job training and is less expensive, whereas the former is more structured and takes place in a classroom or e-learning setting and is more expensive. For example, an informal method can be used for acquiring basic IT skills, both in public and private sector. Experts suggest that formal training methods can be used for acquisition of Internet skills and technical e-skills either in classroom setting, e-learning, or by outsourcing to local and international institutes. Additionally, public sector may facilitate the process of acquiring IT skills through enhancing access of their employees to ICTs by providing low-cost PC programs (including the Internet).

3.1. SKILLS OF PUBLIC ADMINISTRATION EMPLOYEES

Well-balanced human resources in the public sector and provision of a variety of training programs aimed at developing users’ knowledge and capacities are often considered as necessary prerequisite for maximizing the benefits of e-government (OECD, 2003; UN, 2005). Public sector effectiveness depends largely on the skills of employees in public administration who face specific challenges due to the nature of their work. However, it is not easy to fill the skills gaps in order to increase the ability to deliver excellent service to the community. Since skills cannot be easily measured, different proxies may be used for capturing observable employee characteristics, such as education (on the supply side) and occupations (on the demand side). These issues become even more challenging when ICTs are being introduced in work processes in public administration. Having this in mind it is necessary to identify the skills required for public sector employees in order to enable successful development and implementation of e-government.

In the past public administration employees were mainly required to possess only hard skills in order to be considered for a particular job-the emphasis was on technical competencies and functional expertise as crucial determinants for successful performance. However, during the time the importance of soft skills has increased. Soft skills refer to the ability of an individual to communicate and interact with other employees in a positive manner. These skills are usually seen as a combination of communication and interpersonal skills, emotional intelligence, leadership qualities, negotiation skills and team skills (Deepa and Seth, 2013) as well as social skills - skills needed for working (collaborating) with people in order to achieve mutual goals (e.g. social perceptiveness, coordination and negotiation skills, persuasion and instruction skills, and team working skills) (Ben-ner and Urtasun, 2013).

Nalbandian and Nalbandian (2003) summarize skills necessary for public sector professionals as follows: administrative skills, political and policy skills, skills related to public service values education, and emotional and personal attributes. Administrative skills usually refer to achievement of collaboration and cooperation among departments, creation of opportunities for adoption of best practice as well as orientation of other employees toward accomplishment of organizational goals. Public sector employees need to possess political skills (Ferriset al., 2005; Ferris et al., 2007) which include networking ability, social astuteness, interpersonal influence and apparent sincerity (Ferris et al., 2005); they are expected to work on creating a climate which promotes and emphasizes issues related to loyalty, trust and commitment. They are also required to be committed to expressing public sector values, to educate others on those values, and to encourage the development of organizational values consistent with the values of the community (Nalbandian and Nalbandian, 2003). Another valuable skill for public sector employees refers to emotional intelligence- an understanding of feelings and emotions on one hand, and rational intelligence or reasoning on the other (Vigoda-Gadot and Meisler, 2010).These skills may lead to better performance in delivering service to customers, as well as higher work outcomes of public sector organizations (Rubin et al., 2005; Coté and Miners, 2006; Elfenbein et al., 2007; Vigoda-Gadot and Meisler, 2010). Special attention has to be paid to the significance of leadership skills for effectiveness of public service employees -public sector needs to identify and train employees in leadership skills in order to ensure responsibility. These skills mainly refer to the ability to communicate, motivate, coach, reward, involve and support others, as well as the ability to promote teamwork and collaboration among employees (Basheer and Sulphey, 2012).

Modernization of the public sector and introduction of new technologies has led to new demands regarding skills required for public sector employees. ICTs are affecting skills required and the nature and organization of work even for non-IT workers. Technological changes in the form of computer-based technologies entail an increase in skill content of jobs performed by skilled employees (Machin, 2001). By its nature IT work requires individuals to master codified and tacit knowledge as well as technical and abstract concepts, which are acquired through various formal (e.g. education) and non-formal channels (e.g. work experience).

3.2. E-SKILLS IN PUBLIC ADMINISTRATION

New information society and new concept of e-government require public administration employees to possess (beside essential and occupational skills) also cross-disciplinary, cognitive and problem-solving skills, understanding of the fundamentals of business and communication skills (including competence in foreign languages) as well as ICT-related skills (i.e. e-skills). Specific e-skills are needed for successful development of e-government which entails innovation of on-line services.

ICT skills (or computer technology skills) can be defined as:(a) the ability to learn, communicate effectively, collaborate, and solve problems regarding computer-technology-related tasks and projects; (b) the ability to use technology to support individual’s work with people/things/data/information (e.g. use of technology in an engineering lab, design studio or research program; use of technology for development of print and on-line materials; or use of technology for organizing and presenting information or for creating and maintaining databases); and/or (c) the ability to support others in the use of technology (e.g. setting up computer work stations for people, teaching computer skills, troubleshooting technology-related issues, and maintaining and repairing computers and related equipment).

E-skills usually refer to a broad set of skills necessary in the modern workplace. Commission of the European Communities (2007) extended this definition stating that e-skills represent a set of skills, knowledge, and concepts that are needed for effective consumption in terms of access, locating, operating, managing, understanding, and evaluating e-services provided in different stages of e-government. There are five levels of e-skills necessary for public sector employees - non-IT workers (i.e. workers without formal ICT education, such as minimum bachelor degree in informatics as a background for occupational skills) (López-Bassols, 2002; European e-Skills Forum, 2004; OECD, 2005):

1. *Basic level of e-skills* which is close to ICT user skills. These skills generally refer to "digital literacy" and include skills required for confident and critical use of ICTs for work purposes, leisure, learning and

communication. Employees who possess these e-skills can use generic tools (such as Word, Excel, Outlook and PowerPoint) and have the ability to use ICTs for basic tasks and as a tool for working.

2. *Middle ("advanced") level of e-skills*. Employees who possess these e-skills are practitioners because these skills enable them to use advanced and sector-specific software tools. They have the ability to apply simple IT tools in general workplace settings and also have capabilities required for researching, developing, designing, strategic planning, managing, producing, consulting, marketing, selling, integrating, installing, administering, maintaining, supporting and servicing ICT systems.

3. *ICT specialist*. Employees with these e-skills possess professional skills in ICTs - they have the ability to use advanced IT tools to develop, operate, repair, maintain and create ICT systems.

4. *E-leadership skills*. Employees with these e-skills have the capabilities needed for exploiting opportunities provided by ICTs (notably the Internet). They are expected to ensure more efficient and effective performance of different types of organizations as well as to explore the possibilities for new ways of conducting administrative and organizational processes. They have T-shaped portfolio of skills, representing expertise both in using ICT and developing organizations, which means that a leader is expected to possess the following skills:

- Expertise or "deep knowledge" in a specific area (e.g. engineering) - a vertical set of skills;
- "Transversal skills" that enable collaboration across a variety of boundaries (e.g. negotiation skills; critical thinking; design and systems thinking, business and entrepreneurship etc.) - a horizontal set of skills;

Both vertical and horizontal sets of skills require a basic level of ICT user skills, as defined by the European e-Skills Forum (2004).

5. *ICT professionalism skills* represent the highest level of e-skills. Employees with these e-skills possess a comprehensive and up-to-date knowledge, accommodating a common ICT body of knowledge, as well as pertinent specialist knowledge and skills. They are able to demonstrate an on-going commitment to professional development via an appropriate combination of qualifications, certifications, work experience and non-formal/informal learning, as well as to deliver high-quality products and services and adhere to applicable regulatory practices and/or a code of ethics/conduct.

4. ACQUIRING E-SKILLS IN DEVELOPING COUNTRIES

Human resources in the public sector represent one of the fields which need a lot of investments within the process of e-government implementation. Developing countries are still at the nascent stage of e-government development. Even though they require sophisticated and up-to-date e-skills in the public sector, these countries are usually characterized by a low level of digital literacy. One of the reasons for this is inappropriate formal education system in these countries which is not adapted to existing needs for e-government development and does not provide programs aimed at acquiring of e-skills for non-IT workers in public administration. As a result, most employees in the public sector in developing countries with a lot of work experience possess high level of essential and occupational skills but lack e-skills. Beside this category of public sector employees, there is another category which consists of employees who possess basic e-skills (beside essential and occupation skills). These employees usually build up their e-skills through self-training or non-formal learning. Even though they are in better position comparing to the employees without e-skills, they still belong to the first ("basic") level of e-skills. Most of employees in the public sector belong to this category. These is only a small number of public sector employees in developing countries who possess "advanced" level of e-skills; they usually do not have formal education in ICT field but have acquired these skills through self-training, previous work experience and on-the-job training. Even less employees may be found at "ICT specialist" level; this level of e-skills is reserved for employees who acquired their professional skills in ICTs through the process of formal education and later upgraded through work experience and training programs (both on-the-job training as well as external trainings). The forth and the fifth level of e-skills is rarely found in the public administration of developing countries. It is a complex one and not so easily achieved especially at the beginning of e-government implementation process.

Training programs aimed at acquiring of e-skills in the public sector in developing countries should not be defined universally for all public sector employees; they must be well defined and goal-directed in order to satisfy the needs of each particular job position. Khan et al. (2010) propose e-skills acquisition methods for public sector employees: formal training methods (e.g. on-the-job training); informal training methods; PC and Internet access in the offices; public private partnership (PPP - joint training programs by government and private sector which are supposed to enhance e-learning through a government extranet where public and private sector employees can share knowledge and experience); e-learning (short term and long term programs); outsourcing e-skills training and development or inviting foreign experts to provide trainings in e-skills; defining minimum requirements regarding IT skills for each position (for instance, ECDL - European Computer Driving License and/or MOUS - Microsoft Office User Specialist certificate); ICT training through media (radio, television, newspapers); periodic internships in IT departments/organizations; providing ICT training in collaboration with universities or institutes; socialization and capacity building through FAQ, providing manual book/guidance, and through help desk centre; stimulating and motivating employees for acquiring IT skills; make IT skill acquisition as one of the requirements of promotion in the public service; encourage life-long learning programs in the public service etc.

So, there is a necessity for long-term strategy related to e-skills development at the national level in developing countries. A common objective of ICT policies in developing countries refers to providing a minimum level of ICT knowledge for individuals and organizations, offering help to understand information technology and its cross-disciplinary effects, as well as providing a possibility of access to citizens and offering trainings in ICTs. There is also a need for deep scanning of current situation and existing skills in public administration as well as determining which e-skills are required for each position related to e-government and on-line service delivery. Special attention has to be paid to positions which require e-leadership skills. The results of this analysis should be used as a foundation for creation of long-term strategy for building up e-skills in the public sector. From a long-term perspective, there is also a need for some of the e-skills to be embedded in the formal higher education process in developing countries, in order to enable future generation of public sector employees to enter the public administration/government with basic or even advanced level of e-skills developed.

5. CONCLUSION

Continuous and fast development of ICTs on one hand, and changes in e-skills requirements on the other hand, have provided a complex target for policy makers whose job is to create educational and professional training systems at the national level, facing the challenge of delivering the skills needed for e-government. Despite their efforts, they still find it difficult to cope with the existing situation, and lifelong learning is still far from being a reality (Commission of the European Communities, 2007).

E-government facilitates the process of transition from a consolidated model of centralized, hierarchical, bureaucratic and operating government, in which “silo” functioning is dominant, to a new model of “horizontally integrated systems…which facilitate customer orientation’’ and move towards “e-government solutions that are sustainable” (UN, 2012, p. 63). Introduction of computer-based technologies has led to changes in skills of human resources (Ben-ner and Urtasun, 2013). There are strong reasons to believe that basic IT skills are becoming a new category of “general” competencies, such as analytical or literacy skills. IT skills do not only increase earning potential of IT workers, but they are also becoming necessary for a broad range of activities in the public sector.

However, at the very beginning of introduction of ICTs in the public sector, public administration employees are expected to show readiness and willingness (as well as basic digital literacy) to understand and participate in implementation of new technologies necessary for innovation and advancement of services provided by this sector. The next phase (implementation of e-government concept) requires even more specific, additional skills (e-skills) from public administration employees, especially non-IT workers, in order to be able to engage in a wide variety of uses within e-government. Different forms of formal and non-formal channels of education may be used for solving this problem - a user-centric approach for acquiring e-skills in the public sector should be used in the process. E-skills framework system should be used as a diagnostic tool to assist employers in public administration in determining more precisely and systematically the skills content of current jobs and new skills requirements. IT skills and competencies must be considered as one of the requirements for recruitment of new staff or promotion of existing staff in civil and public service. Developing countries need to create strategies and policy frameworks aimed at strengthening educational systems and facilitating workforce up e-skills in order to set up efficient and effective e-government. Finally, IT skills should become integrated into the concept of lifelong learning of public sector employees as one of necessary conditions to maximize the benefits of e-government, which is expected to facilitate the rapid diffusion of basic IT skills in developing countries.

REFERENCES

Barrett, R. (2001). Labouring under an illusion? The labour process of software development in the Australian information industry. New Technology, Work and Employment, 16 (1), 18–34. doi: 10.1111/1468-005X.00074

Basheer, A.& Sulphey, M.(2012).Leadership effectiveness in implementing change and driving innovation: A study among public sector employees. Asia Pacific Journal of Research in Business Management, 3 (9), 1.

Ben-ner, A.&Urtasun, A.(2013). Computerization and skill bifurcation: The role of task complexity in creating skill gains and losses. Industrial & Labor Relations Review, 66 (1), 225-267.

Commission of the European Communities (2007). Communication from the Commission to the Council. The European Parliament, The European Economic and Social Committee and the Committee of the Regions. E-skills for the 21st Century: Fostering Competitiveness, Growth and Jobs, Brussels. Retrieved from http://eur-lex.europa.eu/legal-content/EN/NOT/?uri=CELEX:52007DC0496

Coté, S.&Miners, C.(2006). Emotional intelligence, cognitive intelligence and job performance. Administrative Science Quarterly, 51 (1), 1–28.doi: 10.2189/asqu.51.1.1

Deepa, S.& Seth, M.(2013). Do soft skills matter? – Implications for educators based on recruiters' perspective. IUP Journal of Soft Skills, 7 (1), 7-20.

Elfenbein, H.A., Foo, M.D., White, J., Tan, H.H. & Aik, V.C. (2007). Reading your counterpart: The benefit of emotion recognition accuracy in negotiation. Journal of Nonverbal Behavior, 31(4): 205–223.doi: 10.1007/s10919-007-0033-7

European e-Skills Forum (2004). E-Skills for Europe: Towards 2010 and beyond. European Commission Enterprise and Industry Directorate-General Unit D4: E-business, ICT industries and services, Brussels. Retrieved from http://europa.eu.int/comm/enterprise/ict/policy/ict-skills.htm

Ferris, G.R., Treadway, D.C., Kolodinsky, R.W., Hochwarter, W.A., Kacmar, C.J., Douglas, C. & Frink, D.D. (2005). Development and validation of the political skill inventory. Journal of Management 31(1):126–152.

Ferris, G.R., Treadway, D.C., Perrewé, P.L., Brouer, R.L., Douglas, C. & Lux, S. (2007). Political skill in organizations. Journal of Management 33(3), 290–320.doi: 10.1177/0149206307300813

Khan,G.F., Moon, J., Rhee, C.& Rho, J.J. (2010). E-government skills identification and development: Toward a staged-based user-centric approach for developing countries. Asia Pacific Journal of Information Systems, 20 (1), 1-31.

InfoDev and CDT - Center for Democracy and Technology (2002). The e-government handbook for developing countries. A project of InfoDev and the Center for democracy &technology, Washington DC. Retrieved from http://www.infodev.org/en/Document.16.pdf

López-Bassols, V. (2002). ICT skills and employment. OECD Science, Technology and Industry Working Papers, OECD Publishing. doi: 10.1787/110542373678

Lucking, R.(2003). Lessons on best practice in the approach to effective civil service training: A comparative study of selected countries from Central and Eastern Europe and the Former Soviet Union 1989 to 2003. UNDP, New York. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/UNTC/UNPAN012894.pdf

Ma, S.K. (2004). Introduction: Civil service training. International Journal of Public Administration 27 (3–4), 147–149.

Machin, S. (2001). The changing nature of labour demand in the new economy and skill-biased technological change. Oxford Bulletin of Economics and Statistics, 63 (s1), 753–776. doi: 10.1111/1468-0084.63.spe1.8

Molnár, S. (2006). eGovernment in the European Union. Network for Teaching Information Society, NETIS.

Nalbandian, J.& Nalbandian, C.(2003). Meeting today's challenges: Competencies for the contemporary local government professional. Public Management (00333611), 85 (4), 11-15.

OECD (2001), Education Policy Analysis 2001.OECD Publishing, Paris. doi:10.1787/epa-2001-en

OECD - Organisation for Economic Co-operation and Development (2003). The e-government imperative. OECD Publishing, Paris.doi:10.1787/9789264101197-en

OECD - Organisation for Economic Co-operation and Development (2005).E-government for better government. OECD Publishing, Paris. doi:10.1787/9789264018341-en

Rubin, R.S., Munz, D.C.& Bommer, W.H.(2005). Learning from within: The effects of emotion recognition and personality on transformational leadership behaviour. Academy of Management Journal 48(5), 845–858. doi: 10.5465/AMJ.2005.18803926

Shin, S., Song, H. & Kang, M. (2008). Implementing e-government in developing countries: Its unique and common success factors. Paper presented at the APSA 2008 Annual Meeting, Hynes Convention Center, Boston, Massachusetts. Retrieved from http://www.allacademic.com/meta/p280176_index.html

Skills Investment Strategy (2003). Supporting the Development of a Skilled Workforce in Alberta. Alberta Human Resources and Employment Labor Force Partnerships and Skills Policy Branch Alberta, USA. Retrieved from http://www.gov.ab.ca/hre

Tessema, M.T., Soeters, J.L., De Groot, G. & Tesfaselassie, M.F. (2007). Managing civil service training institutions: What lessons can countries learn from Singapore? International Journal of Human Resources Development and Management, 7(3), 300–318. doi:10.1504/IJHRDM.2007.017136

UN - United Nations (2003). Global E-government Survey. Retrieved from http://www.unpan.org

UN - United Nations (2005). Global E-government Readiness Report 2005 - From e-government to e-inclusion. Retrieved from http://www.unpan.org

UN - United Nations (2012). Global E-Government Survey 2012 - E-Government for the People. Retrieved from http://www.unpan.org

Vigoda-Gadot, E.& Meisler, G.(2010). Emotions in management and the management of emotions: The impact of emotional intelligence and organizational politics on public sector employees. Public Administration Review, 70 (1), 72-86.doi: 10.1111/j.1540-6210.2009.02112.x

West, D.M. (2001). WMRS global e-government. Taubman Centre for Public Policy, Brown University, Providence, Rhode Island, USA. Retrieved from http://www.InsidePolitics.org

World Bank (2005). Definition of e-government. Retrieved from http://www1.worldbank.org/publicsector/egov/definition.htm

INTERNATIONAL PERFORMANCE MANAGEMENT – ISSUES AND CHALLENGES

Tatjana Ratković[1], Mimoza Bogdanoska Jovanovska[2], Jelena Anđelković Labrović[3]
[1]University of Belgrade, Faculty of Organizational Sciences, ivanovic.tatjana@fon.bg.ac.rs
[2] St. Kliment Ohridski University, Faculty of Administration and Information Systems Management – Bitola, Republic of Macedonia, mimozajovanovska@yahoo.com
[3] University of Belgrade, Faculty of Organizational Sciences, andjelkovic.jelena@fon.bg.ac.rs

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Abstract: *Having in mind that human resources are considered the most valuable resource for a company, monitoring and assessing performance of individual employees represents a task of great interest for every organization. However, these issues become much more complex in international environment. International performance management represents one of crucial functions of international human resource management (IHRM). The aim of this paper is to provide a more comprehensive perspective of the process of performance appraisal (as a central part of performance management) of employees in multinational companies (MNCs) - expatriates and host-country nationals. The paper seeks to address the issues related to the way of conducting this process in international settings; it explores and analyses common problems and challenges faced by multinational companies regarding this IHRM process in order to identify certain elements for improvement of international performance appraisal. Conclusion of the paper includes recommendations for best practice of performance appraisal in international context, mostly focusing on: formulation of well understood, valid and reliable goals and performance criteria, providing training for the raters, providing regular feedback, use of multi-rater system, etc. This paper may present value to multinational companies which need to manage various categories of employees intending to improve performance appraisal of their international employees in their foreign subsidiaries. Having in mind that there is limited research (both theortical and empirical) regarding performance appraisal in MNCs, this paper is expected to partially fill the existing gaps in the literature.*

Keywords: *performance management, performance appraisal, multinational company, human resource management, expatriate, host-country national*

1. INTRODUCTION

Globalization has created many challenges for Human Resource Management (HRM). Today organizations are paying much more attention to employee performance than ever before. International performance management represents one of crucial functions of international human resource management, attracting considerable interest of both academics and practitioners. Effective performance management is necessary to ensure that employees perform their jobs effectively in all units of a multinational company disseminated throughout the world. However, unlike other aspects of international HRM (such as staffing, training or compensation), there is limited research regarding performance management in international context (Shen 2004). The literature in this field is based more on empirical research than on theoretical concepts (Claus and Briscoe 2009). Most studies refer to domestic operations, while the results usually may not be applied in MNCs. Lack of research conducted in international performance management suggests that issues regarding this HRM function that have been identified in domestic context will be exaggerated in international context (Harvey, Novicevic and Speier 2002).

2. INTERNATIONAL PERFORMANCE MANAGEMENT

The term performance management appeared during the late 1980s (Lindholm 1999). It refers to identification, measuring, managing, and developing performance of human resources in an organization. It evaluates the achievement of pre-determined goals and targets. Dowling et al. (1999) define international performance management as strategic HRM process which enables a MNC to assess and continuously improve performance of individual employees, performance of foreign subsidiaries, as well as performance of the whole company according to clearly predefined goals directly related to MNC international strategy. Although this aspect of performance management is not often emphasised, it also represents a part of control system of a MNC, which, among other control mechanisms, enables a MNC to achieve coordination and consistency of desired behaviour and outcomes expected both in MNC headquarters and its foreign subsidiaries (Dowling and Welch 2006).

Performance management is often considered as an extension of performance appraisal. It is claimed that individual performance management includes goal setting, performance appraisal and providing feedback (Dowling and Welch 2006). Performance appraisal represents one of central parts of performance management (Tahvanainen 1998; Suutari and Tahvanainen 2002), representing a practice used for evaluation of past performance of an individual employee. So, it can be defined as an ongoing process in which employee performance is being reviewed and evaluated. However, performance management also includes other important components beside performance appraisal, such as: strategic planning, communication of organizational strategy through individual objective setting, job analysis and design (aimed at identification of performance requirements in a particular job), feedback and monitoring, training and development, motivating employees, employee relations and compensation (Vance and Paik 2006). So, it may be claimed that performance management includes a systematic analysis and assessment of employee performance, as well as communication of that assessment to the employee aimed at improving performance over time.

3. PERFORMANCE APPRAISAL OF INTERNATIONAL EMPLOYEES

It is necessary to measure individual performance on a job, regarding employee's behaviour or outcome during a specific period of time (Tahvanainen 1998). Performance appraisal is often viewed as one of HRM topics most widely debated and studied (Wright 2002). Performance appraisal represents an evaluation of the output of an individual measured periodically against specific expectations. Performance appraisals can be a critical part of organization's success because they allow the company to retain and reward high performers (Smith and Rupp 2003).

Having in mind that performance appraisal done in a domestic context is already a very complex process, conducting performance appraisal is even more challenging in the global environment - managing employees originating from different countries and cultures makes it difficult. International performance appraisal mainly focuses on two categories of employees: host-country nationals and expatriates; although the majority of research within the area of international performance appraisal is focused on performance appraisal of expatriates. The nature and the way of conducting of performance appraisal in MNC subsidiaries are considered to be influenced by HRM strategy and structure in the company (Maley and Kramar 2007).

Performance appraisal enables a multinational company to observe, monitor and evaluate individual performance of its employees in the workplace in relation to pre-defined standards, as well as their contribution to the success of the company. Performance can be defined by following key elements: goals, measures, assessment and feedback to employees at all levels. Appropriate implementation of this process is expected to reduce the inconsistencies in information between MNC headquarters and its host-country subsidiaries. Good performance appraisal is supposed to enable efficient control of MNC subsidiaries and to emphasize orientation at organizational goals at all hierarchical levels (Schlegel and Britzelmaier 2011), as well as to provide a realistic evaluation of international operations in order to motivate the subsidiaries to improve their performance in the future (Schmid and Kretschmer 2010).

It is often claimed that performance appraisal is used for two main purposes: to help managers to make administrative decisions (particularly referring to compensation packages and promotions - including expatriation) and to accomplish developmental objectives (regarding training and development of employees) (Brumback 1988). However, many other purposes of performance appraisal have been defined in the literature, such as assessing employee efficiency in the workplace, recognition of individual performance, improving employee performance, as well as providing information for managers' decisions regarding rises in salary, promotions, training and development opportunities, selection of employees (especially regarding selection of expatriates), retention and termination decisions. From the perspective of an individual employee the uses of performance appraisal include the following: identification of individual strengths and weaknesses, identification of individual training needs, making decisions regarding determining transfers (to international assignment) etc. In practice performance appraisals often influences other HRM systems in an organization - HR planning, determining organizational training needs, evaluating achievement of goals or identifying organizational development needs.

4. CHALLENGES OF CONDUCTING INTERNATIONAL PERFORMANCE APPRAISAL

Although performance appraisal systems represent such an important part of human resource management system they are still not completely understood and appreciated (Abu-Doleh and Weir 2007) in multinational companies.

There are various problems related to the process of conducting performance appraisal in international settings. The literature has identified main failures in this field, mainly focusing on the following. There is usually a lack of formal and universal performance appraisal system for evaluating performance of expatriates (Bonache et al. 2001) and lack of agreement among researchers regarding the most effective and objective criteria for evaluating performance and what constitutes effective (or satisfactory) evaluation (Maley and Kramar 2007). Competences and bias of the rater are often considered as a challenging issue in international performance appraisal (Woods 2003).

It is also difficult to isolate only job-related factors in conducting performance appraisal in international settings (Dowling et al. 1994; Gregersen et al. 1996). Numerous studies attempted to discover key attributes which should be possessed by an individual in international assignment in order to complete it successfully; although, researchers still have not agreed on universally accepted answers to these questions (Schmid and Kretschmer 2010). This has resulted in MNCs measuring some attributes and behaviours of international employees which are inappropriate which may lead to dissatisfaction of international employees regarding their appraisals.

It is often claimed that multinational companies tend to assess the abilities of their employees in terms of technical competencies. However, it has been often noticed that technical competences may not be considered as sufficient criteria for success in international operations of MNCs (Dowling and Welch 2006). Research suggests that the use of certain qualitative criteria may be better methods for assessing effectiveness of performance appraisal in international context (Milliman, Taylor and Czaplewski 2000). These criteria may refer to evaluation of individual attributes of international employees, such as: personal attitude, cultural awareness, global (geocentric) perspective, cross-cultural skills (communication skills, learning skills, adaptability, tolerance) (Harvey i Moeller 2009).

One of the common challenges of international performance appraisal refers to the existence of a gap between the evaluations of the rater and the rate. Performance appraisal in multinational companies represents a very complex process, as there is no best way to evaluate performance of a geographically distant employee performing a job in environment not fully understood by the rater (Shen 2004) - geographic distance between the rater and rate often makes performance appraisal process difficult. Other factors which can increase the complexity of an international performance appraisal include: differences in socioeconomic and legal environment, different norms and policies, cultural differences, language barriers, time zone differences, gender or social status (Appelbaum et al. 2011). These factors can sometimes increase the gap between the rater and the ratee, which may result in unfair performance appraisal process from the perspective of the rate in the foreign subsidiary - whether expatriate or local employee (Piggot-Irvine 2003).

Research has demonstrated that employee perceptions regarding the fairness of their performance appraisals are useful determinants of success of performance appraisal systems (Erdogan et al. 2001). These perceptions often influence employee attitudes and behaviours (Narcisse and Harcourt 2008) and may result in employee resentment or unhappiness (Abu-Doleh and Weir 2007). Literature lists three categories of employee perceptions of fairness - distributive, procedural and interactional (Erdogan et al. 2001). Narcisse and Harcourt (2008) explain that distributive fairness of performance appraisal refers to relation between perceived justice of outcomes of the appraisal (ratings) and actual work performed; procedural fairness focuses on the perceived justice of performance appraisal procedures used; while interactional fairness refers to the perceived fairness of the interpersonal treatment of employees during the performance appraisal process.

5. RECOMMENDATIONS FOR IMPROVEMENT OF INTERNATIONAL PERFORMANCE APRAISAL

Researchers have agreed upon the importance of international performance appraisal process, but there seems to be a lack of agreement on the best practices to conduct this process in international context (Appelbaum et al. 2011). Designing and implementation of performance appraisal system (or improvement of an existing process) is never a simple and easy task. Various issues concerning implementation of this system might arise, such as: aspects of performance which are being assessed; way of defining or describing employee performance; criteria used for performance appraisal; type of scales used for evaluation; raters who conducts the appraisal; as well as the frequency of conducting performance appraisal (Abu-Doleh and Weir 2007).

It has been noted that satisfaction with the performance appraisal system by employees in international settings is more likely to be higher in the following situations: when the appraisal has a clearly defined purpose in the company (Lindholm 1999), when employees perceive performance appraisal to be fair (Bradley and Ashkanasy 2001), when there is regular communication and positive relationship between the rate and the rater (Milliman et al. 2002) and when there is timely and accurate feedback (Sully De Luque and Sommer 2007).

Having in mind that performance appraisal is often considered to have a direct influence on job satisfaction and motivation of workers (Rusli and Nur Azman 2004), in order to achieve effective performance appraisal it is necessary to create an environment full of trust and open relationships between raters and ratees (supervisors and employees). Face-to-face communication between the rater and rate is often considered necessary for building the mutual trust; in order to enable this regular contacts between the rater and the ratee should be arranged (whether through regular visits of the rater to the foreign subsidiary where the rate is located or through the use of information communication technologies).

Performance appraisal needs to be based on valid and reliable criteria (Harvey and Moeller 2009). These criteria should be easy to access and understand and they should be motivating for all international employees regardless of their nationality (Shen 2004). Performance appraisal system has to be fair and to ensure equal treatment for different international employees within the same company (Woods 2003). Both employees whose performance is assessed and the supervisor (the rater) need to understand the purpose of conducting performance appraisal in the company. It is necessary that MNC provides competent raters in order to decrease the possibility for bias in conducting the appraisal. However, formulating objective performance measures that are both valid and reliable can be problematic.

The performance appraisal measures and the way of conducting this process are supposed to be well understood across the organization. It is crucial that the expatriate’s and HCN’s expectations are consistent with the expectations of the MNC. Employees (both expatriates and host-country nationals) need to know what they are expected to do in a particular assignment. Effectiveness of performance appraisal increases when goals are formal and written (Claus and Briscoe 2009). Employees should be included in the process of setting the goals. Regarding performance appraisal of expatriates, this process should be done during the international assignment (and not after repatriation).

Appelbaum et al. (2011) recommend that performance appraisal in a global environment should be done by 360 degree or multi-rater system, which allows the rater (manager) to receive feedback on ratee's (employee’s) performance from various sources. In order to ensure appropriate use of performance appraisal and to decrease the possibility for errors regular trainings need to be provided for the raters in the following fields: setting goals and performance standards, coaching, counselling, conflict resolution, providing employee feedback. It is also important to emphasize the necessity for the manager (the rater) to take into account cultural differences between MNC home and host country when evaluating performance of a particular employee.

Feedback has been found to be a crucial part of a successful international performance appraisal. Regular provision of performance feedback is especially important in international context, where ratee (employee) and rater (manager or supervisor) are not located in the same country (Milliman et al. 2002; Sully De Luque and Sommer 2007). It is considered to be a key determinant for achieving talent development of diverse employees in MNCs (Sully De Luque and Sommer 2007). In case when employees receive feedback more frequently, they usually expected to perceive performance appraisal process to be more precise and timely. However, in practice international employees often do not receive performance feedback and might feel a lack of opportunity to discuss various problems (such as their career or personal needs) with their raters.

6. CONCLUSION

Literature review suggests that various issues may be related with inappropriate conducting of performance appraisal process in multinational companies. These issues and challenges mainly appear due to complexity of performance appraisal of international employees. However, elements for improvement of performance appraisal systems in MNCs have been identified in the paper. A performance appraisal system designed in suggested manner (in order to implement the proposed changes) may be successful and effective and lead to increased employee motivation and satisfaction, trust and commitment to work.

REFERENCES

Abu-Doleh, J. & Weir, D. (2007). Dimensions of performance appraisal systems in Jordanian private and public organizations. International Journal of Human Resource Management, 18(1), 75-84. doi:10.1080/09585190601068334

Appelbaum, S.H., Roy, M. & Gilliland, T. (2011). Globalization of performance appraisals: theory and applications. Management Decision, 49(4), 570-585. doi:10.1108/00251741111126495

Bonache, J., Brewster, C. & Suutari, V. (2001). Expatriation: A Developing Research Agenda. Thunderbird International Business Review, 43(1), 3–20. doi:10.1002/1520-6874(200101/02)43:1<3::AID-TIE2>3.0.CO;2-4
Bradley, L. & Ashkanasy, N. (2001). Formal performance appraisal interviews: Can they really be objective, and are they useful anyway? Asian Pacific Journal of Human Resources, 39(2), 83-97. doi:10.1177/103841110103900206
Brumback, G. (1988). Some Ideas, Issues and Predictions about Performance Management. Public Personnel Management 17(4), 387–402.
Claus, L. & Briscoe, D. (2009). Employee Performance Management Across Borders: A Review of Relevant Academic Literature. International Journal of Management Reviews, 11(2), 175–196. doi:10.1111/j.1468-2370.2008.00237.x
Dowling, P.J., Schuler, R.S. & Welch, D. (1994). International Dimensions of Human Resources Management (2nd ed.). New York: Wadsworth.
Dowling, P.J. & Welch, D.E. (2006). International Human Resource Management: Managing People in a Multinational Context (4th ed.). London: Thomson.
Dowling, P.J., Welch, D.E. & Schuler, R.S. (1999). International Human Resource Management: Managing People in a Multinational Context (3rd ed.). Cincinnati: South–Western College Publication.
Erdogan, B., Kraimer, M.L. & Liden, R.C. (2001). Procedural Justice as a Two-Dimensional Construct: An Examination in the Performance Appraisal Context. The Journal of Applied Behavioral Science, 37(2), 205–222. doi:10.1177/0021886301372004
Gregersen, H.B., Hite, J.M. & Black, J.S. (1996). Expatriate Performance Appraisal in U.S. Multinational Firms. Journal of International Business Studies, 27(4), 711–738. doi:10.1057/palgrave.jibs.8490150
Harvey, M. & Moeller, M. (2009). Expatriate Managers: A Historical Review. International Journal of Management Reviews, 11(3), 275–296. doi:10.1111/j.1468-2370.2009.00261.x
Harvey, M., Speier, C. & Novicevic, M. (2002). The Evolution of Strategic Human Resource Systems and their Application in a Foreign Subsidiary Context. Asian Pacific Journal of Human Resources, 40(3), 284-300. doi:10.1177/1038411102040003254
Lindholm, N. (1999). National culture and performance management in MNC. International Studies of Management and Organizations, 29(4), 45-66.
Maley, J. & Kramar, R. (2007). International Performance Appraisal: Policies, Practices and Processes in Australian Subsidiaries of Healthcare MNCs, Research and Practice in Human Resource Management, 15(2), 21-40. doi:10.1108/17574321111116388
Milliman, J., Taylor, S., & Czaplewski, A. (2000). Performance feedback in MNC: opportunities for organizational learning. Human Resource Planning, 25(3), 29-44.
Milliman, J., Nason, S., Zhu, C., & De Cieri, H. (2002). An Exploratory Assessment of the Purposes of Performance Appraisals in North and Central America and the Pacific Rim. Asia Pacific Journal of Human Resources, 40(1), 87-107. doi:10.1177/1038411102401007
Narcisse, S. & Harcourt, M. (2008). Employee fairness perceptions of performance appraisal: a Saint Lucian case study. International Journal of Human Resource Management, 19(6), 1152-1169. doi:10.1080/09585190802051451
Piggot-Irvine, E. (2003). Appraisal training focused on what really matters. The International Journal of Educational Management, 17(6), 254-261. doi:10.1108/09513540310487587
Rusli, A. & Nur Azman, A. (2004). Performance Appraisal Decision in Malaysian Public Service. International Journal of Public Sector Management, 17(1), 48–64. doi:10.1108/09513550410515565
Schlegel, D. & Britzelmaier, B. (2011). Business Strategy as a Situational Factor of Subsidiary Performance Management. International Journal of Management Cases, 13(3), 217–226.
Schmid, S. & Kretschmer, K. (2010). Performance Evaluation of Foreign Subsidiaries: A Review of the Literature and a Contingency Framework. International Journal of Management Reviews, 12(3), 219–258. doi:10.1111/j.1468-2370.2009.00259.x.
Shen, J. (2004). International Performance Appraisals: Policies, Practices and Determinants in the Case of Chinese Multinational Companies. International Journal of Manpower, 25(6), 547–564. doi:10.1108/01437720410560442
Smith, A. and Rupp, W. (2003). Knowledge Workers: Exploring the Link among Performance Rating, Pay and Motivational Aspects. Journal of Knowledge Management, 7(1), 107–124. doi:10.1108/13673270310463662
Sully De Luque, M.F. & Sommer, S. (2007). The impact of culture on feedback seeking behavior: an integrated model and propositions. Academy of Management Review. 25(4), 829-849. doi:10.5465/AMR.2000.3707736
Suutari, V. & Tahvanainen, M. (2002). The antecedents of performance management among Finnish expatriates. International Journal of Human Resource Management, 13(1), 1-21. doi:10.1080/09585190110092794
Tahvanainen, M. (1998). Expatriate Performance Management. Helsinki: Helsinki School of Economics Press.

Vance, C.M. & Paik, Y. (2006). Managing a global workforce: Challenges and Opportunities in International Human Resource Management. Armonk, NY: M.E.Sharpe.

Wright, R. (2002). Perceptual Dimensions of Performance Appraisal Management Systems in the Eyes of Different Sample Categories. International Journal of Management, 19(2), 184–193.

Woods, P. (2003). Performance Management of Australian and Singaporean Expatriates. International Journal of Manpower, 24(5), 517–534. doi:10.1108/01437720310491062

THE PRACTICE OF PERFORMANCE BASED PAY IN CENTRAL AND EASTERN EUROPE

Nemanja Berber MSc[1], Agneš Slavić PhD[2]
[1]Research Assistant, University of Novi Sad, Faculty of Economics Subotica, berber@ef.uns.ac.rs
[2]Assistant Professor, University of Novi Sad, Faculty of Economics Subotica, slavica@ef.uns.ac.rs

Abstract: *Employee's pay is one of the most mentioned factors of organizational motivational system. In contemporary business pay usually includes variable and fixed component. Fixed component is an element of the total reward, which usually is not influenced by employees' performances, and it is based on the organization's pay philosophy and structure. Variable parts of the reward are monetary or non-monetary elements such as bonuses, incentives, benefits, financial participation or some other non-monetary value for employees (work autonomy, training and development possibilities, work quality improvements, recognition). For the purpose of this study the practice of variable pay, based on data from CRANET research, was explored. The main goal of this research was to present the trend in performance based pay in countries in Central and Eastern Europe. The subject of the research was variable pay, consisting of financial participation and performance based pay, where authors decided to analyse four elements of performance based pay: bonus based on individual goals, bonus based on team goals, pay for performance and flexible benefits (as relatively new way of rewarding employees). The methodology and data used in the research was based on the CRANET project, where authors used existing data about HRM activities in organizations all over the world. For the purpose of the analysis author used data for 1147 organizations from 8 countries of the Central and Eastern Europe, Bulgaria, Czech Republic, Slovakia, Slovenia, Serbia, Hungary, Estonia, and Lithuania. Descriptive statistics and chi square were used to analyse performance based pay in specific sample of counties.*

Keywords*: performance based pay, variable pay, bonus, incentives, Cranet, Central and Eastern Europe*

1. INTRODUCTION

Employees' compensation, especially performance based pay, has always been a subject of many researches and debates in the world (Chiu et al., 2002; Weibel et al., 2010; Larkin et al., 2012; Bryson et al., 2012; Kalmi et al., 2012; Gupta and Shaw, 2014) and in domestic scientific and professional literature (Malinić, 2007; Bogićević-Milikić, 2007; Štangl-Šušnjar and Leković, 2009; Štangl-Šušnjar and Slavić, 2012; Berber, 2013; Janićijević, 2013). Connecting rewarding activities like human resource management and performance of employees, their satisfaction and organizational commitment indicates the importance of compensation and all other related activities for employees. Many authors state that the employees' compensation affects attraction of young talented employees and retaining existing staff in the organization.

The purpose of this paper was to explore the practice of performance based pay in organizations in several countries of Central and Eastern Europe. The subject of the research was variable pay, consisting of financial participation and performance based pay, where four elements of performance based pay: bonus based on individual goals, bonus based on team goals, pay for performance and flexible benefits (as relatively new way of rewarding employees) were explored and analysed. The methodology and data used in the research was based on the CRANET project, where authors used existing data about HRM activities in organizations all over the world. For the purpose of this analysis, there have been used data for 1147 organizations from 8 countries of the Central and Eastern Europe: Bulgaria, Czech Republic, Slovakia, Slovenia, Serbia, Hungary, Estonia, and Lithuania. Descriptive statistics, t-test and chi square were used to analyse performance based pay in specific sample of counties.

The paper was composed from three parts. In the first part of the research there have been made a research of available theoretical literature on incentive pay, where special attention was dedicated to the performance based pay. In the second part of the research there have been presented methodology and data used in the analysis, while the third part was consisted from the results and discussion.

2. THEORETICAL BACKGROUND

Variable salary may be understood as a reward paid to an employee for a partial or complete achievement of predetermined work assignment. This part of the overall compensation is variable in the sense that it varies in relation to the objectives and standards - organizational, group or individual goals. This type of reward points to the importance and correlation between effort and performance, on the one hand, and the rewards, on the other. Incentives are very important for any organization because they are the primary way to encourage desired behaviour among members of the organization (Jensen et al., 2009, p. 59). The goal of any incentive payment is to increase productivity and performance levels of employees, and to sure that one system of incentives is effective, it is necessary to be based on the following assumptions:

- Individual workers differ from work teams in terms of contribution to the organization, in terms of what they do and how they perform work activities.
- Overall organizational performance largely depends on the individual and group performance.
- In order to attract, retain and motivate those employees who achieve high levels of performance and achieve fairness against all employees, there is a need to reward employees based on their performance (Martochioo, 2009, p. 129).

Performance-based pay can be considered from different aspects. It can be a pay based on individual performance, team performance and organizational unit or the company. Pays are determined on the basis of realized production volume, cost saving, satisfied standard quality, as well as the result - profit increase (Štangl-Šušnjar and Leković, 2009, p. 1). Gittleman and Pierce in their study analysed pay based on performance as production bonuses and non-production bonuses, where production bonuses are commissions and piece rates, and non-production bonuses are employment incentive bonuses, performance based awards, recognition awards, and union-related bonuses (2013, p. 35).

Table1: Forms of pay for performance plans

	Individual	Collective
Fixed	Merit pay	
	Skill- or competency-based pay	
	Promotion	
Variable	Payment by results	Performance-related pay
	Piece-rate pay	Financial participation
	Commissions	Gain-, goal- and profit sharing
	Bonuses	Ownership
	Individual incentives	Group incentives

Source: Salimaki and Heneman, 2008, str. 159.

From table 1 it is obvious that pay for performance, or performance based pay, takes several forms, but the most important are individual incentives and bonuses, while in collective those are performance based pay and financial participation.

During researches in the past there has been found many differences in these plans. The number of such differences is crucial to the success of performance-related pay. The authors in this area identified several dimensions on which differences may arise in this part of the variable salary:

- Is pay based on organizational, group, or individual performance?
- Is pay based on objective measures such as piece-rate or subjective measures such as supervisory ratings?
- What proportion of pay is variable?
- How big are performance-based pay differences between good and bad employees?
- Are pay criteria clearly specified to employees in advance?
- Is there a policy of pay secrecy?
- In group-level performance-based pay plans, is pay distributed to group members equitably or equally?
- Is performance-based pay supplemented with other rewards?” (Gupta and Shaw, 2014, p. 3).

Gerhart and Fang classified pay for performance programs on three dimensions: the emphasis on results-oriented (physical production output, sales, profits, total shareholder return) or behaviour-oriented performance (supervisor or customer ratings of specific behaviours) measures, the emphasis on performance measured at the individual employee or aggregate (group, unit, organization) level, and the degree of incentive intensity. According mentioned authors, all private sector organizations in the United States and in many other countries usually use multiple pay for performance plans with the design based on factors such as job level, type of occupation, the way the work is organized, and the organization's strategy" (2014, p. 41).

Since the most common classification of variable pay is on short-term and long term incentives, authors described these two categories.
Namely, short term incentives are remuneration linked to short-term goals of the organization – usually annual, monthly or quartile financial performance of the organization. The most common example, both in theory and in practice, is bonus. Bonus is a reward usually paid to individuals for above-average performance; it can be a fixed amount or a percentage of a basic salary. It is always paid once, and it is related exclusively to the efforts made and the results obtained. Each new bonus is necessary to earn, this kind of reward involves continuous monitoring and measurement of employee performance. In practice, companies differ in the short-term bonuses in the way of payment, but all boil down to the same fact that these are rewards associated with specific effects, which are paid once, and as a percentage of the basic salary. In addition, bonuses may be paid based on individual and team performance, which is especially interesting for this research. Namely, in the past research related to the team or individual bonuses, the variable pay was preferable if it comes to be incentives for performance of the individual, rather than collective (team) and organizational performance. Employees are more optimistic about the probability of obtaining incentives if the variable pay is based on the performance of individuals (Kuhn and Yockey, 2003, p. 323).

Long-term incentives are related to the payments for achieving long-term goals of the organization, and include those payments that are related to economic value, profitability, market share, etc. The most common categories of employees who were awarded these types of incentives are managers. Long-term incentives commonly include financial participation in the ownership of the organization. Providing capital means involving employees in the capital structure of the organization, through stocks. Specifically, when an employee owns shares of companies, in which he is employed, it comes to the development of employee ownership culture, and to the better alignment of organizational and personal goals. Share based plans, stock options and profit-sharing are the most common forms of long-term incentives (Štangl-Šušnjar and Berber, 2014).

2.1. The Practice of Performance Related Pay in Europe

In the study of incentive pay in the world, authors Bryson, Freeman, Lucifora, Pellizzari and Perotin indicated that the variable pay is used in about 10-15 per cent of organizations in some Mediterranean countries (Portugal and Greece), Continental Europe (Belgium and Germany) and Anglo-Saxon countries (UK and Ireland), 30% and over 40% in the Nordic countries (Sweden and Finland) (2012, p. 3). These data are referred to the period of the 2000th to 2006th year.

On the other hand, researchers from Hungary and CEE countries (from the Cranet research period from 2004-2005) found that variable pay related to the specific level of performances is given far more often to all staff categories than financial participation, where profit sharing was mostly used (Karoliny et al., 2009). In the case of managerial compensation, European authors have demonstrated a strong impact of the regulatory environment on share-based compensation plans in the region, where state shareholding has a major impact on the existence of such schemes in Polish public corporations, which could be considered as evidence of the rigid, direct regulation of executive pay in contrast to the Czech and Hungarian practice (Festing and Sahakiants, 2011).

Berber and Štangl-Šušnjar (2013) performed a research on the compensation for professional workers, based on the Cranet data from 2008/2010, and found that performance related pay is used more often than financial participation in the case of professionals' rewards in the companies from the CEE region, similar to the results of Karoliny, Farkas and Poór from 2009 but instead of performance based pay, bonuses based on team goals are the most common form of professionals' rewards in the area of variable pay.

Performance based pay has been explained as a selection device and a response to heterogeneous worker preferences. Authors from UK explored the relation between the size of organization and performance based pay. Using a large Portuguese data panel in the analysis mentioned authors found that large firms are more likely to use performance related pay and pay higher wages (Coelho et al., 2011). Authors from Europe found that there are significant differences in the distribution of incentive pay schemes by firm size. Incentive pay is more common in large organizations, usually for professional workers (Bryson et al., 2012, p. 7).

After a brief overview of the most important attitudes related to the payment based on performance, it is analysed the current practice of rewarding in the world. Specifically, the research team of CRANET in the period 2003/2005 explored the level of use of the performance based pay in organizations that were involved in the project. According Brewster, Sparrow and Vernon (2007, p. 133-135) there have been observed the following phenomena associated with the use of rewards based on performance:

- Usage of the incentives for individual performance for manual workers was the highest in Slovakia and Switzerland, over 35 % of organizations. Countries such as Canada and Sweden used this approach less than 10 %, while countries such as Turkey, Australia and the United States less than 15 %.
- Usage of the incentives for individual performance for administrative workers was the largest in Italy, almost 50%, followed by Greece, Switzerland, Slovakia, Germany, France and Austria, more than 35%. Countries like Sweden used this approach only in 10% of organizations.
- In Finland, a country with a strong unions and collective bargaining, there are a significant proportion of payments based on performance and in manual and in administrative staff.
- Similarly, for team performance for manual workers - the largest share of this approach had Slovakia and Italy, followed by Finland, while the rest of the surveyed countries used this form in less than 15 - 17%.

3. METHODOLOGY, DATA AND HYPOTHESES

Based on the previously discussed researches related to the incentive compensation, and in accordance with the available data and variables, two hypotheses were proposed.

> *H0: Organizations from the CEE region use performance related pay based on individual level more than incentives based on team level.*
>
> *H1: Larger organizations from the CEE region use performance related pay more than smaller organizations.*

The present comparative analysis of compensation was based on the worldwide data of the Cranet international network of business schools. This international organization organizes comparative researches on the policies and practices of human resource management, using a standardized questionnaire. The survey is undertaken approximately every four years with the purpose to provide high quality data for academics, public and private sector organizations, as well as HRM students, and to create new knowledge about human resource management practice in different countries of the world. The questionnaires are filled out by the HRM executives of companies with more than 50 employees. The Cranet questionnaire is divided into six sections (Parry et al. 2013, p. 4). Section IV on Compensation and benefits contains questions about the level of basic pay and bonus schemes, as well as on schemes in excess of statutory requirements. The research data were processed using SPSS software and MS Office EXCEL programme, using descriptive statistics and chi square test.

The objectives of this paper were to find out the level of usage of different variable elements of pay in compensation packages for managers, professionals, clericals and manuals in countries of CEE. The subject of the research was variable pay, consisting of financial participation and performance based pay, where authors decided to analyse four elements of performance based pay: bonus based on individual goals, bonus based on team goals, pay for performance and flexible benefits (as relatively new way of rewarding employees). Respondents were asked to give answers whether they use (yes) or not (no) four elements of performance related pay.

The Cranet 2008/2011 dataset was collected in 32 countries. In this paper the authors used data from 8 CEE countries (Bulgaria, Czech Republic, Estonia, Lithuania, Hungary, Slovakia, Serbia and Slovenia) to perform a deeper analysis of incentive compensation, with a total of 1147 organizations. In Serbia this research was done in 50 companies from the whole country, with 17,064 employees. Table 1 presents the sample.

Table 2: The sample structure

	Frequency	Percentage	Cumulative Percentage
Bulgaria	267	23,3	23,3
Czech Republic	54	4,7	28,0
Estonia	74	6,5	34,4
Hungary	139	12,1	46,6
Lithuania	119	10,4	56,9
Slovakia	225	19,6	76,5
Slovenia	219	19,1	95,6
Serbia	50	4,4	100,0
Total	**1147**	**100,0**	

Source: Authors analysis based on CRANET data

4. RESULTS OF THE ANALYSIS

To explore the usage of the variable pay elements related to performance based pay authors used crosstabs technique. The results are given in following tables.

Table 3: Performance based pay for managers and professionals in CEE region

Countries	Managers				Professionals			
	Flexible benefits	Performance based pay	Team bonus	Individual bonus	Flexible benefits	Performance based pay	Team bonus	Individual bonus
Bulgaria	28.6	49.0	44.1	53.6	23.9	53.7	41.4	50.2
Czech Republic	42.6	37.0	38.9	53.7	40.7	35.2	44.4	48.1
Estonia	63.6	65.2	49.2	66.1	59.1	71.6	48.3	72.6
Hungary	49.6	41.0	29.5	56.8	48.2	43.2	34.5	49.6
Lithuania	31.1	42.9	41.2	48.7	26.9	52.1	42.0	56.3
Slovakia	24.7	53.2	43.5	54.9	19.0	56.9	40.3	53.6
Slovenia	61.7	76.4	42.0	77.5	54.1	75.5	44.6	78.8
Serbia	18.8	80.5	43.8	43.8	16.1	76.7	37.5	46.9
Total	**37.9**	**53.7**	**42.1**	**58.2**	**32.3**	**55.1**	**43.0**	**57.7**

Source: Authors analysis based on CRANET data

Table 4: Performance based pay for clericals and manuals in CEE region

Countries	Clericals				Manuals			
	Flexible benefits	Performanc e based pay	Team bonus	Individual bonus	Flexible benefits	Performance based pay	Team bonus	Individual bonus
Bulgaria	22.1	47.2	30.7	40.8	18.8	49.8	32.3	44.8
Czech Republic	38.9	27.8	37.0	37.0	33.3	44.4	35.2	24.1
Estonia	47.3	61.4	45.5	59.3	47.3	49.1	33.3	58.3
Hungary	43.9	33.1	24.5	37.4	36.7	41.0	25.9	33.1
Lithuania	24.4	31.1	27.7	46.2	16.0	35.3	32.8	39.5
Slovakia	17.2	49.8	36.9	44.2	13.6	56.8	31.8	35.8
Slovenia	48.0	70.5	36.2	71.6	44.2	72.3	40.7	71.5
Serbia	13.8	70.7	22.6	34.4	7.1	71.1	20.0	31.3
Total	**28.5**	**48.3**	**34.4**	**46.4**	**25.0**	**50.2**	**33.5**	**44.1**

Source: Authors analysis based on CRANET data

From tables 3 and 4 it is obvious that incentives based on individual goals are more used than bonuses based on team performances. Namely, in table 3 there were analysed four elements of performance based pay for managers and professionals, while in table 4 those were clericals and manuals. More organizations use individual bonuses (for managers 58.2%, professionals 57.7%, clericals 46.4% and manuals 44.1% of organizations) than team based bonuses (for managers 42.1%, professionals 43.0%, clericals 34.4% and manuals 33.5% of organizations) in their compensation policy. Also, from these tables it can be concluded that flexible benefits are used less than other elements of incentive pay, which was expected, since those are relatively new elements of rewards, especially in compensation systems of transition and post-transition countries in CEE region. Performance related payments in terms of incentives are used more for professionals and manuals (55.1% and 50.2%, respectively) than for managers and clericals (53.7% and 48.3%, respectively). From tables 3 and 4 it is also evident that there is diversity among countries when the performance related pay is in question. In case of flexible benefits, organizations from Estonia, Slovenia, Czech Republic and Hungary experienced greater usage of these benefits in comparison with Bulgaria, Lithuania, Slovakia and Serbia. Also, this diversity is evident in case of all other three elements of performance related pay, but in some smaller degree than in case of flexible benefits. In addition, from table it is evident that the greatest usage of performance related pay is for the category of managers, then for professionals and clericals, while the lowest level of the usage of these elements is for manual workers.

For the purpose of testing first hypothesis (H1) authors used chi square test. Variables used in test were elements of performance based pay and size of organization (based on the number of employees). Results of the chi square test are given in table 5. The results pointed to the conclusion that, in case of the observed organizations, larger organizations use flexible benefits, performance based pay, team and individual bonuses in greater extent (percentage) than medium or small organizations. More detailed, in case of flexible benefits for all categories of workers chi square test showed that there are significant differences between large, medium and small organizations regarding the percentage of organizations that use flexible benefits (X^2 value and *p* value). If the p value is lower than 0.05, there is a significant association between size of companies and the usage of the performance related pay. Phi value shows that there are weak but positive correlation between the size and the level of the usage of performance related pay in CEE region. In case of incentives for performances (second element of PfP) there were found no significant association between size and PfP.

Table 5: Difference between the usages of performance related pay in CEE region regarding the size of organizations

	Flexible benefits for management		Chi square	Flexible benefits for professional		Chi square	Flexible benefits for clerical		Chi square	Flexible benefits for manual		Chi square
	No	Yes		No	Yes		No	Yes		No	Yes	
1-50	70,1%	**29,9%**	**X^2=34,362**	71,7%	**28,3%**	**X^2=26,033**	77,1%	**22,9%**	**X^2=32,879**	77,5%	**22,5%**	**X^2=25,313**
51-250	68,8%	**31,2%**		74,4%	**25,6%**		78,3%	**21,7%**		81,2%	**18,8%**	
251-1000	56,3%	**43,8%**		62,3%	**37,7%**	**Phi=0,162**	66,1%	**33,9%**		71,6%	**28,4%**	**Phi=0,166**
1000+	44,2%	**55,8%**	**Phi=0,185**	53,2%	**46,8%**		55,1%	**44,9%**	**Phi=0,182**	59,7%	**40,3%**	
	62,3%	**37,7%**	**p=0,000**	67,9%	**32,1%**	**p=0,000**	71,7%	**28,3%**	**p=0,000**	75,2%	**24,8%**	**p=0,000**
	Performance related pay for management		Chi square	Performance related pay for professional		Chi square	Performance related pay for clerical		Chi square	Performance related pay for manual		Chi square
	No	Yes		No	Yes		No	Yes		No	Yes	
1-50	56,1%	43,9%	X^2=7,46	50,3%	49,7%	X^2=3,741	64,1%	35,9%	**X^2=12,083**	54,5%	45,5%	X^2=3,919
51-250	43,2%	56,8%		41,9%	58,1%		47,6%	52,4%		46,9%	53,1%	
251-1000	46,1%	53,9%		46,4%	53,6%	Phi=0,060	51,5%	48,5%		49,6%	50,4%	Phi=0,064
1000+	46,9%	53,1%	Phi=0,085	45,5%	54,5%		52,3%	47,7%	**Phi=0,108**	54,8%	45,2%	
	46,3%	53,7%	p=0,058	44,9%	55,1%	p=0,291	51,7%	48,3%	**p=0,007**	49,8%	50,2%	p=0,270
	Bonus based on individual goals for management		Chi square	Bonus based on individual goals for professional		Chi square	Bonus based on individual goals for clerical		Chi square	Bonus based on individual goals for manual		Chi square
	No	Yes		No	Yes		No	Yes		No	Yes	
1-50	58,2%	**41,8%**	**X^2=27,223**	57,7%	**42,3%**	**X^2=21,195**	71,3%	**28,7%**	**X^2=29,252**	63,8%	36,2%	X^2=5,266
51-250	43,4%	**56,6%**		42,5%	**57,5%**		54,1%	**45,9%**		53,8%	46,2%	
251-1000	36,3%	**63,7%**		38,5%	**61,5%**	**Phi=0,144**	49,8%	**50,2%**		57,2%	42,8%	Phi=0,075
1000+	30,5%	**69,5%**	**Phi=0,163**	32,6%	**67,4%**		40,8%	**59,2%**	**Phi=0,170**	52,0%	48,0%	
	41,8%	**58,2%**	**p=0,000**	42,4%	**57,6%**	**p=0,000**	53,7%	**46,3%**	**p=0,000**	56,0%	44,0%	p=0,153
	Bonus based on team goals for management		Chi square	Bonus based on team goals for professional		Chi square	Bonus based on team goals for clerical		Chi square	Bonus based on team goals for manual		Chi square
	No	Yes		No	Yes		No	Yes		No	Yes	
1-50	71,0%	**29,0%**	**X^2=21,092**	72,2%	**27,8%**	**X^2=23,099**	80,7%	**19,3%**	**X^2=21,750**	77,4%	**22,6%**	**X^2=16,576**
51-250	60,6%	**39,4%**		58,7%	**41,3%**		66,6%	**33,4%**		68,9%	**31,1%**	
251-1000	51,8%	**48,2%**		51,4%	**48,6%**	**Phi=0,152**	61,7%	**38,3%**		62,3%	**37,7%**	**Phi=0,134**
1000+	48,1%	**51,9%**	**Phi=0,145**	46,9%	**53,1%**		55,2%	**44,8%**	**Phi=0,152**	55,8%	**44,2%**	
	58,0%	**42,0%**	**p=0,000**	57,1%	**42,9%**	**p=0,000**	65,7%	**34,3%**	**p=0,000**	66,6%	**33,4%**	**p=0,001**

Source: Authors analysis based on CRANET data

5. CONCLUSION

Incentive pay represents one of the most important elements of each compensation system. Based on several researches around the world, EU, CEE region, and empirical data from CRANET project, authors of this paper made several conclusions.

In CEE region organizations use individual bonuses more than bonuses based on team performances – a confirmation of the zero hypothesis (H0) of the research. Namely, organizations in CEE region use individual bonuses usually more for each category of employees, which is in the line with the findings of Kuhn and Yockey (2003) who found that employees respect more incentives based on individual performance. Also, flexible benefits are used less than all other elements of incentive pay, which was expected, since those are relatively new elements of rewards, especially in compensation systems of transition and post-transition countries of the CEE region. Performance related payments in terms of incentives are used more for professionals and manuals than for managers and clericals. This can be expected that monthly incentives are usually given to those workers that are directly connected to the working tasks – in this case those are exactly professional and manual employees.

For the purpose of testing second hypothesis there have been used a chi square test. The results pointed to the conclusion that, in case of the observed organizations, larger organizations use flexible benefits, performance based pay, team and individual bonuses in greater extent (percentage) than medium or small organizations. These findings are in the line with some past researches of performance related pay (Coelho et al., 2011; Bryson et al., 2012). This was a confirmation of the first hypothesis (H1). In the case of flexible benefits and bonuses based on team and individual performances for all categories of workers chi square test showed that there are significant differences between large, medium and small organizations regarding the percentage of organizations that use flexible benefits. In case of performance related pay there were found no significant association between size of organization and these incentives.

Regarding performance related pay, in the CEE region there is also evident a diversity among countries. In case of flexible benefits, organizations from Estonia, Slovenia, Czech Republic and Hungary experienced greater usage of these benefits in comparison with Bulgaria, Lithuania, Slovakia and Serbia. Also, this diversity is evident in case of all other three elements of performance related pay, but in some smaller degree than in case of flexible benefits.

All findings are interesting especially for Serbia, as a country that until 2008 has never participated in some similar global research related to the area of HRM. Comparing its own practice of performance related pay with organizations abroad, in the CEE region, EU or world, organizations from Serbia can gain knowledge and information about trends and contemporary HRM practices. Based on the results of the researches and comparisons, domestic organization can plan and prepare improvements in this area, which is in Serbia still underdeveloped and based on some nonflexible system. Organizations from Serbia should pay more attention to compensation practice when rewarding and motivating their employees, especially incentives, with focus on individual bonuses (since those elements of performance related pay were used mostly in the CEE region). Also, it is important to bear in mind that each compensation plan should be based on the preferences of employees, and aligned with the possibilities of organizations.

REFERENCES

Berber, N. (2013). The influence of culture on human resource management: Compensations and benefits. Anali Ekonomskog fakulteta u Subotici, (29), 105-117.

Bogićević-Milikić, B. (2007). Role of the reward system in managing changes of organizational culture. Ekonomski anali, 52(174-175), 9-27.

Brewster, C., Sparrow, P., & Vernon, G. (2007). International Human Resource Management. London: Chartered Institute of Personnel and Development.

Bryson, A., Freeman, R., Lucifora, C., Pellizzari, M., & Perotin, V. (2012). CEP Discussion Paper No 1112 January 2012 Paying For Performance: Incentive Pay Schemes and Employees' Financial Participation. London: London School of Economics and Political Studies.

Chiu, R. K., Luk, V. W. M., & Tang, T. L. P. (2002). Retaining and motivating employees: Compensation preferences in Hong Kong and China. Personnel Review, 31(4), 402-431. doi: 10.1108/00483480210430346

Coelho, M., de Meza, D., & Rienzo, C. (2011) Performance related-compensation, firm size and absenteeism: evidence from Portugal. UK: London School of Economics.

Festing, M., & Sahakiants, I. (2011). Determinants of share-based compensation plans in Central and Eastern European public companies: An institutional analysis. Journal for East European Management Studies, 16(4), 338-357. doi: http://dx.doi.org/10.1016/j.emj.2013.01.005

Gerhart, B., & Fang, M. (2014). Pay for (individual) performance: Issues, claims, evidence and the role of sorting effects. Human Resource Management Review, 24(1), 41-52. http://dx.doi.org/10.1016/j.hrmr.2013.08.010

Gittleman, M., & Pierce, B. (2013). Pay for Performance and Compensation Inequality: Evidence from the ECEC (No. 465). USA: U.S. Department of Labor and U.S. Bureau of Labor Statistics.

Gupta, N., & Shaw, J. D. (2014). Employee compensation: The neglected area of HRM research. Human Resource Management Review, 24(1), 1-4. http://dx.doi.org/10.1016/j.hrmr.2013.08.007

Janićijević, N. (2013). Matching compensation system with the type of organizational culture. Ekonomika preduzeća, 61(5-6), 309-324.

Jansen, E. P., Merchant, K. A., & Van der Stede, W. A. (2009). National differences in incentive compensation practices: The differing roles of financial performance measurement in the United States and the Netherlands. Accounting, Organizations and Society, 34(1), 58-84. http://dx.doi.org/10.1016/j.aos.2008.05.002

Kalmi, P., Pendleton, A., & Poutsma, E. (2012). Bargaining regimes, variable pay and financial participation: some survey evidence on pay determination. The International Journal of Human Resource Management, 23(8), 1643-1659. doi:10.1080/09585192.2012.661993

Karoliny, Z., Farkas, F., & Poór, J. (2009). In focus, Hungarian and Central Eastern European characteristics of human resource management–An international comparative survey. Journal for East European Management Studies, 14(1), 9-47.

Kuhn, K. M., & Yockey, M. D. (2003). Variable pay as a risky choice: Determinants of the relative attractiveness of incentive plans. Organizational Behavior and Human Decision Processes, 90(2), 323-341. doi: http://dx.doi.org/10.1016/S0749-5978(02)00526-5

Larkin, I., Pierce, L., & Gino, F. (2012). The psychological costs of pay-for-performance: Implications for the strategic compensation of employees. Strategic Management Journal, 33(10), 1194-1214. doi: 10.1002/smj.1974

Malinić, D. (2007). Podsticajni planovi u funkciji podizanja efikasnosti korporativnog upravljanja. Ekonomika preduzeća, 55(5-6), 189-203.

Martochioo, J.J. (2009). Strategic compensation: A Human Resource Management Approach. New Jersey: Pearson Education International.

Parry, E., Stavrou, E., & Lazarova, M. (2013). Global trends in human resource management. UK: Palgrave Macmillan.

Salimaki, A., & Heneman, R. (2008). Pay for Performance for Global Employees. In: Gomez – Mejia, L.R., & Werner, S. (2008). Global Compensation: Foundations and Perspectives. Oxford: Taylor & Francis.

Štangl-Šusnjar, G., & Leković, B. (2009). Performance-based pay in human resources development. Strategic Management, 14(3), 1-14.

Štangl-Šušnjar, G., & Berber, N. (2014). Incentive pay and performances of organizations: Research on the basis of the Cranet data in Europe. XIX International Scientific Conference SM 2014, 16 May 2014, Subotica: Faculty of Economics.

Štangl-Šušnjar, G., & Slavić, A. (2012). Changes in the human resource compensation systems of European companies: Based on the CRANET research result analysis. Strategic Management, 17(4), 32-40.

Weibel, A., Rost, K., & Osterloh, M. (2010). Pay for performance in the public sector—Benefits and (hidden) costs. Journal of Public Administration Research and Theory, 20(2), 387-412. doi: 10.1093/jopart/mup009

COMPETENCIES ASSESSMENT OF THE EXPERTS - PARTICIPANTS IN GROUP DECISION-MAKING ON SELECTION OF THE METHODS FOR ASSESSING THE QUALITY OF MILITARY DRIVERS

Vesko Lukovac[1], Snežana Pejčić Tarle[2], Dragan Pamucar[3]
[1]Military Academy, lukovacvesko@yahoo.com
[2] Faculty of Traffic Engineering, Belgrade, snezana.tarle@gmail.com
[3] Military Academy, dpamucar@gmail.com

Abstract: *Deciding on the group level means of group decision-making, which requires knowledge on the specific techniques of group decision making. Quality of the expert group members, e.i. their competence, is crucial for the success of the decisions made.*

In the scientific literature, different approaches to group decision-making as well as to evaluation of the competence of the expert group members can be found. This paper presents an approach to assessment of the competence of the experts - participants of the "Analytic Hierarchy Process" group decision making on the selection of methods for assessing the quality of military drivers.

Keywords: *Assessment, Experts Competency, Group Decision Making, Work Quality, Military Drivers*

1. INTRODUCTION

The emergence of expert assessment is linked to the emergence of the first formally described and studied technologies of expert assessment in the 50s and 60s of the last century. At that time the first articles on group decision-making, expert decision aggregation in the process of multi-criteria decision-making, determining of the results of the collective expertise by Delphi methods and scenarios and about the experiences of their application were created.

Interest in the expert assessment increased with the increase of the level of the development and the complexity of the decision-making process in the narrow sense, and with the development of science and technology in general sense. During recent years, the use of expert assessment has become frequent as it became clear that the effective solutions can be obtained by use of the experience, knowledge and intuition of specialists-experts.

Unlike individual decision-making, in which there is no need for any special decision-making techniques since the decision-maker decides by him/herself, for group decision-making process knowledge regarding group decision-making techniques is essential. Group decision-making also involves a smaller or larger number of people, members of the group, which have to be organized, directed and led.

The composition of the expert group depends on the particular problem which should be addressed, on the expertise organizer’s ability to hire (engage) highly qualified specialists as well as on ability of experts to participate in the work of the expert group. People, whose opinion would be of the best assistance in making of the appropriate decisions, should be used as experts *(Milicevic 2010).*

Proper selection of specialists for work in the expert group is very important because the quality of expert assessment mainly depends on the quality of the expert group. The quality of the expert group depends on the quality and number of experts. Most of the existing methods of expert’s quality assessment can be divided into five groups *(Denisova & Zaitsev, 2002):*

- *Heuristic* assessment is given by a man and is based on the assumption that, through self-evaluation and mutual evaluation between experts, high quality of evaluation of the experts could be provided;
- *Statistical* assessment obtained by expert opinion of expertise objects;
- *The test* assessment obtained by special examination of experts;
- *Documented assessments* based on an analysis of the documentary data on experts;
- *The combined assessments* obtained by a combination of several methods.

This paper presents an approach to assessment of the competence of the experts who participated in the "Analytical Hierarchy Process" (AHP) group decision-making in the selection of the methods for assessing the quality of military drivers *(Lukovac 2010).* The Group of Experts (GEX), consisted of twenty officers of the Traffic Service of the Serbian Army, to whom the assessment of the quality of work of the direct perpetrators i.e. drivers, was one of the obligations, arising from the functional duty they perform. To assess their competency the model recommended for the assessment of competence of experts in the field of transport support *(Djorovic 2003),* which is a combination of methods based on heuristic (argumentation evaluation and self-assessment) and documented assessment (objective assessment based on documented facts) of the quality of the experts, was used.

2. ASSESSMENT OF COMPETENCE OF EXPERTS

According to the model which is recommended for the assessment of competence of the experts in the field of transport support, the coefficient of competence(K), includes three aspects of assessment *(Djorovic 2003):*

(1) objective assessment (K_d);
(2) assessment of the source of argument (K_a);
(3) subjective judgment of experts (K_s);

Coefficient of competence is calculated according to following formula:

$$K = q_1K_d + q_2K_a + q_3K_s \tag{1}$$

For weight that determines relative importance of the partial coefficient the following values are proposed*(Đorović 2003):* $q_1 = 0.6$, $q_2 = 0.25$ i $q_3 = 0.15$.

The coefficient of objective assessment(K_d)represents contribution of individual traitsof expert to his/hers competence. As the dominant individualtraits following are recommended *(Djorovic 2003):*

- K_1–level of education;
- K_2–total length of service;
- K_3–current duty;
- K_4 –length of service in the current duty;
- K_5–published scientific and professional papers;
- K_6–participation in projects;
- K_7–professional activity outside the post;
- K_8–work quality evaluation;
- K_9–the awards;

Integral component of individual traitsand their level of importance (in a scale 1-10) are shown in Tables 1 to 9 *(Djorovic 2003).*

Table 1: Level of education

K_1 – EDUCATION LEVEL		
Number of component	Component	The proposed level
K_{11}	Postgraduate level PhDs	10
K_{12}	Postgraduate level magistarture(master)	8
K_{13}	Postgraduate level specialization	7
K_{14}	University degree	5
K_{15}	College	4
K_{16}	High school	1

Table 2: Total years of service

K_2 – PERIOD OF PRACTICE		
Number of components	Component	The proposed level
K_{21}	Over 20 years	10

K_{22}	15–20 years	8
K_{23}	10–15 years	6
K_{24}	5–10 years	4
K_{25}	Less than 5 years	2

Table 3: Current duty

K_3 – CURRENT DUTY		
Number of components	Component	The proposed level
K_{31}	Faculty Professor	10
K_{32}	Chairman of the Steering Board	9
K_{33}	Member of the Steering Board	8
K_{34}	Manager of the production facility in the enterprise	7
K_{35}	Leader of the production department in the enterprise	5
K_{36}	Other post	2

Table 4: Length of service in the current duty

K_4 – LENGTH OF SERVICE IN THE CURRENT DUTY		
Number of components	Component	The proposed level
K_{41}	Over 10 years	7
K_{42}	8–10 years	6
K_{43}	6–8 years	5
K_{44}	4–6 years	4
K_{45}	2–4 years	3
K_{46}	Less than 2 years	1

Table 5: Published scientific and professional papers

K_5 – PUBLISHED SCIENTIFIC AND PROFESSIONAL PAPERS		
Number of components	Component	The proposed level
K_{51}	Books, monographs	10
K_{52}	Over 20 articles	9
K_{53}	10 - 20 articles	8
K_{54}	5-10 articles	6
K_{55}	Less than 5 articles	4
K_{56}	No published papers	0

Table 6: Participation in projects

K_6 – PARTICIPATION IN THE PROJECT		
Number of components	Component	The proposed level
K_{61}	Project Manager	10
K_{62}	Member of the Project management team	10
K_{63}	Participation in projects at faculties	8
K_{64}	Participation in the enterprise management projects	6
K_{65}	No participation in projects	0

Table 7: Professional activity outside the post

K_7 – PROFESSIONAL ACTIVITY OUTSIDE THE POST		
Number of components	Component	The proposed level
K_{71}	Additional features in their profession	4
K_{72}	Member of scientific and technical councils	8
K_{73}	Member of the editorial board of the journal	5
K_{74}	Activity in the scientific - technical associations	7
K_{75}	Papers for scientific professional conferences	6

K_{76}	The right to perform duty of the expertwitness	3
K_{77}	Completed foreign language courses	1

Table 8: Work quality assessment

K_8 – WORK QUALITY ASSESSMENT		
Number of components	Component	The proposed level
K_{81}	Over 4.50	5
K_{82}	3.50–4.50	4
K_{83}	2.50–3.50	3
K_{84}	2.00–2.50	2

Table 9: Awards

K_9 – AWARDS		
Number of components	Component	The proposed level
K_{91}	State awards	10
K_{92}	Awards by universities and faculties	8
K_{93}	Awards by enterprises	6
K_{94}	Other prizes	5

The coefficient of objective assessment (K_d) is calculated as:

$$K_{di} = \frac{1}{10} \times \frac{\sum_{i=1}^{n} p_i t_i}{\sum_{i=1}^{n} t_i} \qquad (2)$$

Wherein:

- p_i – the level of importance of i^{th}trait expert;
- t_i – weight that determines the relative importance of i^{th} trait of expert $t_i \in (0-1)$ (for specific problem recommended value is$t_i = 0.5$ for the trait "Published scientific and professional papers" and " Professional activity outside the post", and for other traits $t_i = 1$);
- n – number of traits;

The coefficient of argument (K_a), in whose assessment expert determines the degree of influence (high, medium or low) of certain source tohis/hers opinion, is calculated according to the following formula:

$$K_a = \sum_{i=1}^{m} \sum_{j=1}^{3} I_{ij} \qquad (3)$$

Wherein:

- i – source index;
- j – source influence index;
- m – number of sources;
- I_{ij} – coefficient of the source of the argument (which is determined by the expert);

Table 10 shows the degree of influence (by levels) of certain sources on expert opinion.

Table 10: Sources of argumentation *(Djorovic 2003)*

No.	SOURCES OF ARGUMENTATION	Degree of influence		
		1 – high	2 – medium	3 – low

1	Theoretical knowledge	0.3	0.2	0.1
2.	Experience	0.5	0.4	0.2
3	Papers from the literature	0.2	0.1	0.05
4	Proposer consultations	0.1	0.05	0.025
5.	Intuition	0.1	0.05	0.025
6.	Other	0.1	0.05	0.025

Based on the previously mentioned, the coefficient of argument (K_a), is calculated according to the following formula:

$$K_a = \sum_{i=1}^{6}\sum_{j=1}^{3} I_{ij} \quad (4)$$

Table 11: Ratios of competence of the expert group *(Lukovac 2010)*

EXPERTS	ASPECTS OF COMPETENCE ASSESSMENT			COMPETENCE COEFFICIENT
	K_d	K_a	K_s	$(q_1K_d + q_2K_a + q_3K_s)$
1.	0.43125	0.925	0.7	0.595
2.	0.59375	0.95	0.9	0.72875
3.	0.6	1	0.9	0.745
4.	0.5	0.925	0.8	0.65125
5.	0.38125	0.9	0.5	0.52875
6.	0.75	0.95	1	0.8375
7.	0.4875	0.9	0.7	0.6225
8.	0.5625	1.075	1	0.75625
9.	0.7375	0.9	0.9	0.8025
10.	0.3625	0.8	0.5	0.4925
11.	0.5125	0.9	0.8	0.6525
12.	0.7375	0.975	1	0.83625
13.	0.66875	0.825	0.9	0.7425
14.	0.45625	0.875	0.6	0.5825
15.	0.5625	1.025	0.9	0.72875
16.	0.5875	0.85	0,8	0.685
17.	0.74375	1	1	0.84625
18.	0.3625	0.975	0.5	0.53625
19.	0.5375	0.9	0.8	0.6675
20.	0.38125	0.9	0.5	0.52875
COMPETENCE COEFFICIENT OF THE GROUP OF EXPERTS				**0.6783125**

The last partial element of the total competence coefficient represents experts' subjective assessment of the degree of knowledge on the specific problem (on a scale of 1 to 10), which is multiplied by 0.1 and, as such, is the coefficient of the subjective assessment (K_s).

When the competence coefficient (K) is determined for each expert,competencies coefficient GEX is calculated as their arithmetic mean *(Djorovic 2003).* Table11 shows the individual competence coefficients of expert participants in this study, as well as determined competence coefficient GEX.

Competence coefficient GEX is considered acceptable if its value is greater than 0.5 *(Djorovic 2003).* Since calculated competence coefficient GEX is 0.6783125 (Table 11), it can be concluded that members of the GEX are competent to participate in group AHP decision making on the selection of methods for assessing the quality of military driver (K> 0.5).

3. CONCLUSION

A number of authors in scientific works, and becoming more practitioners - the real decision makers, indicate that the decision making based just on personal considerations or intuitionispractically impossible. In recent times, when there are opportunities, choice is to make decisions within the group, through so-called group sessions during which opinions are exchanged and knowledge of individual participants is enhanced, participants' experiences is exploited, the way for consensus is made and an important psychological effect of common interest in the success of the decision made is achieved.

Proper selection of specialists to work within the expert group is very important because their competence is essential for making successful decisions. One of the parameters by which the quality of the experts, and thus the quality of the expert group's is assessed, is rating of competence. In the scientific literature there are different approaches to assessing the competence of experts. For the assessment of the competence of the experts in the field of transport support a model which is a combination of methods based on heuristic (argumentation evaluation and self-assessment) and documented assessment (objective assessment based on documented facts) of the quality of the experts is recommended.

REFERENCES

Denisova, A. L., & Zaitsev E.V. (2002).Teoril and practice zkspertnoi rated products and services, Uchebnoeposobie, Izdatelvstvo TGTU, Tambov.

Djorovic, B. (2003). Research design the organizational structure of organs transportation service, dissertation, Military Technical Academy, Belgrade.

Lukovac, V. (2010).A model for assessing the quality of military drivers, thesis, Faculty of Traffic Engineering, Belgrade.

Milicevic, M.(2010). The development of a methodology for eliminating the interest of experts in the expert evaluation, Ph.D. Thesis, Military Academy, Belgrade.

APPLICATION OF THE PROCESS FUNCTIONS METHOD FOR ASSESSING THE ORGANIZATION LEVEL OF WORK POST

Vesko Lukovac [1,] Boban Đorović [2,] Dragan Pamučar [3]
[1] Military Academy, lukovacvesko@yahoo.com
2 Military Academy, lukema@ptt.rs
3 Military Academy, dpamucar@gmail.com

Abstract: *A method of process functions is one of the well-known analytical methods for assessing the level of organization and it is very suitable instrument for obtaining overview of existing organizing modes and diagnosing what needs to be changed or improved. By using the method of process functions organization of professional functions, organizational units, work areas, operational elements, work posts etc. can be evaluated. This paper presents a mathematical model for the analysis of organizational structure of administrative bodies. The organizational structure of administrative bodies of the Serbian Army (SA) has been analyzed in order to analyze the situation and optimize the existing organizational structure. Analysis of the state of organization is aimed at creating a picture of the current mode of organization and, on the basis of that, removing identified deficiencies. This model has been applied for the analysis of process functions and tasks of the administrative bodies of the organizational structure taking into account the fact that administrative bodies should be designed and sized so that they can meet the basic goals and tasks of their existence. Each task set before the administrative bodies should be completed in a quality and reliable way in all environmental conditions.*

Keywords: *process functions, assessment, organisational structure*

1. INTRODUCTION

The organizational structure of business systems is necessary to be designed and sized to meet the basic corporate goals and objectives. Almost every task set before the system management should be completed in a quality and reliable way in different environmental conditions.

One of the possible approaches to analyzing the degree of coordination and effectiveness of organizational structure is based on the division of the organization according to business and process functions and on their evaluation. Organizational or business functions relate to a group of different activities that are centered on a single task. This way, organizational and business functions are differentiated by type.

Process functions relate to particular phases of activity taking place within each organizational function and within each of the subdivisions of organizational functions, or work areas of organizational functions. The nature and number of business and process functions is not specified or definite. Some analysts, for example, believe that management and leadership does not make a business function, but that these activities belong to the administrative functions in accordance with the criteria that some of the authors of the science of organization mention (Fayol, 1947). Urwick (1964) believes that business and administrative functions at the same level of itemization should be the same or nearly the same importance and complexity. However, business and process functions formally the same rank differ by “difficulty” and complexity. This approach was also used when creating a model for assessing the infrastructure business functions *(Vešović & Bojovic, 2002).*

Several methods for assessing the organization can be found in the literature, but this paper presents the model for the analysis of the organizational structure of administrative bodies of the SA.

2. APPLICATION OF THE METHOD OF PROCESSFUNCTIONS

The term “process functions” includes the activities which are required to successfully complete the entire task at all levels of work posts in the organization *(Eric, 2000).* In the working process there are nine main stages - the processing function, Table 1.

Table 1: Overview of process functions with signs and meanings *(Đorović & Pamučar, 2008)*

Process functions	MARK	Meaning
Recording	Ev	Inclusion of all work events in the organization.
Informing	Ob	Submission of data and information to all work post in the organization.
Monitoring	Kt	Comparison of the performed activities with pre-set criteria, standards and guidelines
Analysis	An	Disassembly, comparison and conclusion on the causes of deviations.
Decision making	Odl	Re-intervention on the developments in the existing processes and the design of future processes.
Planning	Pl	Providing of the elements necessary for the implementation of decisions.
Harmonization	Us	Combining and directing individual efforts into the overall effort.
Organization	Org	Search and design of the appropriate organizational procedures and task execution.
Performance	Izv	Particular execution of tasks at all positions in the organization.

Tasks, prescribed by organizational order for the work of that institution, performed by the commander of the transport platoon in one of the institutions of SA is analyzed in this paper, Table 2.

Table 2: Overview of tasks with marks *(Lukovac 2000)*

MARK	TASK
01	Cooperation with the transport officer
02	Referring to the manager
03	Duty hours
04	Holding meetings at the level of the platoon.
05	Making orders.
06	Preparation of transport planning documents.
07	Document processing for issuing assignments to drivers.
08	Making reports.
09	Development of vacations plan for people in the platoon.
10	Implementation of additional training, retraining and conditioning of the driver.
11	Collecting data on the improprieties "material and technical resources" (MTS).
12	Cooperation with the technic officer in order to address the defects of the MTS.
13	Supplying of transportation means with necessary tools and equipment.
14	The organization and implementation of activities in the field of basic maintenance of MTS.
15	Sending transport means to the civil workshops.
16	Initiation of proceedings for compensation for damages to the MTS for which platoon is responsible.
17	Proposing expenses
18	Cooperation with the platoon maintenance commander in terms of eliminating defects in MTS.
19	The work organization of duty officer in the technical resources park.
20	Organization of control-pass station.
21	Determining the causes of traffic violations and accidents.
22	Implementation of activities to increase road safety.
23	Sending driver to systematic medical examinations.
24	Monitoring and evaluation of the quality of work of persons in the platoon.
25	The organization and implementation of fire safety measures.

Since each work post, does not have to contain all process functions, it is necessary to determine their relationship. Connections of tasks with process functions is determined by the table "tasks - processing functions" (Table 3), for a task that contains some of the process functions characters “+” is put in, where the summation of “+” signs represents the sum frequency (F). If the task does not contain any of the process functions character "-" is put in the table .

Table 3: Overview of functional interdependence of tasks and process functions *(Lukovac 2000)*

PROCESS FUNCTIONS / TASKS	Ev	Ob	Kt	An	Odl	Pl	Us	Org	Izv	F
01	+	-	+	+	+	+	+	+	+	8
02	+	+	+	+	+	+	+	+	+	9
03	+	+	+	+	+	+	+	+	+	9
04	+	+	+	+	+	+	+	+	+	9
05	+	-	+	+	+	+	+	+	+	8
06	+	+	+	+	+	+	+	+	+	9
07	+	-	+	+	+	+	+	+	+	8
08	+	-	-	+	-	+	+	+	+	6
09	+	+	+	+	-	+	+	+	+	8
10	+	+	+	+	+	+	+	+	+	9
11	+	+	+	+	+	+	+	+	+	9
12	+	+	+	+	+	+	+	+	+	9
13	+	+	+	+	+	+	+	+	+	9
14	+	+	+	+	+	+	+	+	+	9
15	+	+	+	+	+	+	+	+	+	9
16	+	-	+	+	+	+	+	+	+	8
17	+	+	+	+	-	+	+	+	+	8
18	+	+	+	+	+	+	+	+	+	9
19	+	+	+	+	+	+	+	+	+	9
20	+	+	+	+	+	+	+	+	+	9
21	+	+	+	+	+	+	+	+	+	9
22	+	+	+	+	+	+	+	+	+	9
23	+	+	+	+	+	+	+	+	+	9
24	+	-	+	+	+	+	+	+	+	8
25	+	+	+	+	+	+	+	+	+	9
F	25	19	24	25	22	25	25	25	25	215

Since all tasks do not have the same importance, i.e. some are more, and others less important, it is necessary to perform their weighting. The weighting is performed by selecting one of the weights on a scale of 0 to 5, according to the criteria shown in Table 4.

Table 4. Criteria for the selection of weights of tasks *(Đorović & Pamučar, 2008)*

WEIGHTS	CRITERIA
5	A task performing is necessary, business would not be possible.
4	A task performing affects the entire business in great deal
3	A task performing affect economic efficiency of business
2	Failure to perform tasks causes deficiency in the business, but the business is yet possible
1	A task performing affects the integrity of the business
0	A task performing is not necessary

According to the same criteria, process functions are weighted as well because they all do not have equal importance for the business. Selected weights for certain tasks, as well as weights for the selected process functions, are result of a poll conducted with the person who performs the task which is subject to this analysis. Weighting of tasks and process functions is performed by the multiplying selected tasks weights with selected process functions weights. Obtained results are theoretical weights of tasks by process functions, i.e. for process functions by tasks, Table 5.

Table 5: Theoretical weights of tasks by process functions *(Lukovac 2000)*

TASKS \ Process functions		Ev	Ob	Kt	An	Odl	Pl	Us	Org	Izv	Σ
		WEIGHT									
MARK	WEIGHT	1	2	3	3	5	5	4	4	2	
01	5	5	–	15	15	25	25	20	20	10	135
02	5	5	10	15	15	25	25	20	20	10	145
03	4	4	8	12	12	20	20	16	16	8	116
04	3	3	6	9	9	15	15	12	12	6	87
05	4	4	–	12	12	20	20	16	16	8	108
06	5	5	10	15	15	25	25	20	20	10	145
07	5	5	–	15	15	25	25	20	20	10	135
08	4	4	–	–	12	–	20	16	16	8	76
09	3	3	6	9	9	–	15	12	12	6	72
10	5	5	10	15	15	25	25	20	20	10	145
11	5	5	10	15	15	25	25	20	20	10	145
12	5	5	10	15	15	25	25	20	20	10	145
13	5	5	10	15	15	25	25	20	20	10	145
14	5	5	10	15	15	25	25	20	20	10	145
15	5	5	10	15	15	25	25	20	20	10	145
16	3	3	–	9	9	15	15	12	12	6	81
17	3	3	6	9	9	–	15	12	12	6	72
18	5	5	10	15	15	25	25	20	20	10	145
19	5	5	10	15	15	25	25	20	20	10	145
20	5	5	10	15	15	25	25	20	20	10	145
21	4	4	8	12	12	20	20	16	16	8	116
22	5	5	10	15	15	25	25	20	20	10	145
23	4	4	8	12	12	20	20	16	16	8	116
24	4	4	–	12	12	20	20	16	16	8	108
25	4	4	8	12	12	20	20	16	16	8	116
Σ		110	170	318	330	500	550	440	440	220	3078

The next step is the rating of tasks by process functions on a scale of 1 to 5, according to the rate determining criteria based on perceived organizational stand on observed work post, shown in table 6.

Table 6: Rate determining criteria *(Đorović & Pamučar, 2008)*

RATE	RATINGS DETERMINING CRITERIA
1	Tasks are not performed.
2	Tasks are carried out periodically.
3	Tasks are carried out on its own initiative, but upon agreement
4	Tasks are carried out according to the instructions of superiors.
5	Tasks are carried out according to organizational requirements.

Rates of tasks by process functions are shown in Table 7, and are also the result of a poll conducted with the person who performs tasks that are the subject of this analysis.

Table 7: Assessment tasks for process functions *(Lukovac 2000)*

TASK \ PROCESS FUNCTIONS	Ev	Ob	Kt	An	Odl	Pl	Us	Org	Izv
01	5	–	4	4	4	4	4	4	4
02	5	3	4	4	4	4	4	4	4
03	4	4	5	5	5	5	5	4	5

PROCESS FUNCTIONS / TASK	Ev	Ob	Kt	An	Odl	Pl	Us	Org	Izv
04	2	3	2	2	3	2	2	3	2
05	5	–	5	4	4	4	4	5	4
06	5	4	3	3	3	4	3	5	5
07	5	–	5	4	5	5	5	5	5
08	5	–	–	3	–	5	5	5	4
09	2	3	4	3	–	4	3	4	4
10	5	5	3	3	4	5	5	5	5
11	3	3	3	4	3	5	5	5	5
12	4	3	3	2	3	3	3	2	2
13	5	3	3	2	3	3	2	2	2
14	3	3	3	3	3	3	3	3	3
15	5	3	3	2	3	3	3	2	2
16	5	–	5	3	3	5	5	5	2
17	2	2	3	4	–	3	4	4	4
18	3	3	2	2	4	3	3	3	3
19	5	5	2	2	3	5	5	5	5
20	3	5	3	2	3	3	5	5	5
21	5	5	4	4	5	5	5	5	5
22	4	5	4	4	4	3	5	3	5
23	3	2	2	2	3	3	5	3	2
24	5	–	5	3	2	2	4	4	3
25	3	5	2	3	3	5	4	3	2

After rating the tasks by process functions the calculation of the actual task weights (P_s) is conducted by using following formula :

$$P_s = \frac{P_p \times O}{S_o} \tag{1}$$

where:

P_p - Required (theoretical) the weight of work,

O - Assessment of tasks by process functions,

S_o - Score scale (5).

The actual weights of tasks are shown in Table 8.

The next phases in the application of this method is calculating the average rate of tasks and process functions and, based on these ratings, ranging of tasks and process functions. Average ratings of tasks ($\overline{O}$) are calculated by using following formula:

$$\overline{O} = \frac{\sum P_s}{\sum P_p} \times S_o \tag{2}$$

Rang of the tasks based on their average rate is shown in Table 9.

Table 8: Actual tasks weights *(Lukovac 2000)*

PROCESS FUNCTIONS / TASKS	Ev	Ob	Kt	An	Odl	Pl	Us	Org	Izv	Σ
01	5	–	12	12	20	20	16	16	8	109
02	5	6	12	12	20	20	16	16	8	115

PROCESS FUNCTIONS / TASKS	Ev	Ob	Kt	An	Odl	Pl	Us	Org	Izv	Σ
03	3.2	6.4	12	12	20	20	16	12.8	8	110.4
04	1.2	3.6	3.6	3.6	9	6	4.8	7.2	2.4	41.4
05	4	–	12	9.6	16	16	12.8	16	6.4	92.8
06	5	8	9	9	15	20	12	20	10	108
07	5	–	15	12	25	25	20	20	10	132
08	4	–	–	7.2	–	20	16	16	6.4	69.6
09	1.2	3.6	7.2	5.4	–	12	7.2	9.6	4.8	51
10	5	10	9	9	20	25	20	20	10	128
11	3	6	9	12	15	25	20	20	10	120
12	4	6	9	6	15	15	12	8	4	79
13	5	6	9	6	15	15	8	8	4	76
14	3	6	9	9	15	15	12	12	6	87
15	5	6	9	6	15	15	12	8	4	80
16	3	–	9	5.4	9	15	12	12	2.4	67.8
17	1.2	2.4	5.4	7.2	–	9	9.6	9.6	4.8	49.2
18	3	6	6	6	20	15	12	12	6	86
19	5	10	6	6	15	25	20	20	10	117
20	3	10	9	6	15	15	20	20	10	108
21	4	8	9.6	9.6	20	20	16	16	8	111.2
22	4	0	12	12	20	15	20	12	10	105
23	2.4	3.2	4.8	4.8	12	12	16	9.6	3.2	68
24	4	–	12	7.2	8	8	12.8	12.8	4.8	69.6
25	2.4	8	4.8	7.2	12	20	12.8	9.6	3.2	80
Σ	90.6	8	139.8	202.2	122	423	356	343.2	164.4	2261

Average rates of process functions (O_{pf}) are calculated using the weight given in tables 5 and 8, and according to following formula:

$$O_{pf} = \frac{\sum P_s}{\sum P_p} \times S_o \qquad (3)$$

where :

P_s - Actual weights of process functions,

P_p - Required ponder of processing functions,

S_o - Scale of rates (5).

Table 9: Rang of the tasks (Lukovac 2000)

RANG	TASK	ΣP_s	ΣP_p	$\overline{O}$	WEIGHT
1.	07	132	135	4.89	5
2.	21	111.2	116	4.79	4
3.	03	110.4	116	4.76	4
4.	08	69.6	76	4.58	4
5.	10	128	145	4.41	5
6.	15	92.8	108	4.3	4
7.	16	67.8	81	4.19	3
8.	11	120	145	4.14	5

RANG	TASK	ΣP_s	ΣP_p	$\bar{O}$	WEIGHT
9.	01	109	135	4.04	5
10.	19	117	145	4.03	5
11.	02	115	145	3.97	5
12.	06	108	145	3.72	5
13.	20	108	145	3.72	5
14.	22	105	145	3.62	5
15.	09	51	72	3.54	3
16.	25	80	116	3.45	4
17.	17	49.2	72	3.42	3
18.	24	69.6	108	3.22	4
19.	14	87	145	3.00	5
20.	18	86	145	2.97	5
21.	23	68	116	2.93	4
22.	15	80	145	2.76	5
23.	12	79	145	2.72	5
24.	13	76	145	2.62	5
25.	04	41.4	87	2.38	3
	Σ	2261	3078	3.67	

Rang of process functions based on their average rate is shown in table 10

Table 10: Rang of process functions *(Lukovac 2000)*

RANG	Process functions	$\sum P_s$	$\sum P_p$	O_{pf}	PONDER
1	Recording	90.6	110	4.12	1
2.	Harmonization	356	440	4.05	4
3	Organization	343.2	440	3.90	4
4	Planning	423	550	3.85	5
5.	Performance	164.4	220	3.74	2
6.	Decision making	351	500	3.51	5
7.	Monitoring	215.4	318	3.39	3
8.	Informing	115.2	170	3.39	2
9.	Analysis	202.2	330	3.06	3
	$\sum$	2261	3078	3.67	

Law average ratings point out those tasks that are neglected in the organizational structure. All average ratings with a value below 3.67 indicate the tasks and functions that are critical points in the organization.

Average ratings of process functions indicate the importance that they have in the overall functioning of the organizational structure. If these ratings are very different, it points to the unadjusted leadership and management. In addition, average rating of business functions is the evaluation of the organizational level of the organizational structure. Average task ratings indicate the importance they have in the overall functioning of administrative bodies. As these ratings are very different ranging from 2.38 to 3.72, this means that the cause was the unadjusted task management.
Strengths and weaknesses of the existing organization and functioning of the organizational structure show the ranking of process functions. The ranking shows what process functions should be given more attention; this applies especially to those process functions that have high weights, and low average ratings. Average ratings of process functions indicate those process functions which have to be significantly changed and improved. This applies particularly to those process functions that are rated below average (Decision making, Monitoring, Informing and Analysis).

CONCLUSION

Average rate represents the level of organization of the particular workpost. Having in mind its numerical value of 3.67, it can be concluded that this is a level of organization that is characterized by the execution of the tasks based not on organizational rules, but on officers own initiative or instructions of superiors. This primarily applies to tasks that are rated with lower rates than the average rate, and in this case these are tasks that are ranked from 15th to 25th place (tasks marked with "09", "25", "17", "24", "14", "18", "23", "15", "12", "13" and "04"). Average rate of the process functions provides overview what process functions should be to significantly changed or improved. This primarily applies to those process functions that are rated below average rate (3.67), and in this case are "Decision making" (3.58), "Monitoring" (3.39) "Informing" (3:39) and "Analysis" (3.06).

Advantages and disadvantages of the organization level are shown by the rate of process functions and activities as well. This rate shows which process functions and tasks more need attention, and this applies primarily to those process functions and tasks which are assigned with high weights and have low average rate. From this point of view, in this particular case interesting tasks are marked with "14", "18", "15", "12" and "13", i.e. process functions "planning" and "decision making".

The results of this analysis should be viewed critically, because for detailed analysis the opinion of a number of persons who are familiar with concrete problem (or a group of experts in the field of transport support) should be should taken into account.

REFERENCES

Đorović, B., & Pamučar, D.(2008). Practicum in work organization in the traffic and transportation, the Military Academy, Belgrade.

Eric, D. (2000). Introduction to Management, Cigoja press, Belgrade.

Lukovac, V.(2000). The organization of the workplace medical platoon commander cars military medical center for emergency and home treatment garrison of Belgrade, thesis, Military Technical Academy of the Army of Yugoslavia, Belgrade.

Vešović, V., & Bojovic, N.(2002). Organization of transport companies, the second revised edition, Traffic Engineering, Belgrade.

EDUCATIONAL ACHIEVEMENTS AS A DETERMINANT OF AN INDIVIDUAL'S FORMAL POWER

Miha Marič[1], Mitja Jeraj[2]
[1]Faculty of Organizational Sciences, University of Maribor, miha.maric@fov.uni-mb.si
[2] JPO d.o.o., mitja.jeraj@hotmail.com

Abstract: *The scope of this study was to define how educational achievements of individuals in Slovenia define their "formal power" in organizations where they work. The study was based on theoretical definitions of the concepts of formal power and education. A total of 509 people from Slovenia over 30 years of age participated in the study. We recognized a certain influence of educational achievement on the formal position in the organizational hierarchy. The main predictor of an individual's formal power in an organization is the individual's last achieved level of formal education. The average grade for the final achieved level of formal education and the initiative regarding the search for additional education has much less of an impact on power than the last level of education obtained. One of the most important practical implications is that education is one of the basic predispositions to having formal power but not necessarily always and not in every case.*

Keywords*: education, formal power, work, employees, HRM*

1. INTRODUCTION

The basic definition of power would be: "Power is the ability to implement one's will." The study of power in organization has been interesting topic for many researchers. Power is consider by many as one of the most important factors in an organization. Some authors suggest that power lies in the potential, and others suggest that power is only present in its use. There is also an ongoing debate what makes individual powerful (Marič & Ferjan, 2011).

Despite the importance of an individual's formal and informal power in an organization, there is very little research on what gives power, formal or informal combined, to an individual in an organization. In this article, we will explore the effect of an individual's education on one's formal power in an organization. We suppose that the education one receives leads to principal differences in one's power later on in an organization that one is working in. We could also say that the duration of schooling determines one's formal power in an organization. Those who have higher education usually gain more formal power and amenities depending on their working positions in some cases even regardless of their abilities.

In his book "Organization, Power and Change" (1995) Borum Finn states that there is reason to believe that the narrow connection between educational and professional competence and pyramidal location plays an important role. It creates the impression that there is a connection between the length of education and the ability to make decisions also in relation to non-professional issues. The inflexibility of the educational system widens the individual pyramidal strata and thus reinforces the authoritarian nature of the system. Education is one of the identified factors that contribute to one's personal power (Rees, 1999). One could argue that the shift from a capital-based to a knowledge-based economy represents a fundamental shift in power dynamics (Lynn, 2000).

2. AN INDIVIDUAL'S EDUCATION

The educational process offers individuals knowledge, skills and habits. Some describe it as the last level of education that one has achieved so far in their life (FAQ | Ministry of Higher Education, Science and Technology, 8.6.2009). It could also be important how many years of education one has and what was their average grade during the last level of their education. Knowledge is the capacity to act on information… it implies learning (Lynn, 2000). We could say that education is one of the predispositions to having knowledge, but not in everyone's case. Being included in the educational process does not necessarily mean that the individual has really gained that knowledge. Organizations are employing the most educated workforce in the history of the world (Burke & Ng, 2006) because they do not need more people willing to blindly follow orders or to do repetitive work; they need people of courage and initiative (Pinchot, 1992).

Different styles of upbringing have their effect on children's will and capacity to learn, and on their adaptability to the requirements of the school (Ferjan & Jereb, 2008). Bowles and Gintis (2002) found that parental economic status is passed on to children in part by means of unequal opportunity, but that the economic advantages of the offspring of higher status families go considerably beyond the superior education they receive. Educational transformation also influences the social justice and the social status of the people (Unterhalter & Dutt, 2001). There are also various factors that influence the study progress (Jereb et al., 2009).

By the day more and more importance is given to lifelong learning (European Commission - Education & Training - lifelong learning programme - A single umbrella for education and training programmes, 2009) in which the formal education is in a way perceived a foundation for further lifelong work and education. It could easily be said that the higher level of formal education one has, the more involved in lifelong learning one has to have to keep up with everyday requirements of one's work (Ferjan & Jereb, 2005).

Lifelong learning (European Commission - Education & Training - lifelong learning programme - A single umbrella for education and training programmes, 2009) is sort of defined by additional learning per year, search for appropriate forms of additional education and of course not to forget, the training that is required by the employers or the organization in which one works. The learning process accompanies individuals in every phase of their life. The levels of education in the EU are also increasing with the following generations (The levels of education in the EU are increasing with the following generations: Evropa.gov.si, 8.6.2009).

3. AN INDIVIDUAL'S FORMAL POWER

Power is part of our lives, both private and organizational. Power is basically the ability to influence the desired outcomes. Power can be broadly defined as the ability to influence different outcomes, by pooling resources (human and material) to achieve the realization of certain things within the network of relationships (Rees, 1999) and at the same time to resist unwanted influence from others (Wagner & Hollenbeck, 2010). Individuals' who have power in the organizational environment often also have power even in their private lives and vice versa.

An individual's power in organizations can be best assessed with observations (Finn, 1995). However, on the other hand that is a long process, sometimes even subjective and would take a lot of man-hours to implement on a larger sample. That is why the power evaluating process takes part only on smaller samples at a time; for instance one company or one branch of a company at a time. Robbins (quoted in: Senior, 2002) argues: "Power has been described as the last dirty word... People who have it deny it, people who want it try not to appear to be seeking it, and those who are good at getting it are secretive about how they got it."

An individual's power is also very relative; one could have it one day and lose it on another (Mintzberg, 1983). Or one could have power in one group, and have none in another group of people simultaneously. Power is difficult to measure, since it can only be perceived (Marič & Ferjan, 2011).Power is difficult to measure, since it can only be perceived. From the social-psychological perspective, a person's behaviour is affected by his or her behavioural intentions, which are in turn influenced by an attitude and set of perceptions. Behavioural intention is regarded as a key antecedent in determining one's future behaviour (Wu et al., 2008). We could say that power concerns the capacity of individuals to exert their will over others.

In a company or in an organization there are basically two kinds of power: formal and informal power (Mintzberg, 1983). While formal power is defined, the informal power that is in many cases even more important is not so well defined. Here we will focus on individual's formal power within organizations.

Formal power comes from one's place in the hierarchy, one's duties and their position and is well defined. Hierarchical levels are adjusted to convey the relative authority of employees (Rosenbaum, 1980). Power resides in the position no matter who has it (Moorhead & Griffin, 2010) so it is similar to authority. When constructing a position in an organization the power of this position is determined. The person in this position has all the power and all the limitations that the position holds. Formal power on an individual's level consists of: legitimate power, reward power, coercive power and information power (George & Jones, 2008). Formal power basically comes from placement in the organizational hierarchy.

4. RESEARCH QUESTIONS

Below we will explore the influence of one's formal level of education with respect to an individual's formal power in an organization. Higher level of formal education is considered as a way of getting everything that one wants in life (often climbing the hierarchical ladder) and the thing that many consider as the cover of it all is power. There are several ways to gain power, and one of the most commonly perceived ways is education. For instance when one introduces himself as PhD, the all, at least the vast majority of people around him think that he knows everything. Hogan (2005) claims that people respect someone who has a higher position (M.D. vs. orderly), more extensive education (Ph.D. vs. high school), and more experience (20 years of work experience vs. just out of school). That brings us to our research questions.

- *R1: What kind of effect does individual's higher level of formal education have on individual's formal power in the organization?*
- *R2: What kind of positions do individuals' achieve in the hierarchy of an organization compared to their achieved level of formal education?*

5. METHODOLOGY

Participants in this study were selected randomly. The sample consisted of 232 men and 277 women (N=509). The age range of the respondents was between 30 and 61 years. The average age of the respondents was 41.35 years, the average level of education was 5.26 (a little above completed high school), and the average place in the organization's hierarchy was 3.50 (middle administrative staff).

The questionnaire contained closed questions referring to: (i) general data (age, gender), (ii) education, (iii) an individual's formal power within an organization. An individual's formal power was measured through their place in the hierarchy of the organization. Individuals were asked about their place in the hierarchy of the organization that they are working in. We have developed and used the following hierarchical scale: (1) manual worker, (2) head of the shift, (3) routine administrative staff, (4) non-routine administrative staff, (5) expert, (6) lower management, (7) middle management, (8) top management.

The final "hierarchical" structure of the sample is shown in Table 1. We have developed a concept to classify the placements in the hierarchy ourselves and created eight degrees of hierarchical placement of individuals in the organization's hierarchy which relates to their formal power.

Table 1: Placement in the Organization's Hierarchy (n=509)

Hierarchical Position	*1. Manual Worker*	*2. Head of Shift*	*3. Routine Admin. Staff*	*4. Non-Routine Admin. Staff*	*5.Expert*	*6. Lower Management*	*7. Middle Management*	*8. Top Management*	*Total*
N	*164*	*43*	*76*	*38*	*84*	*32*	*38*	*34*	*509*
%	*32,2*	*8,4*	*14,9*	*7,5*	*16,5*	*6,3*	*7,5*	*6,7*	*100*

Mean = 3.50; Median = 3.00; Std. Deviation = 2.303;

The individual's *final level of formal education* was measured through the achieved degree of education. The following scale was used: (1) did not finish basic school, (2) finished basic school (8 years), (3) secondary school (2 years), (4) secondary school (3 years), (5) secondary school (4 years), (6) two year study, (7) higher education, and (8) master's degree, doctorate degree. The final formal educational structure of the sample is shown in Table 2. In Slovenia, the education classification from 1980 is used and has eight degrees (Ferjan & Jereb, 2008).

Table 2: Formal educational structure (n=509)

Education degree	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*Total*
N	*6*	*41*	*20*	*74*	*159*	*60*	*112*	*37*	*509*
%	*1,2*	*8,1*	*3,9*	*14,5*	*31,2*	*11,8*	*22,0*	*7,3*	*100*

Mean = 5.26; Median = 5.00; Std. Deviation = 1.67;

- The *educational success at the last level of formal education* was measured on a grading scale from 6 to 10, where: (6) sufficient, (7) good, (8) very good, (9) almost excellent and (10) excellent which is in use by Slovenian universities. Primary and secondary schools in Slovenia use a grades scale from 1 to 5; because of which the grades from 1 to 5 were converted into grades ranging from 1 to 10 as follows: 1 converted into 5; 2 converted into 6; 3 converted into 7; 4 - 4,5 converted into 8; 4,5 - 4,75 converted into 9; 4,75 – 5 converted into 10.

Table 3: Average Grade at the Last Educational Level (n=509)

Average grade	6 – Sufficient (6,00-6,99)	7 – Good (7,00-7,99)	8 – Very Good (8,00-8,99)	9 – Almost Excellent (9,00-9,49)	10 – Excellent (9,50-10,00)	*Total*
Frequency	*48*	*199*	*181*	*53*	*28*	*509*
Percent	*9,43*	*39,10*	*35,56*	*10,41*	*5,50*	*100*

Mean = 7.7055; Median = 8.00; Std. Deviation = 0.96477;

Self-initiative regarding the search for additional training was measured through surveying the respondents about how often they search for appropriate additional forms of education and training. A grading scale from 1 to 5 was used, where: (1) never, (2) very rarely, (3) occasionally, (4) often and (5) permanently.

Table 4: Self-initiative Regarding the Search of Appropriate Education or Training Contents (n=509)

Self-initiative Regarding Education	*1 - Never*	*2 - Very Rarely*	*3 - Occasionally*	*4 - Often*	*5 - Permanently*	*Total*
Frequency	*126*	*130*	*149*	*76*	*28*	*509*
Percent	*24,8*	*25,5*	*29,3*	*14,9*	*5,5*	*100*

Mean = 2.51; Median = 2.00; Std. Deviation = 1.173;

6. RESULTS AND DISCUSSION

We can see that there are positive correlations between all of the variables. All the variables were measured on an increasing scale. As seen in the table above there is a positive correlation between the achieved level of education and all of the place in the hierarchical structure which we used as a measure of formal power in an organization are above 0,304 and are all statistically significant. Table 5 gives the correlation coefficients between the previously described variables.

Table 5: Pearson R Correlation Coefficients (n=509)

	Achieved level of education	*Average grade at the last level of education*	*Self-initiative regarding the search for additional education or training*
Average grade at the last level of education	*0,332**		
Self-initiative regarding the search for additional education or training	*0,488**	*0,235**	
Place in the hierarchical structure	*0,628**	*0,304**	*0,469**

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

To continue, a regression analysis between the independent variables (*Achieved level of formal education, Average grade at the last level of formal education and Self-initiative regarding the search for additional education or training*) and the dependent variable (*Place in the hierarchical structure*) has been made and is shown below in Table 6.

Table 6: Regression Analysis for the Dependent Variable “Place in the Hierarchical Structure” (n=509)

Predicators	*Unstandardized Coefficients*		*Standardized Coefficients*	*t*	*Sig.*
	B	*Std. Error*	*Beta*		
(Constant)	-2,790	,621		-4,495	,000
Achieved Level of Education	,684	,054	,498	12,564	,000
Average Grade at the Last Level of Education	,218	,085	,091	2,567	,011
Self-Initiative Regarding Education	,402	,075	,205	5,323	,000

Dependent Variable: Place in the Hierarchical Structure

With the predictors *"Achieved Level of Formal Education", "Average Grade at the Final Level of Formal Education", "Self-initiative Regarding the Search for Additional Education and Training"* 43.3% variance of "*Place in the hierarchical structure"* is explained. The achieved level of formal education (β=0.498) has the most influence. Individuals educated differently have different abilities of reaching higher positions in the hierarchical structure which answers *R1*.

The answer to *R2* lies in Table 7 where we can see that not even one individual who has not completed primary school achieved a position in the hierarchy higher than the position of *manual worker*. On the other hand 35.15% of the individuals who achieved the highest level of formal education also achieved the top management positions in organizations and 94.6% of the achieved positions in the hierarchy that are at the level of experts or management (r=0.628 at p=0.01).

Table 7: An Individual's Position in the Hierarchy Compared to an Individual's Achieved Level of Formal Education (n=509)

		Position in the Hierarchy								*Total*
		Manual Worker	*Head of Shift*	*Routine Admin. Staff*	*Non-routine Admin. Staff*	*Expert*	*Lower Manag.*	*Middle Manag.*	*Top Manag.*	
Achieved Level of Education	*1*	100,0%								100.0%
	2	85,4%	2,4%	2,4%		7,4%			2,4%	100.0%
	3	75,0%	15,0%	5,0%	5,0%					100.0%
	4	62,2%	16,1%	4,1%	10,8%	4,1%	1,4%		1,4%	100.0%
	5	28,3%	13,8%	27,0%	10,2%	8,8%	5,0%	3,1%	3,8%	100.0%
	6	20,0%	3,3%	16,7%	6,7%	25,0%	15,0%	10,0%	3,3%	100.0%
	7	4,5%	2,7%	14,3%	8,0%	32,1%	10,7%	17,9%	9,8%	100.0%
	8			5,4%		35,15%	5,4%	18,9%	35,15%	100.0%
Total		32,2%	8,4%	14,9%	7,5%	16,5%	6,3%	7,5%	6,7%	100,0%

1 - did not finish primary school. 2 - finished primary school. 3 - secondary school (2 years). 4 - secondary school (3 years). 5 - secondary school (4 years). 6- two year study. 7 - higher education. 8 - master's degree. doctorate degree

Of course, characteristics do not fit every single individual but we still think that people who have achieved higher levels of formal education also have higher tendencies toward the top of the hierarchical structure and also have better possibilities of achieving higher positions.

7. CONCLUSION

An individual's power is an always important factor in one's personal as well as business life. Education is a factor in one's power yet the mere presence of formal education will not give you power as many believe. This study provides basic insights into the connection between one's formal education and power and it can be summarized as follows: an individual's formal education is one of many things that compose into individual's formal power. However, it does not explain the whole concept of power because there is an infinite number of variables that influence one's power and we can only explain them in parts.

Several limitations of this study need to be considered before interpretations of the results can be explored. First; the discussed findings and implications were obtained from a single study; generalizing the results should be done with caution. Second; the whole research was focused mostly on how an individual's education affects one's formal power. We have had that in mind already in the beginning when we were defining the goal of the study so that it is relatively simple with a concept that is influenced by many other variables that are not included in this study.

We can all agree that there is a lot more to power that just these variables that we used in our study to determine it but still even this simple study shows that there are some basic predispositions to having formal power and that one of them is formal education. Maybe in a way the findings are area specific because formal education is so emphasized in this study. However, it is still an interesting way for simplistically evaluating one's potential power depending on formal education.

One of the factors that influence an individual's power could also be the power of their parents and their social position. A similar study regarding the influence of social class position as a determinant of educational achievements has already been done (Ferjan & Jereb, 2008) and the results could also be used to determine power and its sources.

According to the findings, the perceptions and the "size" of an individual's formal power in an organization depends on one's level of formal education. One man once said that all people are divided into two groups; the leaders and the followers. Most people are simple followers but those who want to be leaders need power to achieve that someone will follow them. Leadership facilitates quality relationships and balances power (Pinchot, 1992).

REFERENCES

Bowles, S., & Gintis, H. (2002). Schooling in Capitalist America Revisited. *Sociology of Education,* 75(1), 1-18.

Burke, R. J., & Ng, E. (2006). The changing nature of work and organizations: Implications for human resource management. *Human Resource Management Review,* 16, 86–94.

European Commission – Education & Training – lifelong learning programme – A single umbrella for education and training programmes. Found on June 8th 2009 on web address http://ec.europa.eu/education/lifelong-learning-programme/doc78_en.htm (8.6.2009)

Ferjan, M., & Jereb, E. (2008). Social Class Position as a Determinant of Educational Achievement. *Društvena Istraživanja,* 17(4-5), 869-886. doi: 316.342.2(497.4):37

Jereb, E., Ferjan, M., & Jesenko, J. (2009). Conceptual Model of Study Progress in Higher Education. *Didactica Slovenica – Pedagoška obzorja,* 24(1), 168-184. doi: 37.091.212.7

Finn, B. (1995). *Organization. Power and Change.* Handelshøjskolens Forlag, Copenhagen, ISBN 9788716132482.

George, J. M., & Jones, G. R. (2008). *Understanding and managing organizational behavior. (5th ed.).* Upper Saddle River: Pearson Education, Inc.

Hogan, K. (2005). *The science of influence: how to get anyone to say »yes« in 8 minutes or less!* Hoboken, New Jersey, John Wiley & Sons. Inc.

Lynn, I. (2000). Knowledge, Labour and Education. *Compare,* 30(3), 275-282.

Marič, M., & Ferjan, M. (2011). Managing with power in the organisation to achieve common progress. T. Kern & V. Rajkovič (eds), *People and sustainable organization*, Frankfurt am Main, Peter Lang, ISBN 978-3-631-62113-4.

Mintzberg, H. (1983). *Power in and Around Organizations*. Englewood Cliffs, Prentice Hall.

Moorhead, G., & Griffin, R. W. (2010). *Organizational Behavior: Managing People and Organizations. (9th ed.).* South-Western: Cengage Learning.

Pinchot, E. S. (1992). Balance the Power. *Executive Excellence,* 9(9), 3-5.

Rees, R. (1999). Power: an example of its changing nature. *The Canadian Journal of Higher Education,* 29(1), 27-46.

Rosenbaum, J. E. (1980). Hierarchical and Individual Effects on Earnings. *Industrial Relations,* 19(1), 1-14.

Senior, B. (2002). Organisational change, Harlow, Prentice Hall.

Unterhalter, E., & Dutt, S. (2001). Gender, Education and Women's Power: Indian state and civil society intersections in DPEP (District Primary Education Programme) and Mahila Samakhya. *Compare,* 31(1), 57-73.

Wagner, J. A. III, & Hollenbeck, J. R. (2010). *Organizational Behavior: securing competitive advantage.* Routhledge, New York, ISBN 0-203-87353-X.

Wu, W., Chang, H. P., & Guo, C. J. (2008). An Empirical Assessment of Science Teachers' Intentions toward Technology Integration. *The Journal of Computers in Mathematics and Science Teaching,* 27(4), 499-520.