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**INFORMATION TECHNOLOGIES IMPLEMENTATION
IN THE WORK OF HRM DEPARTMENTS: LITHUANIAN
PUBLIC SECTOR EXPERT EVALUATION**

The article presents the results of the expert survey analysis concerning the implementation of newest IT into the work of HR departments within Lithuanian ministries. Innovations' implementation into the HRM in Lithuanian public sector is considered by stages. Major bottlenecks and their causes are analyzed, including security issues and initiative problems.

Keywords: information technologies implementation; HRM; public sector; Lithuania.

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**ВПРОВАДЖЕННЯ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ
У РОБОТУ КАДРОВИХ СЛУЖБ: ЕКСПЕРТНЕ
ОЦІНЮВАННЯ ДЕРЖАВНОГО СЕКТОРУ ЛИТВИ**

У статті представлено результати експертного опитування щодо впровадження новітніх інформаційних технологій у роботу кадрових служб литовських міністерств. Впровадження інновацій у кадровий менеджмент державного сектору Литви розглянуто за стадіями. Проаналізовано найбільш суттєві проблеми, а також їх причини, включно з питаннями інформаційної безпеки та особистої ініціативи.

Ключові слова: впровадження інформаційних технологій; кадровий менеджмент; державний сектор; Литва.

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**ВНЕДРЕНИЕ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ
В РАБОТУ КАДРОВЫХ СЛУЖБ: ЭКСПЕРТНАЯ ОЦЕНКА
ГОСУДАРСТВЕННОГО СЕКТОРА ЛИТВЫ**

В статье представлены результаты экспертного опроса по вопросам внедрения новейших информационных технологий в работу кадровых служб литовских министерств. Внедрение инноваций в кадровый менеджмент государственного сектора Литвы рассмотрен по стадиям. Проанализированы наиболее значимые проблемы, а также их причины, включая вопросы информационной безопасности и вопросы личной инициативы.

Ключевые слова: внедрение информационных технологий; кадровый менеджмент; государственный сектор; Литва.

Introduction. Knowledge society development affects many areas of daily life. Worldwide, countries are looking for the ways to adapt to new social changes, how to use the opportunities of information society and knowledge economy.

The ability to use the most important resource of this century – knowledge – is the main characteristic that describes any organization's success and competitiveness at the market. Duration and efficiency of access to knowledge are determined by both employee's knowledge of information technology and their skills to apply them, and the maximum provision of jobs with required technological solutions.

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In today's society, wealth, power and knowledge are highly dependent on the ability to organize society and extract the greatest possible benefit from new technological systems that are based on digital communication (Castells, 2005).

Information and communication technology is one of the main assumptions of innovative approaches in both public and private sectors. Development of information technologies (IT) is inseparable from the development of human resources management (HRM). If previously the role of HR professional was connected only with records' accumulation, and the first information technologies were designed to help them in this role, now human resources (HR) management specialist roles number is significantly increased and its essential purpose is to be a strategic partner. Information technologies are needed to help implementing this role. Embracing IT into HRM, it is expected it would raise the quality of the latter, thus contributing to the efficiency of organizations performance.

The empirical part of the study aims to find out the experts (specialists') approach to their functions performed and the time allocated on this performance.

The implementation of information technologies in innovative HR management in the context of effectiveness. Social, political, economic and legal changes affect the methods of HR management. HRM in today's organizations should be seen as one of the key factors to ensure effective and efficient management. However, in every organization, oriented to have the best employees, these activities should be carried out in conjunction with strategic action and planning, using the most advanced tools. It can be achieved only after implementation of a unified system, which includes properly selected and complex procedures, selecting the most appropriate IT tools to implement them.

The analysis of scientific literature shows that HRM is permanently changing both in public and private sector. There is a recognized need to carry out HR management in the public sector, and at the same time the very concept and functions of the public sector HR management are changing, gradually converging with the concept of HR management in the private sector (Thom and Ritz, 2004).

During the exchange of views, the role of HR management service changed: there is a significant shift from administrative and maintenance functions to the new – those of strategic partners – roles: a partner, expert in management, employee advocate, mediator (Korsakiene et al., 2011). Stewart and Brown (2009), among other factors and measures contributing to HRM transformations into strategic HRM, pointed also to information technologies role.

Electronic HRM (e-HRM) is not an ambiguous concept. Kavanagh and Thit (2009) offer all HRM activities be divided into 3 groups: traditional (e.g., planning, recruitment, selection, training, performance management etc.), transactional (e.g., personnel data management, records storage and accumulation) and transforming (creating added value for organization activities such as: organizational change, organizational culture formation, restructuring, strategic planning, promotion of innovations, strategic orientation, strategic management of skills, strategic knowledge management etc.). In this case, each group of activities should be subject to a decision of what to carry out by traditional way or use IT.

Bondarouk and Furtmueller (2012) state that there are at least a few reasons behind why the investigation should to be organized as a specific application of IT in

HRM, or the application of e-HRM assay, rather not than as separate investigations of HRM or on information systems. First of all, e-HRM includes storage of sensitive personal information, so any mistake can lead to serious legal consequences. Second, e-HRM could help transform the HRM department into a strategic partner, which would change the work practice of such department and requirements to staff. Finally, traditional HRM department is normally analyzed in narrow terms, as an administrative support department. Looking through the prism of e-HRM is extending the understanding of this section and may result in higher support from managers. Bondarouk et al. (2011) are recommending to start the study from workers themselves and see how they are developing their work with all IT and e-HRM tools.

Information technology is the tangible basis, real computer-based system, delivered to consumers. They has to get used to it, adapt and learn how to use it. It is very important to investigate how a user accepts information technologies (Bondarouk et al., 2011).

Scientific literature mentions 3E criteria: effectiveness, efficiency and economy. Effectiveness is defined as the level of achievement of purposes and ratio of planned and actual consequences of certain activities. Seeking effectiveness together with efficiency measurements for a long time was the main goal of public management (Zalimieni, 2003).

Today, public sector efficiency is seen increasingly not only as an improvement of institutional activities, but as a system, covering the political influence levels, political and managerial behavior's changes, ensuring interest groups' harmonization, development of consistent regulatory environment and stable legal framework, development of implementation and evaluation methodologies etc. (Petrauskiene and Raipa, 2012). Therefore, efficiency (and also effectiveness) can be achieved through a variety of methods and techniques. During the evaluation of effectiveness and efficiency in HRM, scientists note their economic and social aspects. Between social and economic efficiency there is an interdependence (Salcius and Sarkiunaite, 2011). Ensuring interoperability, employers are motivated to achieve social efficiency, and employees are motivated to achieve economic efficiency, and it directly contributes to not only efficiency, but also to effectiveness. HR management's quality is determined by the effectiveness of information technology application. Improving of efficiency is the basis of HR management improvement (Codagnone and Undheim, 2008).

The research objective is to examine the use of IT in HRM activities in the context of ministries' personnel administration departments.

Empirical research methodology. Interdisciplinary human resources, information technology and e-government studies emphasize that any IT-based system is presented to users who have to adapt to it and learn how to use it. It is important to examine how consumers are accepting the IT. A qualitative study has been applied to achieve the purpose of this research. Qualitative research helps create a model under which other studies can be continued. A case study was selected as the research strategy.

For the assessment of experts from Lithuania Republic ministries the expert assessment method was selected. The questionnaire was given to the highest level of operational units of personnel administration staff in ministries – to HR management professionals (hereinafter – experts or professionals). Occupational status, aca-

demic degree, certain scientific and practical work experience are the indicators of expert competence in our case.

We decided to examine the experts who are directly involved in the use of IT in HR management activities. These experts are best acquainted with the level of activities technologisation and can provide the most relevant and up to date information. At the same time, this information is related to the application of IT in HR activities. It was decided to implement the research without outside experts, because they don't understand the specifics of work. Expert-expert survey was conducted in July-September 2013. Analysis of the results is carried out in the framework of effectiveness. This paper presents only a part of survey results.

Expert opinions compatibility is tested for responses to each question, calculating the Kendall's concordance coefficient W . It is believed that the appropriate expert compatibility is when $W \geq 0.5$.

Analysis of the research results.

Use of IT in HRM activities of Lithuania Republic ministries' personnel departments. By question "Please, evaluate how much of the total of given time for public sector human resource management is given for referring to HR management activities' groups" we seek to determine the approach of HRM professionals to functions' technologization level. It appears that traditional activities vary in between 30 to 70% of working time. 30–40% of the time is spent by the specialists at National Defense, Social Security and Labor, Health, Economy Ministries and at the Ministry of Interior. More time (60–70%) is spent by specialists of Environment, Transport Ministries and the Ministry of Justice. Calculating the average of the responses, it appears that by the experts' assessment, they spend about 44% of their time on traditional activities. Transactions cover the period from 15% to 50% of time. Mainly these are the specialists of Social Security and Labor Ministry, representatives of the Ministry of Internal Affairs. The total average time for transactions is 27%. Average time for transforming activities is very similar to the time for transactions – about 29%.

Expert opinions on this matter are different. Kendall's concordance coefficient calculation allows dividing all experts into two groups: Group 1 (6 experts, $W = 0.804$, p -level = 0.000); Group 2 (5 experts $W = 0.671$, p -level = 0.001). Experts' groups are associated not with Lithuania Republic ministries' activities' nature, but with the experts' work experience and seniority. The first group of experts has a short work experience in a particular institution (up to 6 years), while the second group includes experts with many years of experience in HRM and, in most cases, namely in the same institution. Because of longer work experience, these experts have more transformative (strategic) functions.

Initiation and implementation of IT in Lithuania Republic ministries' personnel administration services. The experts were asked: In what ways does the personnel department staff integrate information technology in their workplace? The expert answers' Kendall's concordance coefficient $W = 0.745$, evaluations of all experts match. Private initiative for information technology application in the workplace was never mentioned. Practically all ministries indicated that IT was implemented on a proposal from above.

Logically, then we asked about the opportunities to influence decisions, changes in operational functions and their technologization. The replies suggest that the pos-

sibility to self-determine anything is minimal. And it is not surprising, especially because of the public sector nature, its information security standards, interoperability requirements etc. However, this minimal possibility of influencing the choice shows the constraints of the public sector in this area. It could hinder the spread of innovations and the situation and should be changed.

Such an ICT cycle was selected for our research:

1. Introduction of innovation planned.
2. Action plan creation/introduction.
3. Users' requirements analysis.
4. System design and installation.
5. Test version.
6. Intermediary report.
7. Users' response analysis.
8. Correction of the deficiencies noted.
9. Implementation of the final version.
10. Users' response on its implementation.
11. Innovations maintenance and correction.

Two questions were used to assess the current and the target levels for each stage.

For assessment of the current situation the experts were asked: "*To remember a situation as an example, when there was a new installation of the Public Service Management System (VATIS) module SELECTION?*" Scale from 1 to 10 was selected for evaluation. Kendall's concordance coefficient $W = 0.501$, p -level = 0.02.

The average of the each stage's evaluation is presented in Figure 1.

On the basis of this evaluation we can identify the general trends in the ongoing cycle of innovation implementation. The results show that on average the best answers got only the last stage – *Innovations maintenance and correction*. *Planned introduction of innovation*, *Implementation of final version* and *Users' response on Implementation* stage were evaluated partly favourable too (higher than 7 points).

Next, the experts were requested, using again 10-point scale, "*Consider the following information technology project implementation stages needed to successfully design outcomes*". 11 statements submitted for assessment describe the main stages, coinciding with the stages discussed in the above question.

Kendall's concordance coefficient $W = 0.519$, p -level = 0.01.

The each stage's evaluation is presented in Figure 1.

It is important to mention that the least important stage according to the expert assessment (rating of less than 7) is *Intermediary report*, the overall rating of two stages was below 8 – *Action plan creation/introduction* (7.91) and *System design and installation* (7.82). This shows that the experts as potential customers treat the intermediate stage with less care as compared to *Correction of the deficiencies noted* (9.55), *Innovations maintenance and correction* (9.09), or *Users' requirements analysis* (8.73). Noteworthy, the same stages in the current innovation implementation situation got much lower results: *Correction of the deficiencies noted* (5.36), *Innovations maintenance and correction* (8.45), or *Users' requirements analysis* (6.91).

From these responses we could see that none of these innovation implementation stages received the average rating of importance in experts assessments. Nearest to how it should look like and how it is assessed is the stage where innovation is pre-

sented and the final stage – i.e., ensuring maintenance and adjustment. The biggest gaps – are observed for users' needs analysis, demos and. In other words, it is the weakest part in the process, and if organizations draw attention to that, improvement and innovations would become much easier.

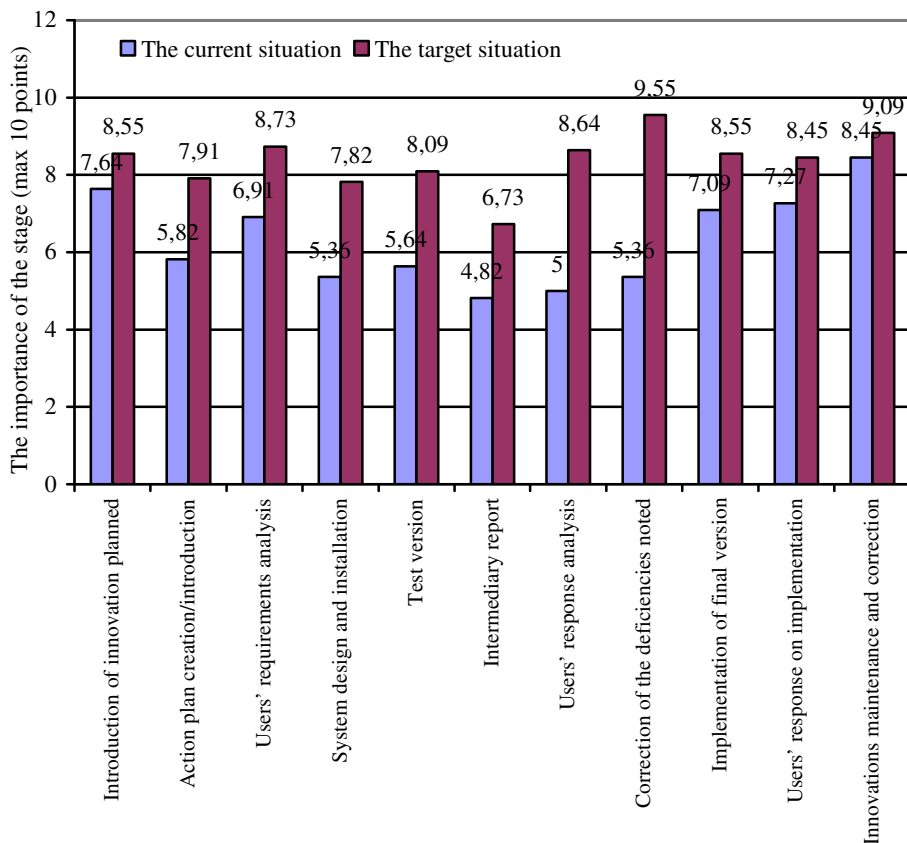


Figure 1. Comparison of the current and target innovation implementation process in Lithuanian Republic ministries' personnel administration services

To summarize, changes in the initiation stage of innovation could be described as the *endeavour situation*. Possibilities of IT implementation by themselves or with the approval of management leaders aren't considered, because it is against the security requirements. However, collective offers should be enabling and encouraging, in other words, a voice should be given to employees, encouraging managers initiate measures, allow them express their needs.

Another important change is the innovation process itself the existing information technology lifecycle can be changed or added by information technology-based innovation lifecycle. While implementing new technologies employees have more opportunities to express their views on needs and aspirations. The answers of experts show that the personnel department employees have a lot of initiatives on innovations, but couldn't voice them.

The analysis of these results in the *context of effectiveness highlights the contribution of the outcomes influenced by contextual factors*. In this study, experts-specialists provided an estimate only about information technology initiation and installation methods. However, this information is important in terms of effectiveness; selection of suitable methods determines outcomes and results and thus the impact on organization. To increase the efficiency it is needed to expand opportunities to initiate and participate in all stages of implementation, thus improving organizational culture and promoting employees' involvement in the activities of organization. The existing methods show their partial ineffectiveness (especially in terms of implementation and monitoring tools). This has influence on external outcome – limited availability of options makes the accessibility of technologies more difficult. Strengthened leadership role and collective decision-making at this stage could be change the attitude, increasing benefits. Naturally, for public sector it is very important to remember that security issues and cost would always create barriers.

Conclusion. The empirical results show that the experts-professionals as consumers are not satisfied with the initiation and implementation of innovation processes. Current and target situation's comparison through the specific case study shows that none of the stages in innovations' implementation hadn't received the evaluation's average. Innovations' delivery and ensuring are the highest and most consistent. The biggest gaps are in the fields of user needs' analysis, demos and feedback. This is a weak part in the IT implementation chain, which draws attention to the change of project management tools and IT approaches in organizations. And although formality is not mentioned by the as a positive or negative factor, certain changes in legal and organizational environment of the ministries' HR department should still be introduced.

The unit head as originator and innovator has to overcome several legal and formality obstacles, adherent to the Ministries of the Republic of Lithuania personnel administration regulations. Heads are provided with minimal opportunities to influence decisions, changes technologies or their operational functions because of the public sector nature, information security standards, interoperability requirements etc. The experts' answers show a lot of constraints in this field too.

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