

# Central payroll system as an instrument for efficient budget management

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# CENTRAL PAYROLL SYSTEM AS AN INSTRUMENT FOR EFFICIENT BUDGET MANAGEMENT

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## **Abstract**

*The need for efficient management for spending State Budget in the Republic of Croatia, which is a crucial problem, has led to the implementation of a single salary information system for employees whose salaries are funded from the State. That information system is the Central Payroll System for monitoring expenditures and staff data of public sector employees.*

*Purpose of the paper is to give a review of research results made by Ministry of Administration of Republic of Croatia and Financial Agency about the usage of income calculations outside the Central Payroll System focused on Brod - Posavina County. The research took its part during January and February 2017 which covered Public Sector in the Republic of Croatia. The aim of the paper is to prove that making all calculations, salaries, material rights, other incomes, etc., by using Central Payroll System will be easier to manage and control the spending of State Budget and to reduce the additional costs of using additional programs in that purpose. There is a strong correlation between the*

*inefficient expenditure of budget resources and the use of various payroll and income calculations programs that generate additional costs.*

**Keywords:** *Central Payroll System (CPS), management, expenditure, reduction, State Budget*

JEL Classification: H61, M10

## 1. INTRODUCTION

Management is a complex category and has five important functions which are planning, organizing, staffing, leading and control (Barković, 2009,13). Through political decision-making process, these five mentioned management functions were used to bring rationalization, stabilization, and optimization of public sector system to reduce expenditures for employees because these expenditures are the highest. The analysis method of problems through a list of activities (“procedures”) provides us to perceive important dimensions of one process and to get ideas about its improvement (Srića, 2003,87). According to that, the successful and efficient public sector is an indicator of the success of a modern state.

On the June 12<sup>th</sup>2015, according to 81<sup>st</sup> article of Croatian Constitution, Croatian Parliament brought Development Strategy of Public Administration for period 2015 – 2020 which is the frame for development of all bodies in the property of the State. The emphasis of Strategy was informatization in the purpose of easier data managing, control and better connection between services, which means less paperwork. It also contains results of previous strategies and the most important mechanism for Public Sectors was a project of Central Payroll System implementation and human resource management. At the moment, Information system RegZap/COP (Register of Public Sector Employees/ Central Payroll System), is one of the largest services of Republic of Croatia which will be described in the second part of the paper. Better human resource managing in Public Sector, better managing, and control of State Budget expenditures for salaries and material rights, was enabled by launching above mentioned project. The result is also, expenses reduction to local programmers for every institution individually before using Central Payroll System, along with monthly and yearly reporting about paid wages on an institutional level, group



of institution and on the level of the system in general, because of further planning, savings, and allocation of State Budget resources.

In the second part of the paper briefly will be described Register of employees in Public Sector as well as Central Payroll System, apropos implementation and managing with these two information systems and their advantages and disadvantages. Following that, will be described management of expenditures for employees. In the fourth part of the paper will be processed researched data and methodology of research and in the end conclusion.

Purpose and aim of the paper are the establishment of quality and efficient Central Payroll System and Human Resource Management to improve Public Sector in general. Collected data and statistical processing were made on basis of the poll made by Ministry of Administration of Republic of Croatia and Financial Agency, in period January – February 2017, about using systems for income calculations outside the Central Payroll System, in the meaning of upgrading new functionalities. The research covered all Public Sector institution in the Republic of Croatia. Paper research is focused on institutions in Brod – Posavina County.

## 2. PUBLIC SECTOR EMPLOYEE REGISTER

Nowadays, quality computers and information systems are instruments without its existence is unimaginable the business of a company, private or public. They facilitate the business of the company, contribute acceleration of business processes and using them managers bring decisions faster and easier. With global Economy Crisis, Government of Croatian also took some activities to fight against it, and one of the results was activities of establishment Register of Employees in Public Sector, further RegZap, and after it was developed Central Payroll System. The largest critics pointed to Governments in present and in the past are huge amounts of employees in Public Sector and high expenditures of State Budget. Unification of data, quality Human Resource Management and managing with salaries in the Public Sector was the result of the implementation of RegZap and Central Payroll System. Establishment and managing of RegZap were given to Financial Agency by Government of Republic of Croatia Decree from June 10<sup>th</sup>2010 (Narodne novine 83/2010). RegZap covers data from every employee in state firms and public companies and it ensures moni-



tering and changing of existing data. RegZap users are all institutions beneficiaries of State Budget.

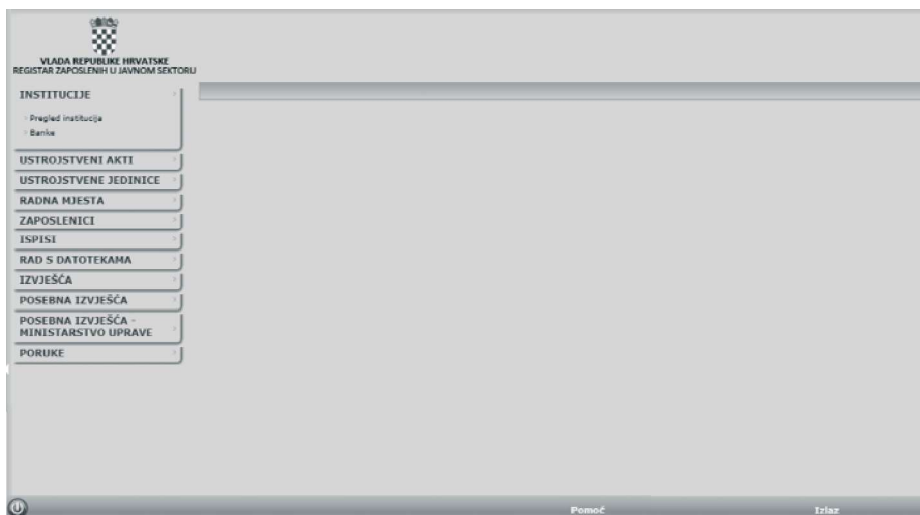
At the beginning of May 2012, informatics infrastructure for central data collecting was implemented and was covering 250 000 employees. The web application was developed and to use contemporary and safe security mechanisms all beneficiaries were ensured with Public Key Infrastructure (PKI). At that moment 4000 users registered and all of them had an opportunity to participate in workshops in regional centers through a system of users support. RegZap creates conditions to develop a system for effective and successful Human Resource Management in public and State companies as well as the Central Payroll System for beneficiaries who use State Budget resources for salaries. Basic preconditions to use the application are:

- ♦ Internet
- ♦ installed support for smart card or USB
- ♦ smart card reader or USB token.

The URL address is <https://zaposleni.javnisektor.hr>, after choosing received certificate it is needed to enter PIN code received with a smart card or USB.

At the end of logging into application, approval had to be verified. After entering application new window with modules classification was opened.

**Figure 1.** Register of employees in the public sector – main menu



Source: Financial Agency (April 2019)

All modules have sub-modules with their logical unities. For example, module ZAPOSLENICI (employees) has few sub-modules connected to different data. There are two field categories for module entries: 1. Structure and method of data entry (free entry field, drop down menu and search window); 2. Possibilities of data entry (mandatory fields – marked with blue color, optional field – marked white, protected fields with no data entry -grey color). Data entered for employees, for example, are a first and second name, personal ID, IBAN account, residence address, employment date, working experience/years before employment, education data, level of education, foreign language competences, different suspensions, etc. Within Register of Employees in Public Sector data about every employee are covered and through the System, all data are managed, followed, and corrected. Quality management of mentioned data is correlated to one of the five main management function and that is human resource management and leading, motivating and controlling of employees which will be mention and discussed in a subsequent part of the paper.

### 3. EMPLOYEES COST MANAGEMENT AND ITS POTENTIAL

#### 3.1. COST MANAGEMENT

Expenditure emerges every time when we invest one resource into the process of realization, e.g. materially in the shape of current or fixed assets, financial assets and physical or mental work of the human, or for making outcome (service/good). Expenditures are values of resources which needs to be immolated for maintaining life and accomplishment certain goals every physical and legal person. Two main financial performance components are revenue and expense. Their relation is measured by profit. Nowadays, when global competition is high, profit is crucial for the existence of every company. Many economists explore to find proper and perfect models for cost management (Belak, 2017). For every company is important to figure out how costs emerge, methods for cost calculations. It can be concluded that costs are an investment which will result in future benefit. Theoretically, goal to engaging costs/expenditures is to score a profit. Reduction of costs is not easy work (Belak, 2017). Main activities of cost management are:

1. foresight, planning, budgeting, following and controlling of costs
2. cost behavior analysis caused by changes in environment
3. analyzing causes of cost deviation (Belak, 2017).

Cost calculations process includes identification and budget of planned costs, apropos measuring appeared costs and placement on their holders. A most common method of costs reduction is saving, which can produce large damage to an organization. Organizations usually combine different models of cost management. And the goal is to accomplish a kind of organization which has developed cost management and the result will be the optimization of costs. Cost, as an economic category, has two components amount of used production elements and their purchase price (Belak, 2017). Therefore, mathematically cost (value –  $V$ ) is the product of quantity ( $q$ ) and price ( $p$ ),  $V = q \times p$ . At the end of every business period objective (real) costs are determined, and for the next period are planned (evaluated). The most common guideline in the praxis of cost management is low costs, the phrase: “reduction of costs cause profit”, added value and revenue. Selection of the main directive of cost management will depend on the manager (Belak, 2017). Totally low cost means to put all cost on minimum which has negative results (low standard) repercussion of it more theoretical than real and leads the company to loss. Phrase “reduction of costs cause profit” on the other words, if lower costs bring lower revenue, profit will be reduced, and it is damaging for a company and it is not a good guideline for cost management. Added value as a guideline for cost management has focused on reduction of activities that result does not bring added value, and it contains salaries and reimbursements to employees, interest rates, tax on income, net profit. The connection between added value and profitability are non-transparent and the appliance of these models are relayed on intuition, not on empirical proves. Added value is not a good guideline for cost management in a time of crisis (Belak, 2017). When revenues are low profit does not appear and it is the most distinct guideline for cost management. The most important is to develop awareness between managers to adopt uncritical cuts of all kinds of costs. In the period of crisis and problems, companies can lose their sensitivity for social problems and they focused only on their own survival and the result of it is the dismissal of employees. Is it good for the economic state of the company and are the results positive? To authors opinion, when dismissals are caused by managers incompetence to ensure satisfying volume products and services. It is easier to reduce workforce than making revenues.

Employees are most valuable goods to every company and large dismissal have disadvantages like a high level of fear, low morals, the appearance of animosity, negative behavior, negative selection, loss of competitive employees, work effectiveness collapse, etc. In that case, companies should avoid dismissals as far as possible (Belak, 2017). How that situation would not happen, a key role has management. In case when employees are not the most valuable good of the company and when values of it are not connected to their competences, with large dismissal companies are not in the big losses. Thereby they reduce working force costs. Cost management, in the time of crisis, needs to base itself on empirical foundations that are easy operating in praxis (Belak, 2017).

Different researches show how the strategical costs and investments planning per employee is a precondition to company competitiveness, the accomplishment of efficiency of management and further development and existence on the market. There is a significant role of cost reports in the process of management in subjects of the private and public sector. Expenditures, the broader term of costs present reduction of economic benefits within a specific period in the form of flowing of assets and creation of debts that results in principal sum decrease. Regular and exceptional expenses are followed by expenditure structure and MSFI and HSF1 that are important to determinate financial result and efficient financial management in the private and public sector. Budget fund for salaries of public sector employees was a good tool for that because they are a significant part in the structure of total costs. The principal of good financial management means that budget funds need to be economically, efficient and effective used.

Because of nonrational state budget management for salaries in public sector, illogicality was seeking in the system, to make efficient financial management and payroll system, as well as efficient control of purpose spending of State Budget, on the level of the entire system and costs of salaries in public sector were put under control. The outcome was the implementation of the Register of Public Sector Employees and Central Payroll System (RegZap/COP) that is one of the biggest state systems.

### **3.2. CENTRAL PAYROLL SYSTEM**

One of the main reforms and fiscal consolidation measures for the period from 2014 – 2016, was the Central Payroll System. By the Croatian Republic

Government decree about the establishment of an informatic system for calculating salaries for all state companies and public sector, institutions enabled quality human resource management in the public sector. Likewise, it provided state resources for salaries in public sector management, reporting about salaries individually and in total. Implementation of the System started in 2012 for bodies of state administration and production in 2013. In 2013 it spread to public sector institutions. System was established in 2100 institutions for 250 000 employees and in 2015 salaries were calculated and paid through it for employees financed from State Budget.

Central information system provided a division of duties – human resources services for RegZap and financial services for COP. Set goals were legality, fiscal responsibility, and paperless system. On Figure 2, below can be seen Register of employees in the public sector in numbers.

**Figure 2.** Register of employees in the public sector in numbers



**Source:** Ministry of Administration (2019)

According to Law about Register of Employees in the public sector (NN 34/11) to fool implementation were make special evidence about the number and structure of employees. There were also a well-structured 10 reports in the Registry application and 20 new improvements to the Registry were pre-

pared. Several dozen working sessions between the Financial Agency and State bodies were held with the aim of further enhancing/developing the Register of employees in the public sector (HRM system and COP system). With the aim of preparing strategic documents, legal and our laws, for the needs of EU monitoring and the preparation of responses to media and citizens, data from state bodies were compiled and reports from the RegZap and interpreted data were produced for over 350 reports. Government of the Republic of Croatia authorized Financial Agency, with the contract signed on October 25<sup>th</sup>2013, to manage implementation and support of the System (Official Gazzette, 2011).

The informatic system provides efficient managing of budget resources allocated for salaries in the public sector. Scope and aim of the project were to provide access to data about human resources, need for education, employee placements, pension planning, need for employment, etc. in the purpose of upgrading the efficiency of the public sector. It also ensures supervision on salaries calculations, paid salaries overview in different sectors, the effect of salaries elements (coefficients and additions), etc. A system is a tool for efficient centralized human resource management. In every moment Government can follow expenditures for employees in the public sector, it can receive different reports and simulations of calculation which is the basis for clear and transparent management (Official Gazzette, 2011). It also has access to public sector human resources register.

With its dimensions and data quantity the System RegZap / COP is one of the biggest state services in this moment (from everyday evidence of every 250 000 employees in 2100 institutions whose salaries are financed from the State Budget in total amount of about 31 billion HRK per year) – monthly cost of the System (development, processing and data protection) is 5,5 HRK per employed person (16,5 million HRK yearly cost).

**Table 1.** Monthly costs of COP system (development, processing and data protection)

Employees in the Public Sector	Monthly cost per person in HRK	Total monthly cost in HRK	Number of months in a year	The total yearly cost of system RegZap/COP in HRK
250.000	5,5kn	1.375.000,00	12	16.500.000,00

**Source:** Authors elaboration of data received from the Ministry of Administration, December 2017



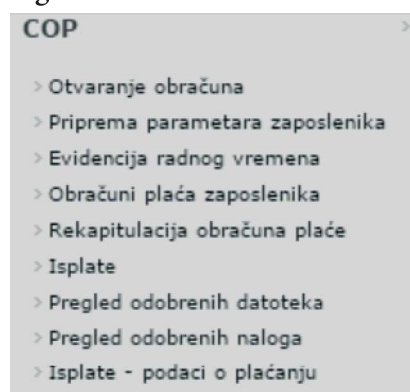
Further digitalization will bring possibilities of employees and expenditures reduction for software in the part of human resources and salaries payment. It has enormous potentials to connect with other systems and registers (Health insurance- HZZO, Retirement insurance- HZMO, State Treasury) and further optimization and digitalization, as well as paper-free administration. Linking the System with e-Citizens (e-Građani) there are opened new possibilities in the part of employee data using and entering of new data (e.g. education, work reports, etc.), like “self-service” portal in the future. For example, from 2009 Estonia has a similar system with personal userbox for employees in Register where they can enter and check and change their own data.

Visible results of the System are as followed:

- improvement of fiscal responsibility in every level
- duties dive – HRM and financial
- standardized and controllable system
- HRM- fast mobility
- correction of deviations (coefficients, bonuses, etc.)
- higher effectiveness and less paperwork
- faster decision making on the level of State (Ministry of Administration).

Module Central Payroll System (COP) contains 9 sub-modules for the salaries calculations in public sector shown on Figure 3, below.

**Figure 3.** Content of module Central Payroll System



**Source:** Financial Agency, April 24<sup>th</sup>2019

Sur-modules on Figure 3 are by the order calculation opening, preparation of parameters of employees, working hours notes, salaries calculation, recapitulation, payments, files review, orders reviews, payment data. By choosing sur-module Otvaranje obračuna (calculation opening) it can be access to calculations basic data and conditions of calculations research and there need to fill in fields with data about institution name, ID or RKP number, a period of calculation, name of the calculation, expected day of payment, etc. Steps of calculation process choosing of proper calculation, preparing of parameters, then working hours record, salary calculation, and verification, after that JOPPD form needs to be sent and checked in e-Porezna on-line application, and at the end of process sum up the order must be formed. When calculation status is completed, i.e. completed order generation means (all orders are made, including Message Pain001) changes are impossible. Central Payroll System is simple to use but there are few disadvantages, it is slow under the system load and there are some unnecessary steps.

## 4. RESEARCH METHODOLOGY AND RESULTS

### 4.1. RESEARCH METHODOLOGY

For the purpose of the research, authors used data collected from poll made by the Ministry of Administration of the Republic of Croatia and Financial Agency. All Public Sector users of Central Payroll System were conducted to survey about the use of income calculations outside the System. Survey took its part during January and February 2017. The main objective of the survey was collecting data for the further development of the Central Payroll System in the sense of additional functions. Authors focused their research results on Brod – Posavina County and institutions which are covered by it. There was a total of 60 Central Payroll System users in Brod – Posavina County and analysis showed how 58 of questioned institutions were using additional programs for income calculations outside the CPS Information System. Results of the survey were processed with statistical methods.

The survey was formed as a questionnaire and it contained 24 questions. Questionnaires were filled by persons who were responsible for financial management or salary calculation of the institution. All questions and data asked were mandatory to fill in.

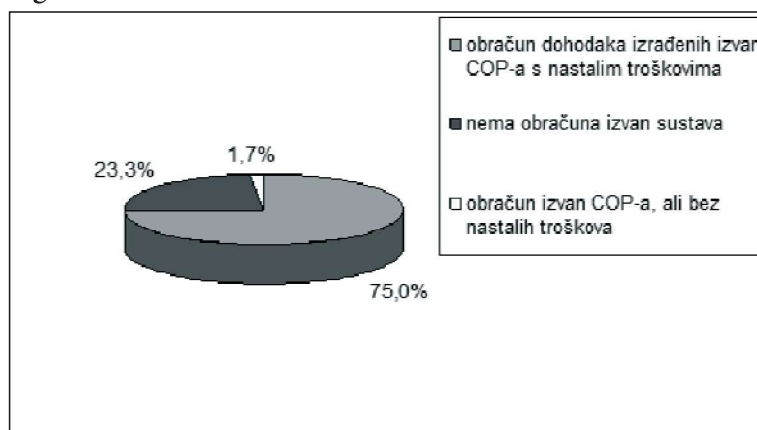


#### 4.2. RESULTS OF RESEARCH

The results of the research showed that the costs of all systems of income calculations which were used before implementation of the Central Payroll System for all 60 respondents in Brod – Posavina County totaled 817.695,82 HRK per month. One-fifth of the respondents answered that before implementation hasn't had any extra costs for income calculation and average monthly expenditures of other 48 respondents were 17.035,33 HRK. Total system costs per month (November 2016 invoice) at the moment of the survey were 831.906,87 HRK or 13.861,11 HRK on average. Furthermore, 25% of institution did not have any expenditures, they were 0,00 HRK.

Yearly (2016) expenditures of 75% (45) institutions were 9.723.296,36 HRK which is on average 216.073,25 HRK.

**Figure 4.** Income calculation made outside of CPS



**Source:** Authors elaborations of data based on a survey of Ministry of Administration, January to February 2017

According to the pie chart above (Figure 4), most of the institutions, 75%, made income calculations in some additional program systems outside the CPS, no calculations outside of system 23,3% and 1,7% calculations outside the CPS, but without any expenditures. It can be assumed that the percentage of calculations made outside of the CPS will be reduced during the future years.

Most of the respondents, 96% answered positively when asked whether they use another system for income calculations and a number of monthly calcula-

tions is made for 536 persons and reason for that are connections with other systems and use of their own program for calculation. 15% of institutions which make income calculations outside of the System, but financial resources are secured from State Budget bring that reasons are unemployment benefits for disabled people, reimbursements for mentors, reimbursement for services contract of persons who are not employed in the institution.

All respondents, 100% of them answered that there were no reimbursements to employees assigned abroad which means there are no expenditures. According to the question about salaries on other base or coefficients for calculation (workplace regulations, determinations and similar) 36,37% of public sector institutions in Brod - Posavina County had that kind of calculations in the amount of 270.000,00 HRK.

For the purpose of payment other income calculation, 65% of respondent answered positively. There were 84 calculations for 366 persons with total spending of 121.423,82 HRK per institution (total 4.735.528,82 HRK). Other 35% of institutions had zero expenditure for that purpose.

There were no expenditures for non-residents.

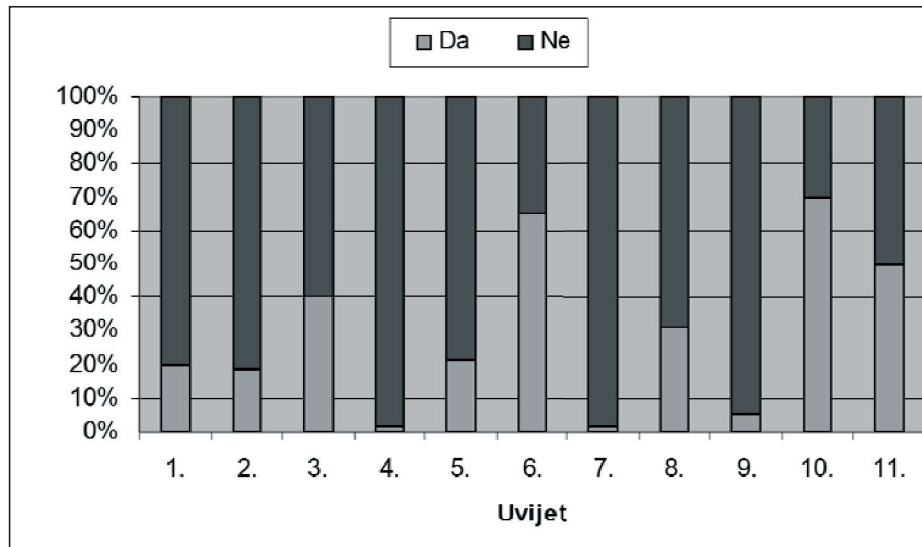
Transport costs paid for October 2016 in 35 institutions for 2608 persons were in total 643.816,17 HRK. Expenditures for contribution for persons included in the program of professional training without employment were 86.177,51 HRK in 32 (53%) institutions.

The needs of the institution, covered by the survey, for other types of calculations were travel order, project help, an extended stay of pupils in the school, reimbursements for working on projects, mentoring, part-time studies teaching, etc.

Key points apropos activities that need to be carried out to completely abandon other calculation programs and to only use Central Payroll System, according to research, are as followed: salaries (1), salaries based on regular base or coefficients for calculation (provided from State Budget)(2), salaries based on other base or coefficients for calculation (other resources)(3), salaries for employees assigned abroad (4), salaries based on other base or coefficients for calculation (5), other income (6), reimbursements for non-residents (7), transport costs (8), salaries for coordinators community service (9), contribution for persons included in program of professional training without employment (10)

and other payments (11). Results in percentage will be presented in Figure 5. Numbers marked on Figure 5 are linked to numbers of specified conditions in this paragraph. Figure marks: abscissa - requirements, ordinate - percentages of institution's needs, light gray parts mean yes and dark gray no.

**Figure 5.** Requirements for abandoning other programs for income calculations



**Source:** Authors elaborations of data collected from Ministry of Administration, RegZap-CPS for Brod – Posavina County

Presented results in Figure 5 shows that the lowest percentage (1,67%) of institutions which could abandon other programs because of requirements 4 and 7 that result is expected because none of the correspondents had that kind of payments. The strongest two requirements for abandoning other programs are 6 (65%) and 10 (70%). The conclusion is, in general, that institutions in Brod – Posavina County are not ready to completely abandon other additional programs for calculations.

According to the answer on the question about ease of using COP 65% institutions rate it with 5 (the system fully meets their needs), and 35 % rate it with 4 (the system is very good and needs small updates). Central Payroll System, in Brod – Posavina County has been highly rated well.

User support was also rated well, 95% (55) of institutions covered by survey rated COP with 5 – fully accomplished their needs.

It can be assumed that the research carried out on the territory of Brod – Posavina County is sufficient. Register of Employees in the Public Sector is data set about employees in the public sector and its purpose is to compare the quality and efficiency of Central Payroll System and human resource management.

The most productive part of the research is one that refers to requirements and implementation needed conditions for abandoning other program solutions.

## 5. CONCLUSION

Human resource management is one of the most important fields for reforms of public administration. In accordance to noticed Register of Employees in Public Sector (RegZap) has been established and the Government has an instrument for monitoring all data about civil servants and employees, and civil servants and employees in public services at one place in one moment. The RegZap / COP system is one of the largest state-owned services at the moment (from the daily records of each of about 250000 employees in approximately 2100 institutions receiving salaries from the State Budget in total budget of around 31 billion HRK per year) - monthly amount of costs (development, processing and data protection in the System) is 5,5 HRK per employee (16,5 million HRK annual cost of the System). The purpose and aim of establishing a Register of Public Sector Employees were to ensure monitoring and data exchange, thus creating the preconditions for effective and efficient human resources management in state and public services, also to provide basic prerequisites and elements for centralized payroll - COP. Centralized payroll allows financial management and payroll structure, both at the level of the whole system and at the level of individual groups and at the employee, to be more effective control of State Budget spending. The system has its advantages and disadvantages as challenges to be faced and to deal with in the way of further system development to ensure the needs of the public sector as a whole. Further development and investment are present and justified through the conducted Questionnaire about use of the payroll system outsourced of Central Payroll System (COP) in terms of additional functionalities under the comprehensive system of income calculation by the Ministry of Administration and Finance Agency during January and February 2017. The most productive part of the questionnaire in the survey is one that concerns the determination of data for

the implementation of the necessary conditions to abandon other software solutions, so that the COP is a system that can fully respond to the requirements and specifics of the activity and further automation of the process in the respective ministries at the level of the bodies themselves involved in the income calculation system, or without the use of other software solutions that require additional costs.

Other software solutions, that are used out of COP in the amount of 75% during 2016, require additional costs, as the survey results show, the annual costs for 2016 (including December 2016 and other work on the income calculations) amount to a significant 9.723.296,36 HRK. Through the conducted research authors come to the conclusion of justification of the goal set in the paper that the Register of employees in the Public Sector is a set of data about public sector employees that are led to establishing a quality and efficient system of centralized payroll (COP) and Human Resources Management (HRM).

The system ultimately provides a centralized payroll that includes high-quality and accurate billing control, different forms of reporting on key policy planning and monitoring elements, and simulation of payroll and Centralized Human Resource Management. The Government of the Republic of Croatia as the client obtains a complete and unique system in which it can monitor expenditures for public sector employees, which are secured from the state budget. In addition to managing expenditures, the Government has insight into the complete staff record of public sector employees. RegZap and COP will be further upgraded in the direction of adding a quality application solution for reporting and managing human resources, as well as upgrading for calculation, reporting, and managing the salary system.

Because of research made by Ministry of Administration of the Republic of Croatia and Financial Agency about use of income calculations outside the Central Payroll System is the first one and only, and the System is relatively new and has some imperfection there is potential for further researches about its development and cost management control.

## 6. REFERENCES

- Bahtijarević-Šiber, F. (1999). *Management ljudskih potencijala*, Zagreb, Golden marketing  
Barković, D. (2009). *Menadžersko odlučivanje*, Osijek, Ekonomski fakultet u Osijeku

- Buntak, K., Droždek, I., Kovačić, R., (2013). *Materijalna motivacija u funkciji upravljanja ljudskim potencijalima*, Tehnički glasnik,, Vol.7 No.1, p. 56-63.
- Dražić Lutilsky, I. (2011). *Uporaba informacija o troškovima na visokoškolskim ustanovama u Republici Hrvatskoj*, Zbornik Ekonomskog fakulteta u Zagrebu, Vol.9 No.2, p. 209-228.
- Oslić, I. (2008). *Kvaliteta i poslovna izvrsnost-pristup i modeli*, Zagreb, M.E.P. CONSULT
- Požega, Ž. (2012). *Menadžment ljudskih resursa- Upravljanje ljudima i znanjem u poduzeću*, Osijek, Ekonomski fakultet u Osijeku
- Požega, Ž., Crnković, B., (2010). *Analiza utjecaja troškova zaposlenika na poslovne rezultate poduzeća*, Ekonomski vjesnik: Review of Contemporary Entrepreneurship, Business, and Economic Issues, Vol. XXIII No.1, p. 126-132.
- Srića, V. (2003). *Kako postati pun ideja-Menadžeri i kreativnost Drugo izdanje*, Zagreb, M.E.P. CONSULT

#### Website:

- <http://web.efzg.hr/dok/RAC/btusek/rac/13.%20RA%C4%8CUNOVODSTVENO%20PRA%C4%86ENJE%20RASHODA.%20PRIHODA%20I%20REZULTATA%20POSLOVANJA.pdf> [access: April 15, 2019]
- <http://web.efzg.hr/dok/RAC/btusek/rac/11.%20RA%C4%8CUNOVODSTVENO%20PRA%C4%86ENJE%20TRO%C5%A0KOVA%20POSLOVANJA.pdf> [access: April 15, 2019]
- <http://www.jutarnji.hr/izbori2016/pravapitanja/je-li-i-dalje-nuzno-smanjivanje-rashoda-ili-su-bolni-rezovi-iza-nas/4589393/> [access: April 15, 2019]
- [file:///C:/Users/Korisnik/Downloads/Korisnicka%20uputa%20za%20rad%20s%20web%20aplikacijom%20za%20Registar%20zaposlenih%20u%20javnom%20sektoru\\_v1.11%20\(2\).pdf](file:///C:/Users/Korisnik/Downloads/Korisnicka%20uputa%20za%20rad%20s%20web%20aplikacijom%20za%20Registar%20zaposlenih%20u%20javnom%20sektoru_v1.11%20(2).pdf) [access: April 15, 2019]
- <http://www.fina.hr/Default.aspx?sec=1788> [access: April 15, 2019]
- <http://www.fina.hr/Default.aspx?sec=1786> [access: April 17, 2019]
- <https://uprava.gov.hr/centralni-obracun-placa/12961> [access: April 17, 2019]
- <http://www.fina.hr/Default.aspx?sec=1784> [access: April 17, 2019]
- Narodne novine 83/2010 [access: April 18, 2019]
- Narodne novine 27/2001, 39/2009 [access: April 18, 2019]
- <http://www.revizija.hr/izvjesca/2016/rr-2016/revizija-visoka-ucilista-2016/visoka-ucilista-skupno/izvjesce-o-obavljenoj-financijskoj-reviziji-visokih-ucilista.pdf> [access: April 18, 2019]
- <http://www.fina.hr/lgs.axd?t=16&id=18965> , [access: April 18, 2019]
- [https://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_03\\_34\\_763.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2011_03_34_763.html) [access: April 18, 2019]
- [https://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_05\\_55\\_1209.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2011_05_55_1209.html) [access: April 18, 2019]
- <http://www.fina.hr/Default.aspx?sec=1784> [access: April 18, 2019]

- <file:///C:/Users/Korisnik/Downloads/Korisnicka%20uputa%20za%20rad%20s%20web%20aplikacijom%20Centralizirani%20obracun%20placa%20v1.14.pdf> [access: April 22, 2019]
- [https://www.pravo.unizg.hr/\\_download/repository/Strategija\\_e-Hrvatska\\_2020.\\_\(20.01.2016.\).pdf](https://www.pravo.unizg.hr/_download/repository/Strategija_e-Hrvatska_2020._(20.01.2016.).pdf) [access: April 22, 2019]
- <http://www.poslovni-savjetnik.com/aktualno/motivacija-kljuc-poboljsanja-radnog-uspjeha> [access: April 22, 2019]
- [https://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_03\\_34\\_763.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2011_03_34_763.html) [access: April 22, 2019]
- <https://uprava.gov.hr/> [access: April 23, 2019]
- [https://narodne-novine.nn.hr/clanci/sluzbeni/2011\\_08\\_90\\_1919.html](https://narodne-novine.nn.hr/clanci/sluzbeni/2011_08_90_1919.html) [access: April 23, 2019]